GENERAL NOTE

The Transport Planning and Design Manual (the TPDM) consists of eleven volumes and is published primarily as a working document for Transport Department staff. It also provides information and guidance to others involved in the planning and design of transport infrastructures in Hong Kong.

It is intended that the information contained herein will be periodically revised to take account of the most up-to-date knowledge and experience. The inevitable time-lag however, means that certain sections may at a particular time be unavoidably not up-to-date. For this and other reasons, the standards contained in this manual should not be followed rigidly but rather treated as a framework within which professional judgment should be exercised to reach an optimum solution.

Generally speaking, the standards contained in the TPDM generally apply to new traffic and transport facilities and should not be considered as exhaustive. Situation may arise for which considerations and requirements are not fully covered by the TPDM. Practitioners are particularly required to exercise professional judgement when dealing with existing facilities that are subject to site constraints, and to endeavour to take into account the views from stakeholders. Practitioners are also advised to make reference to other publications relevant to their designs such as the latest legislations, code of practices, guidelines, datasets, etc. before applying the TPDM.

Transport Planning & Design Manual

VOLUME 3- Traffic Signs and Road Markings

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TPDM Volume 3 Chapter 1 – Introduction

1.1 References

1. The Laws of Hong Kong
2. U.K. Traffic Signs Regulations and General Directions 1975
3. U.K. Traffic Signs Regulations and General Directions 1981
4. U.K. The Traffic Signs (Amendment) Regulations 1982
5. European Rules concerning road traffic signs and signals 1974
6. U.N. Convention on Road Traffic 1968
7. U.N. Convention on Road Signs and Signals 1968
8. Code of Practice for the Lighting, Signing and Guarding of Road Works, Highways Department, 1996
9. U.K. Circular Roads No. 7/75, Size, Design and Mounting of Traffic Signs
10. U.K. Traffic Signs Regulations and General Directions 1994
11. U.K. Traffic Signs Manual Chapter 1 Introduction, Department of the Environment, Transport and the Regions, 1982
12. U.K. Traffic Signs Manual Chapter 3 Regulatory Signs, Department of Transport, 1986
13. U.K. Traffic Signs Manual Chapter 4 Warning Signs, Department of Transport, 1986
14. U.K. Traffic Signs Manual Chapter 5 Road Markings, Department of Transport, 1985
15. U.K. Traffic Signs Manual Chapter 7 The Design of Traffic Signs, Department of the Environment, Transport and the Regions, 1997
16. U.K. The Design and Use of Directional Informatory Signs, Local Transport Note 1/94, Department of Transport, 1994
17. U.S.A. Manual on Uniform Traffic Control Devices 1988
18. Australia Guide in Traffic Engineering Practice Part 8 - Traffic Control Devices, AUSTROADS, 1988

1.2 Introduction

1.2.1 General

1.2.1.1 The traffic signs and road markings for use in the Territory have largely been based on the U.K. Traffic Signs Regulations and General Directions 1975 and 1981. These have themselves been based on the Convention on Road Traffic and Road Signs and Signals, Vienna 1968, the European Agreement, Geneva 1971, and the Protocol on Road Markings, Geneva 1973. In adopting these conventions a degree of uniformity of traffic signing and road marking throughout the world is achieved and this is of obvious benefit to Hong Kong residents travelling abroad and likewise to visitors to Hong Kong.

1.2.1.2 Uniformity in the use of signs and markings throughout the Territory is essential and it is the object of this Volume to provide the necessary advice so that this can be achieved.

1.2.2 Legislation and Authority for Traffic Signs and Road Markings

1.2.2.1 The Commissioner for Transport is generally the authority for traffic signs and road markings, but authority on certain matters is also given to other Government Officials and the Commissioner has delegated certain powers to other officers.

1.2.2.2 The main legislation for regulation of road traffic is contained in the Road Traffic Ordinance and its subsidiary Regulations. Other Ordinances, Regulations and By-Laws also affect certain aspects of road traffic. The following list contains specifically those pieces of legislation which include prescribed signs and markings and which will be directly referred to in subsequent chapters of this Volume.

(i) Road Traffic (Traffic Control) Regulations

(ii) Road Traffic (Parking) Regulations

(iii) Road Traffic (Parking on Private Roads) Regulations

(iv) Housing (Traffic) By Laws

(v) Road Tunnels (Government) Regulations

(vi) Eastern Harbour Crossing Road Tunnel Regulations

(vii) Tate’s Cairn Tunnel By-Laws

(viii) Road Traffic (Public Service Vehicle) Regulations

(ix) Road Traffic (Registration and Licensing of Vehicles) Regulations

(x) Road Traffic (Expressways) Regulations

(xi) Tsing Ma Control Area (General) Regulation

(xii) Western Harbour Crossing Regulations

(xiii) Tai Lam Tunnel and Yuen Long Approach Road Regulations

(xiv) Airport Authority Bylaws

(xv) Mass Transit Railway (Transport Interchange) Regulations

(xvi) Discovery Bay Tunnel Link ByLaw

1.2.2.3 Prescribed traffic signs and markings have a legally defined meaning. Only prescribed traffic signs can therefore be used to impart prohibitory and mandatory messages. Even for warning and informatory signs however, prescribed signs should wherever possible be used, so as to achieve utmost consistency in sign usage and therefore least possible confusion to motorists. Clearly, prescribed signs are not possible for direction signs, which must be designed to suit the particular site-specific circumstances. Even with direction signs however, whilst the destination names will change, the layout should be standardized to assist optimum driver recognition.

1.2.2.4 Non-prescribed signs and markings are those which do not appear in the legislation and do not therefore have a legally defined meaning. Their use is permitted under Regulations 3 and 8 of the Road Traffic (Traffic Control) Regulations, but such use should if at all possible be avoided. Where non-prescribed signs and markings are unavoidable they should be designed in accordance with the same principles as those used in designing the prescribed signs and markings. Prior approval of the Commissioner is required and requests should be directed to the Chief Engineer/Road Safety and Standards Division of Transport Department.

1.2.2.5 It is an offence under Clause 50 and Clause 51 of the Road Traffic Ordinance Cap 374 for unauthorized persons to interfere with traffic signs or road markings, or to erect or place without authority any traffic signs or road markings. Neither of these Clauses however would apply to approved signs or road markings placed in respect of road works by persons who do not normally have authorization. It is the duty, under Regulation 20 of the Road Traffic (Traffic Control) Regulations, of the person responsible to erect such signs and markings as are required to adequately warn of, and guide motorists through, road works. Advice on appropriate signing in this respect is contained in the Code of Practice for Lighting, Signing and Guarding of Road Works.

1.2.2.6 With regard to outdated signs and markings prescribed under the Road Traffic Ordinance 1975, Cap 220, whilst Regulation 59 of the Road Traffic (Traffic Control) Regulations legalizes their continued use, very few such signs remain and every effort should be made to replace them as soon as possible.

1.3 Design Principles of Traffic Signs and Road Markings

1.3.1 Traffic Signs

1.3.1.1 A sign intended for vehicular traffic, must be capable of transmitting its message clearly and at the right time to motorists who are travelling at the normal speed for the road. To achieve this, the sign must have the correct legibility distance, appropriate target value, shape, simplicity of content and layout and effective illumination or reflectorisation.

1.3.1.2 The legibility of traffic signs is dependent upon the size of the lettering (this term is used to include both English letters and Chinese characters) or the symbols used. Colour contrast between lettering and/or symbols and the background is also a significant factor.

1.3.1.3 Target value depends on both the colour and the size of the sign. A large sign will generally have adequate target value regardless of colour, but difficulties may arise with smaller signs in urban areas as background advertising signs for example can considerably reduce their target value. Care is taken in siting the sign to optimize its conspicuity. In exceptional circumstances, a backing board of a neutral colour, such as grey or yellow, may be considered.

1.3.1.4 Different shapes of traffic signs have different intended meanings. Octagonal shape is used exclusively for Stop signs. Circular signs give order. For examples, a prohibitory sign (red border on white background) means that something must not be done, whilst a mandatory sign (white border on blue background) means that something must be done. Triangular signs give warnings. Inverted triangular shape is used exclusively for Give Way signs. Rectangular signs (either blue, green or white background) give directions or information.

1.3.1.5 Symbolic representation of messages has been found to be most effective for traffic signs, as it produces a simple content and layout which can quickly be recognized and understood. This is particularly relevant to the Territory as the bi-lingual requirements for lettered signs generally results in a relatively large and hence more expensive sign. The vast majority of prescribed signs are therefore symbolic.

1.3.1.6 For non-prescribed signs abstract symbols should not be used as they will generally be meaningless. Instead, simple symbols representing as near as possible the type of hazard or restriction and where possible employing internationally recognized shapes should be used, but where this is not possible then lettering may be employed. Where lettering has to be used the message should be condensed into as few immediately comprehensible words and characters as possible. The use of the term "please" in either English or Chinese, for example, is not necessary.

1.3.1.7 Obviously, lettering is required for direction signs. The style of English lettering chosen has been based on that developed in the U.K. and is generally lower case with initial capitals. There is one alphabet for use with light lettering on a dark background, Transport Medium, and another for use with dark lettering on a light background, Transport Heavy. The proportions of Chinese characters used in Hong Kong have been developed on a trial and error basis and details of this and the English lettering are given in Chapter 3of this Volume.

1.3.1.8 All signs must be adequately reflectorised. Traffic signs denoting parking places (including qualifying supplementary plates); signs denoting PLB and Taxi stands; and signs for pedestrians and cyclists should all be manufactured using Class II (B.S. 873, Part 6 : 1983) or Type I (ASTM D4956-99) retro-reflective material. All other signs, including direction signs, should be constructed with Class I (B.S. 873, Part 6 : 1983) or Type III (ASTM D4956-99) retro-reflective material. Additionally, certain direction signs should be directly illuminated, and further advice on this issue is given in Chapter 3.

1.3.2 Road Markings

1.3.2.1 Markings in this volume have been based on the design principles developed by the United Kingdom Department of Transport, modified to suit local conditions.

1.3.2.2 Generally white markings are intended to direct and control moving vehicles and yellow markings to indicate parking and stopping restrictions.

1.3.2.3 Non-prescribed markings should accord with the principles set down in Chapter 5, and requests for approval to use such markings should be directed to the Chief Engineer/Road Safety and Standards Division of the Transport Department.

1.3.2.4 Hot applied thermoplastic material should be used for road markings on all carriageway.

1.3.3 Typical Design Procedure

1.3.3.1 Traffic signs and road markings have important implications on traffic operation and road safety. To help those who are not familiar with the design, a typical multi-step interactive design procedure for traffic signs and road markings for a new road project is shown in Diagram 1.3.3.1 for reference.

1.3.3.2 An inventory of the existing traffic signs and road markings within the area of influence of the new road project is essential. The provision of new traffic signs and road markings, and the modification to the existing provisions should be continual and consistent across the interface.

1.3.3.3 A Master Scheme should be formulated at the early stage of a new road project to define the needs and key design criteria of traffic signs and road markings. Effective dialogues should be established with the designers of other related disciplines, notably highway engineering, landscaping etc, in order that any special requirements are taken into consideration and any potential conflicts are identified and resolved. Phased opening of roads may have implications on signing and road marking provisions, which should also be identified as early as possible.

1.3.3.4 The main objective of Design - Stage I is to determine the layout and mounting arrangement of traffic signs and road markings. The design should then be optimized to eliminate excessive provisions and sign clutter, and to ensure continuity and consistency throughout the project. Cross checking should also be carried out with the following design elements :

(i) Road layout

(ii) Road geometry

(iii) Street furniture/safety fence

(iv) Noise barrier

(v) Landscaping

(vi) Highway lighting

(vii) Traffic signal

(viii) Traffic control and surveillance system (TCSS)

(ix) Any other relevant design elements

The key criteria of cross checking should include the following subjects :

(a) Effect on sightlines due to traffic signs

(b) Visual obstruction to traffic signs due to other physical features

(c) Effects on pedestrian/cyclist clear passage

(d) Protection of large sign supports

(e) Longitudinal clearance between gantries and lighting columns

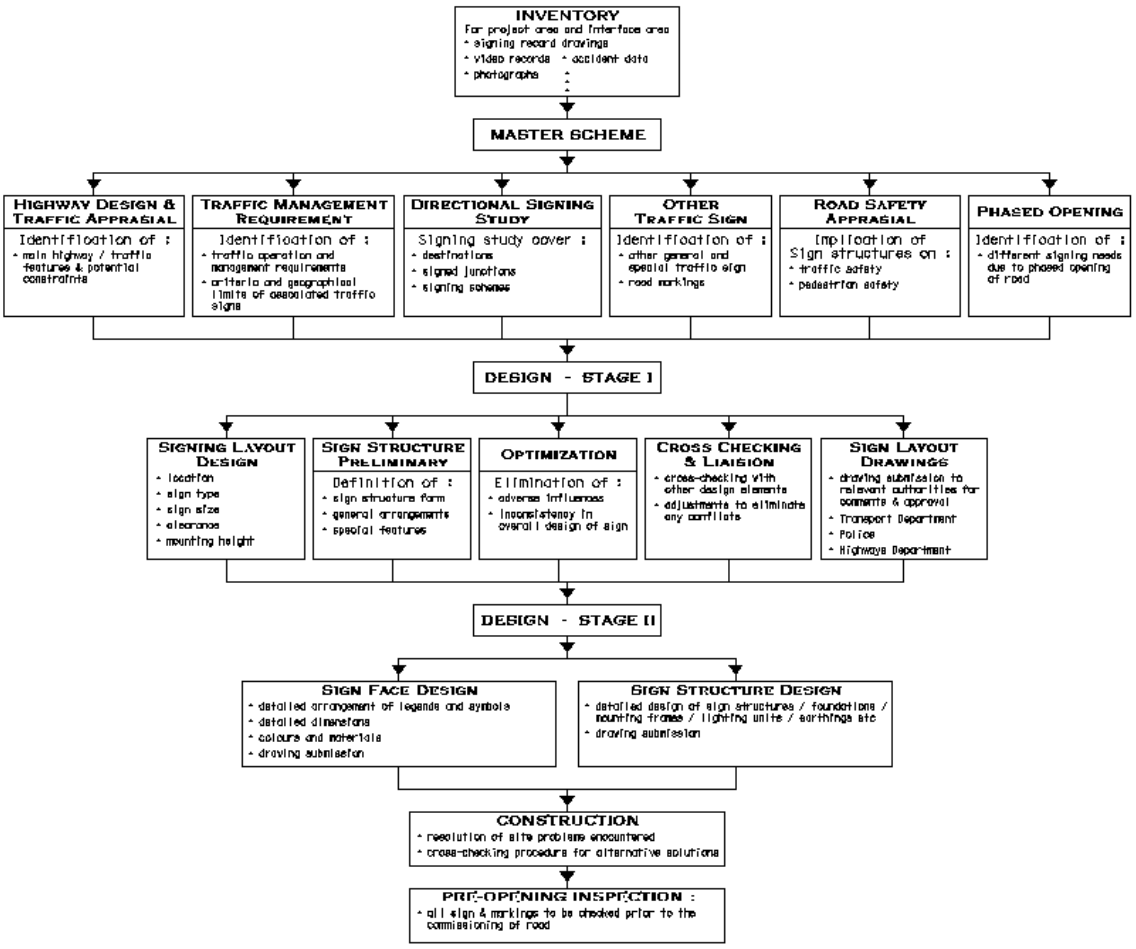
(f) Consistency with information provided by traffic signals/TCSS

1.3.3.5 Design - Stage II involves the detailed design of the sign face and the sign structure, including the precise dimensions and arrangements of detailed elements, as well as the specification of materials, colours etc.

1.3.3.6 Changes to the original design of traffic signs and road markings may occur during construction. Such changes should be handled with extra care and thoroughly checked. Prior to road opening, the performance of the as constructed traffic signs and road markings should be carefully checked on site.

1.3.3.7 Design drawings should be submitted to the client works department for approval, subject to the comments from the respective regional office or Strategic Roads Division of Transport Department, Highways Department and the Police being incorporated.

DIAGRAM 1.3.3.1 : TYPICAL DESIGN PROCEDURE OF TRAFFIC SIGNS AND ROAD MARKINGS



TPDM Volume 3 Chapter 2 – Regulatory, Warning & Informatory Signs and Supplementary Plates

2.1 References

1. The Laws of Hong Kong
2. U.K. Traffic Signs Regulations and General Directions 1975
3. U.K. Traffic Signs Regulations and General Directions 1981
4. U.K. The Traffic Signs (Amendment) Regulations 1982
5. Code of Practice for the Lighting, Signing and Guarding of Road Works, Highways Department, 1996
6. B.S.873 : Part 1: 1983, Road traffic signs and internally illuminated bollards - Methods of test
7. B.S.873 : Part 2 : 1983, Road traffic signs and internally illuminated bollards - Specification for miscellaneous traffic signs
8. B.S.873 : Part 6 : 1983, Road traffic signs and for miscellaneous traffic sign - Specification for retroreflective and non-retroreflective sign
9. U.K. Circular Roads 7/75, Size, Design and Mounting of Traffic Signs
10. Civil Engineering Manual, Volume III - Traffic Engineering
11. Traffic Engineering Design Manual, Directional Signs, Highways Office, 1973
12. Transport Planning & Design Manual, Volume 2, Highway Design Characteristics, Transport Department
13. U.K. Traffic Signs Regulations and General Directions 1994
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15. U.K. Traffic Signs Manual Chapter 3 Regulatory Signs, Department of Transport, 1986
16. U.K. Traffic Signs Manual Chapter 4 Warning Signs, Department of Transport, 1986
17. U.K. Traffic Signs Manual Chapter 5 Road Markings, Department of Transport, 1985
18. U.K. Traffic Signs Manual Chapter 7 The Design of Traffic Signs, Department of the Environment, Transport and the Regions, 1997
19. U.K. The Design and Use of Directional Informatory Signs, Local Transport Note 1/94, Department of Transport, 1994
20. U.S.A. Manual on Uniform Traffic Control Devices 1988
21. Australia Guide in Traffic Engineering Practice Part 8 - Traffic Control Devices, AUSTROADS, 1988

2.2 General

2.2.1 Introduction

2.2.1.1 Section 2 of this Chapter describes those general aspects, applicable to all regulatory, warning and informatory signs and supplementary plates, such as size, location, mounting, orientation and ordering. Sections 3to 6describe the meaning and usage of individual signs.

2.2.1.2 Section 3 is dedicated exclusively to those signs prescribed in the Road Traffic (Traffic Control) Regulations, which include the vast majority of prescribed signs, other than parking signs, used on the Territory's roads.

2.2.1.3 Section 4 groups together those signs relating to parking; Section 5, those signs concerning public transport; and Section 6, those signs under other miscellaneous regulations.

2.2.2 Sign Location and Size

2.2.2.1 The most important factors in the use of a regulatory, warning or informatory sign are :

(i) it is located correctly in relation to the junction, restriction, hazard or other feature to which it applies and,

(ii) the size of the sign is appropriate to the speed of vehicles using the road.

2.2.2.2 Signs must be sited so that there is sufficient unobstructed visibility of the sign, and in the case of warning signs or informatory signs, sufficiently in front of the hazard etc. to enable the motorists to take the required action. In all circumstances, the unobstructed visibility should be maximised wherever practicable.

2.2.2.3 Details of siting and visibility distances generally are given in Table 2.2.2.1. There are some exceptions to the siting distances given for warning signs and details are given in the description of the individual sign, described in subsequent paragraphs of this Chapter.

2.2.2.4 It is very important that the correct size of the sign related to the vehicle speed is used. The appropriate speed should be determined by either, the Design Speed for new roads, or the posted speed limit for existing roads. Table 3.3.2.1 in Chapter 3 of Volume 2 shows the Design Speeds for different new road types. In central urban areas, sizes of signs may be dictated by the physical limitations of the site, but as far as possible the above rule should still apply.

2.2.2.5 The smaller sign sizes shown in brackets in Table 2.2.2.1 should only be used where physical restrictions or amenity considerations make the larger size inappropriate. The larger sizes shown in brackets are intended for use where greater emphasis may be required. However, at any location, sizes larger than those shown in the respective rows in Table 2.2.2.1 may be used where it is considered appropriate.

2.2.2.6 For informatory signs, visibility distances appropriate to those given in Table 2.2.2.1 for warning signs should be used.

2.2.2.7 Advice on the appropriate sizes of speed limit signs is given in Tables 2.3.2.3 and 2.3.2.4, and paragraphs 2.3.2.78 to 2.3.2.83.

Table 2.2.2.1 Regulatory and Warning Signs and Supplementary Plates - Size and Siting Distances

		Stop Sign Traffic Sign No. 101		Give Way Sign Traffic Sign No. 102		Triangular Warning Sign			Regulatory Signs	Supplementary Plates
	Speed Limit or Design Speed* (km/h)	Sign Size (mm)	Unobstructed Visibility Below Which An Advance Warning Sign Is necessary (m)	Height of Sign (mm)	Unobstructed Visibility Below Which An Advance Warning Sign is necessary (m)	Height of Sign (mm)	Distance of Sign from Hazard (m)	Minimum Clear Visibility Distance of Sign (m)	Diameter (mm)	***Appropriate sized plate according to:- a = smallest plate b = smallest intermediate plate c = largest intermediate plate d = largest plate
(i)	Up to 50	750	45	600 (750)	45 (60)	600	45	60	600** (450)	a
(ii)	Over 50 Up to 70	750 (900)	60 (90)	750 (900)	60 (90)	750 (600)	45 - 110	60	750** (600)	b (a)
(iii)	Over 70 Up to 80	900 (750)	90 (150)	900 (750)	90 (150)	900 (750)	110 - 180	75	900 (750)	c (b)
(iv)	Over 80 Up to 100	1200	150 (230)	1200 (900)	150 (230)	1200 (900)	180 - 250	75	1200 (900)	d (c)
(v)	Over 100					1200	250 - 300	100	1200	d

* Where the Design Speed is in accordance with Volume 2, Chapter 3

** The standard size for "No Entry", traffic sign 115, is 750mm.

*** For actual sizes of supplementary plates see the CT 174/51 series drawings.

2.2.2.8 It is very important that the correct visibility distances are always maintained and to this end any growing vegetation should be cut back and building developments, shop blinds or canopies and lamp posts should not be allowed to obscure signs. If the object obscuring the sign cannot be removed the sign should be resited.

2.2.2.9 Generally, signs should be located on the left hand side of the road, viewed in the direction of travel. However siting on the right hand side may at times be appropriate as for example where a slip road merges with the nearside lane of a major route, the merge warning sign should be on the right hand of the slip road.

2.2.2.10 Certain signs, particularly regulatory signs, need to be erected on both sides of a road, No Entry and speed limit signs being two examples. It may also be necessary, on roads with operational speeds of 70 km/h or greater, for warning signs to be mounted on both sides of a road to ensure that adequate warning of a hazard ahead is provided. On wide one-way streets, whether part of a dual carriageway or not, it may be desirable to mount the relevant signs on both sides of the road in order to lessen the chance of the signs being obscured by other vehicles.

2.2.2.11 Signs that prohibit entry to any type or class of vehicle should always be located so that those vehicles prohibited are able to readily take an alternative route to avoid the restriction. It may also be advisable to erect a suitable warning or informatory sign well in advance of where the restriction actually occurs, coinciding where possible with the previous junction, so that drivers of vehicles affected by the prohibition are properly advised and can take an alternative route.

2.2.2.12 Signs appropriate to this Chapter will normally be erected adjacent to the edge of carriageway, and the minimum horizontal clearance between the sign and the edge of the carriageway should generally conform with Table 3.5.2.1 of Chapter 3 of Volume 2. However on District or Local Distributor Roads or side streets in urban areas it may not always be possible to achieve such clearances either because of lack of space or because this would substantially reduce the effective footway width. In these cases the sign may be erected nearer to the carriageway, but no part of the sign or post should be closer than 200mm to any adjacent

carriageway. On those Expressways, Trunk Roads, major Primary Distributor Roads and major Rural Roads, where a minimum of 3m verge is provided, the clear horizontal distance of the traffic signs should be at least 1000mm and 600mm repectively beyond the outer edge of hard shoulders or marginal strips. In addition, it is preferable that a total of 2.5m but at least a 2m unobstructed verge width, inclusive of any hard shoulder or marginal strip is maintained for emergency use. For Urban Trunk Roads and Primary Distributor Roads where signs are erected on the central reserve, the normal horizontal clearance may be reduced but it should never be less than 450mm from the edgeline. For central reserves on Expressways and Rural Trunk Roads the standard clearances should be maintained except for pole mounted signs only when the minimum clearance may be reduced to, but never less than, 600mm from the edgeline.

2.2.2.13 Signs should not obstruct run-ins or entrances to buildings. Where the sign or post must be situated at the back of the footway, positioning in front of shop windows or similar should be avoided.

2.2.2.14 It is essential that site inspection is made both before the sign is erected to check for difficulties, and after to ensure it is properly located in accordance with instructions. The site inspection should be made by driving along the carriageway and/or walking along the footway.

2.2.2.15 In considering the location of a sign it is very important to know what other signs are already erected in that location to avoid sign “clutter” and to ensure that one sign will not obscure another. Similarly, great care is required in siting signs to avoid obscuring traffic signals and pedestrian movements and sightlines. Signing at junctions can cause particular problems because of the number of signs involved and careful examination is essential.

2.2.3 Sign Mounting

2.2.3.1 The following guidelines should be followed in determining the mounting height of traffic signs :

(i) 1500mm is used on at-grade highways and viaducts with normal safety fence, railing, metal parapet or profile barrier not more than 1100mm in height and no pedestrian activities are expected along continuous straight road sections and right hand bends. For left hand bend, this is acceptable for small traffic signs and wherever there are no adverse effects on sight lines. In general, this mounting height is not appropriate at and near junctions to avoid sight line problems.

(ii) 2300mm is used in the urban/sub-urban environment and along mountainous roads with and without pedestrian activities and along left hand bends to overcome the adverse effects on sight lines. It is also recommended at junctions to avoid sight line problems. In addition, it is appropriate on any roads to overcome predictable overgrowth and for mounting on viaducts with higher parapet. For mounting over footway, the minimum mounting height is 2000mm.

(iii) 2500mm is appropriate over cycle tracks.

(iv) 900-1500mm is acceptable on an individual basis provided that there are sufficient reasons and that there are no adverse effects on sign visibility, pedestrian/cycle passage and sight lines. Typical reasons include the need to control the overall height of a sign/sign assembly, modification of existing signs, avoidance of overhead constraints, creation of staggered effects, avoidance of confusion by mainline traffic for signs on ascending slip roads etc.

(v) Mounting height should be vigorously checked for installation over noise barriers and high fences. Where mounting heights larger than 4000mm are required, overhead mast or cantilever mounting should be considered for signs with large lateral width.

In all circumstances, visibility should be thoroughly checked for signs with large lateral widths. The influence of vertical alignment should also be thoroughly studied, especially for mounting heights of 1500mm or lower and for large signs. While the mounting heights described above should be followed, none of the above should preclude mounting signs at particular sites at different heights in order to best achieve required sight distances and to maximise sign visibility to motorists.

2.2.3.2 Signs will normally be mounted on posts of which coating system is specified in HyD Standard Drawing no. H2147F (or its latest version). Details of the coloring system for no stopping restriction traffic sign post should refer to paragraph 2.3.2.93. For the beacon post at a zebra crossing, it shall be painted with alternate black and white bands, each band being not less than 280 mm nor more than 330 mm in depth, except that the lowest band shall be coloured black and be not less than 280 mm nor more than 1000 mm in depth (see Cap. 374G, Sch. 4, para. 4(2)).

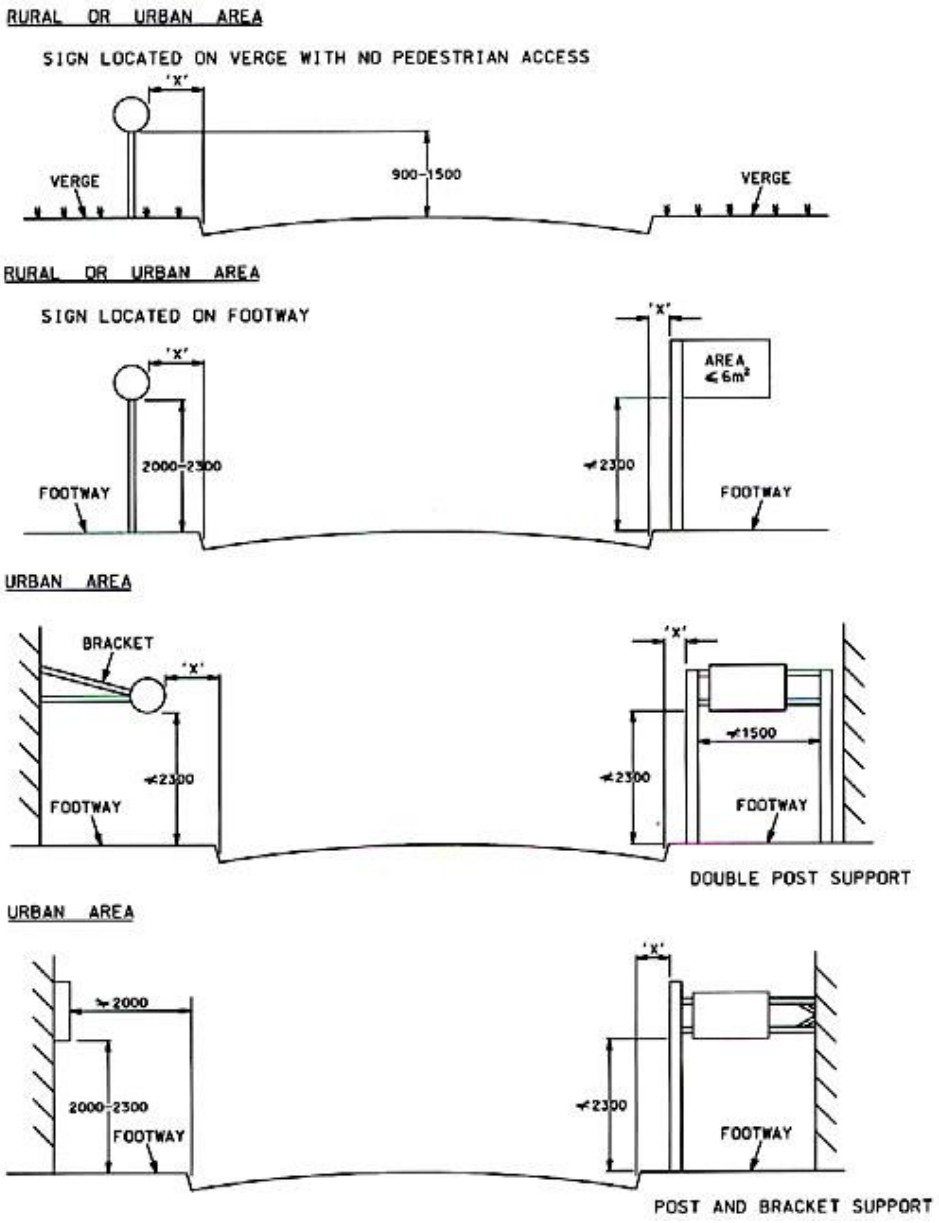
2.2.3.3 In order to reduce roadside clutter and reduce the number of posts wherever possible, consideration may be given to mounting up to a maximum of three signs on a single standard post, or mounting signs on lamp posts. The latter is particularly applicable to central reserves. However, the maximum size of sign which is mounted to a lamp post should be restricted to 0.2 sq m and 0.4 sq m at exposed and sheltered locations respectively. In the case of more than one sign on a post, it must be ensured that the combination of signs is compatible and acceptable (see also para. 2.2.3.8 to 2.2.3.12). In all cases, particular attention should be paid to ensure that the required sight distances and horizontal and vertical clearance are maintained.

2.2.3.4 In rare situations, wall mounted signs may offer some advantages, but the permission of the owner of the building is required. Where wall mounted signs are used, the bracket used to support the sign will need to be specially designed to withstand wind forces or accidental damage, and of course the standard clearances both horizontal and vertical will need to be provided.

2.2.3.5 For the vertical clearance of wall mounted signs with brackets over footways, no part of the sign or support should be lower than 2.3m. Signs, mounted flat against the wall may be appropriate on a few occasions, and these signs should be mounted such that the lower most part of the sign is between 2m to 2.3m above the footway. Such direct wall mounted signs should not be used however if the footway is wider than 2m. See also diagram 2.2.3.1.

2.2.3.6 Certain signs, because of their size, might require double posts to support them. For these arrangements, posts should be positioned such that they interfere with the normal pedestrian routes along the footway as little as possible. On narrow footways it is better to locate the posts at the front and back of the footway and to lengthen the frame supporting the sign to accommodate this. For wider footways this may not be appropriate as additional supports to the posts may be required, because of the additional frame size, causing more inconvenience to pedestrians. The clear width between posts supporting the same sign should never be less than 1.5m and preferably never less than 2m. Posts should be positioned such that they do not obstruct accesses to buildings or obscure shop windows. Alternatively, a traffic sign may be hung from the top or supported along its edge by a single post if the footway is too narrow. However, the maximum size of a cantilever sign should not exceed $6m^2$ in area.

DIAGRAM 2.2.3.1 : SIGN MOUNTINGS



NOTES:

1. SEE ALSO PARAS. 2.2.2.12, 2.2.3.1, 2.2.3.4 & 2.2.3.5.

2. FOR 'X' SEE TABLE 3.5.2.1 CHAPTER 3, VOLUME 2.

2.2.3.7 Regulatory, warning or informatory signs will seldom be mounted on their own purpose built gantry, but in certain conditions where for example there is inadequate verge width it may be possible to use a conveniently sited direction sign gantry to also mount these other signs. Signs used on gantries, because this is not the normal positioning, should be one size bigger than the equivalent roadside sign. However, where there is more than one sign and these are displayed in combination on the same backing board, the large size is not necessary as the combined signs should provide sufficient target value.

2.2.3.8 Only one main sign should be mounted on a post if it is qualified by a supplementary plate, otherwise the motorist may be confused as to which main sign the plate actually qualifies. More than one supplementary plate, qualifying a single main sign, is acceptable, as detailed in Section 2.3.5 of this Chapter.

2.2.3.9 Where more than one sign is mounted on any post, they should be mounted in the following order, from top to bottom :-

(i) Stop or Give Way signs or any triangular warning signs
(Warning signs should not be mounted on the same post as a Stop or Give Way Sign)

(ii) Speed limit signs

(iii) Other circular signs

(iv) Rectangular signs

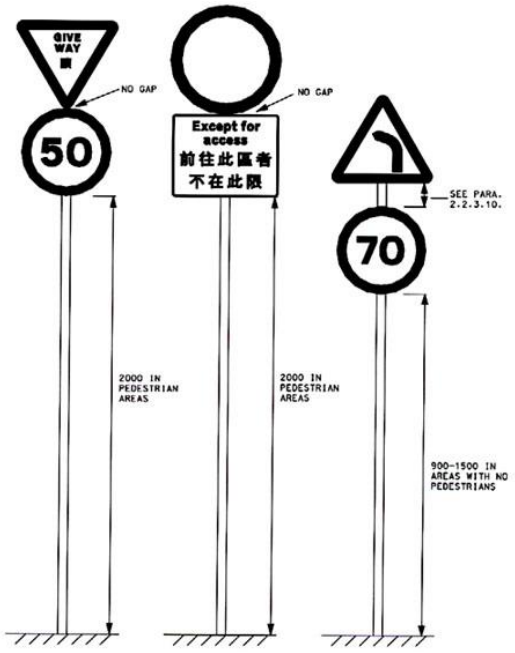
2.2.3.10 Assemblies of signs should be carefully examined to ensure there is no ambiguity. Where two warning signs are to be erected together the sign relating to the hazard first encountered should be placed uppermost. Examples of multiple signing are shown in Diagram 2.2.3.2.

2.2.3.11 Supplementary plates mounted below a triangular warning sign or any rectangular signs should be separated in accordance with the following :-

Size of Warning sign (mm)	Gap between Warning sign and Supplementary Plate (mm)
450	25
600	38
750	50
900	60
1200	75

2.2.3.12 Supplementary plates mounted below circular signs, should be butted together.

DIAGRAM 2.2.3.2 : SIGN ASSEMBLIES



NOTES:

SEE ALSO PARAS. 2.2.3.8 TO 2.2.3.12.

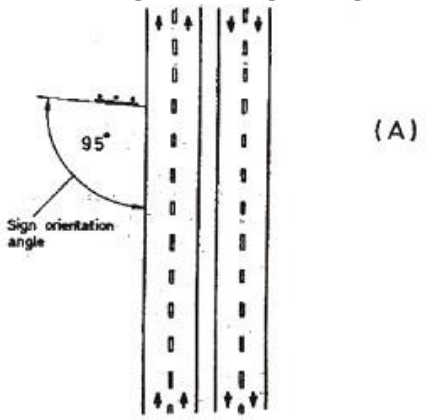
2.2.4 Sign Orientation

2.2.4.1 In areas with road lighting, warning signs and those regulatory signs required to face oncoming vehicles should normally be placed perpendicular to the axis of the carriageway and not inclined at an angle. Exceptions to this will of course be "No Entry" signs or similar erected on side roads where the signs are orientated to be seen by oncoming traffic on the main road. Further information may be found in the description to individual signs.

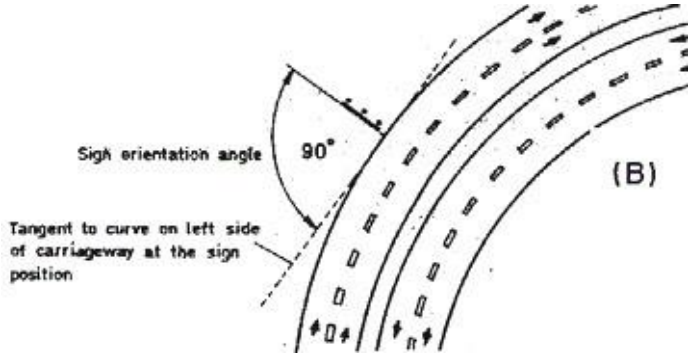
2.2.4.2 In areas without road lighting, which will generally be rare in the Territory, specular (i.e. mirror) reflection from traffic signs can cause problems. To minimize the effects of this, signs should be set at an angle so as to face slightly away from the beam direction of head lights of approaching vehicles within a distance of 200 m. On straight stretches of road, signs should be orientated as shown in Diagram 2.2.4.1(A). Signing on road bends should be avoided as far as possible. If absolutely necessary, a sign orientation as shown in Diagram 2.2.4.1(B) should be adopted for right hand-bends and for left-hand bends they should be as shown in Diagram 2.2.4.1(C). Obviously, on bends there will not always be 200m advance sight distance available, and the sign orientation on left-hand bends should be slightly adjusted accordingly.

DIAGRAM 2.2.4.1 : ORIENTATION OF SIGNS ON ROADS WITHOUT ROAD LIGHTING

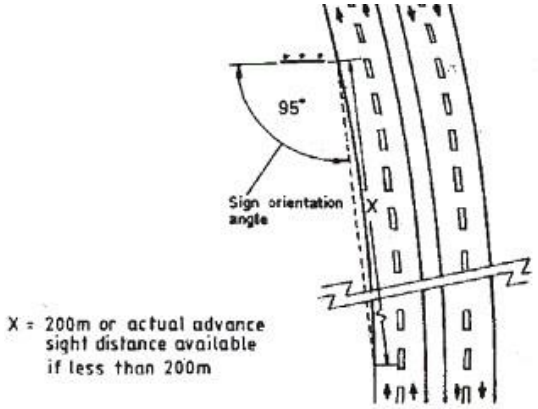
Orientation of sign on straight lengths of road



Orientation of sign on a right-hand bend



Orientation of sign on a left-hand bend



(C)

2.2.5 Sign Identification on Drawings and for Ordering Purposes

2.2.5.1 For the purposes of identifying individual signs on plans and also when ordering signs, each sign including any permitted variations of it e.g. No Left Turn and No Right Turn, has been given an individual number.

2.2.5.2 The CT 174/51 series of drawings shows the relevant numbers for each regulatory, warning and informatory sign and supplementary plate in current use, and negatives of these drawings have been supplied to all relevant Departments and Offices.

2.2.5.3 These traffic sign numbers are also referred to in subsequent sections of this Chapter as part of the description to particular signs, though only the main signs are referred to and the appropriate numbers for variations of these signs are not necessarily shown. The descriptions also indicate in brackets the Figure Number of the relevant regulations, for reference purposes.

2.3 Road Traffic (Traffic Control) Regulations

2.3.1 General

2.3.1.1 Other than parking signs, the vast majority of prescribed signs used in Hong Kong, including regulatory, warning and informatory signs and supplementary plates, are included in the Road Traffic (Traffic Control) Regulations.

2.3.1.2 The remaining subsections of 2.3, i.e. 2.3.2, 2.3.3, 2.3.4 and 2.3.5 deal respectively with regulatory signs, warning signs, informatory signs and supplementary plates as included in the Regulations. Following a description of the class of sign in general, details of the meaning and usage of individual signs are provided.

2.3.1.3 Beneath individual signs two numbers are provided. The T.S. number refers to the traffic sign number on the CT 174/51 series of drawings, used for sign ordering as explained in para. 2.2.5.2. The TC number refers to the figure number in the Regulations.

2.3.2 Regulatory Signs

2.3.2.1 Regulatory Signs are normally circular in shape, and are either mandatory or prohibitory in nature. Only prescribed signs can be regulatory. It is important to note that although regulatory sign symbols are sometimes used on direction signs, they have no regulatory effect in such cases and are used for advance warning only. The actual regulatory signs must also be located at the point where the regulatory effect commences.

2.3.2.2 Mandatory signs are those that instruct a motorist or other road user what they must do, and to distinguish them from other signs have a white symbol on a blue circular background with a white border. Traffic sign 106 "Ahead Only" is a typical example.

2.3.2.3 Prohibitory signs instruct a motorist or pedestrian what they must not do. They generally have a red circular border, with sometimes a red diagonal bar as in traffic sign 131 "No Left Turn", and sometimes without a red diagonal as in traffic sign 155 "Height Limit". The use of the diagonal bar gives a better symbolic representation to motorists that the action is prohibited, but on some signs the use of the bar would obscure the message to be conveyed and therefore it is omitted.

2.3.2.4 Traffic signs 101 "Stop", and 102 "Give Way" are the major exceptions with respect to the shape used, their shapes being deliberately different so that they can be easily recognized from a considerable distance.

2.3.2.5 It is important that any regulatory sign has adequate unobstructed visibility as the consequences of disobeying such a sign may be grave and motorists who do so, commit an offence. Unobstructed visibility distances given in Table 2.2.2.1 must be provided. It is also essential to ensure that the size of the sign is appropriate for the design speed or speed limit of the road.

2.3.2.6 Traffic sign 101 "Stop" is placed on a minor road at its junction with a major road, to indicate that a vehicle must stop at the transverse lines or if the transverse lines are not present, the vehicle must still stop at the major road. Having stopped, the vehicle should not proceed into the major road in a manner or at a time that would cause danger to the driver of a vehicle on the major road or cause that vehicle to change its direction or speed. The "Stop" sign can be used in conjunction with the supplementary plate "Dual Carriageway", traffic sign 736.



T.S. 101
(T.C. 101)

2.3.2.7 To obtain proper respect and compliance with this sign, it is essential that it only be used at locations where visibility is severely restricted and where a dangerous situation could arise if the vehicle did not stop. The sign should not be used simply to indicate which road has priority, as the "Give Way" sign 102 is more appropriate for this purpose. The possibility of making a visibility improvement at a junction should always be investigated before considering a “Stop” sign.

2.3.2.8 Table 2.3.2.1 gives a guide to visibility requirements below which the "Stop" sign may be justified.

Table 2.3.2.1
Visibility along the kerb of a major road from the minor road above which a "Stop" sign will not normally be justified

Speed Limit or Design Speed on major road(km/h)	Visibility distance(m)	Remarks
80 70 60 50 40	70 55 40 30 20	The visibility distances are from : (a) a point 3m back from the edge of the major road carriageway along the center line of the minor road, if the minor road has no through traffic value, or (b) a point 4.5m back if the minor road has some through traffic value.

2.3.2.9 Although visibility in both directions along the major road is relevant when considering the use of a "Stop" sign, restricted visibility to the left in certain conditions may be less critical and should not be the only justification for the use of a stop sign.

2.3.2.10 Other factors, which should be taken into account when considering whether a "Stop" sign is appropriate, are :

(i) gradient on the minor road

(ii) the accident record

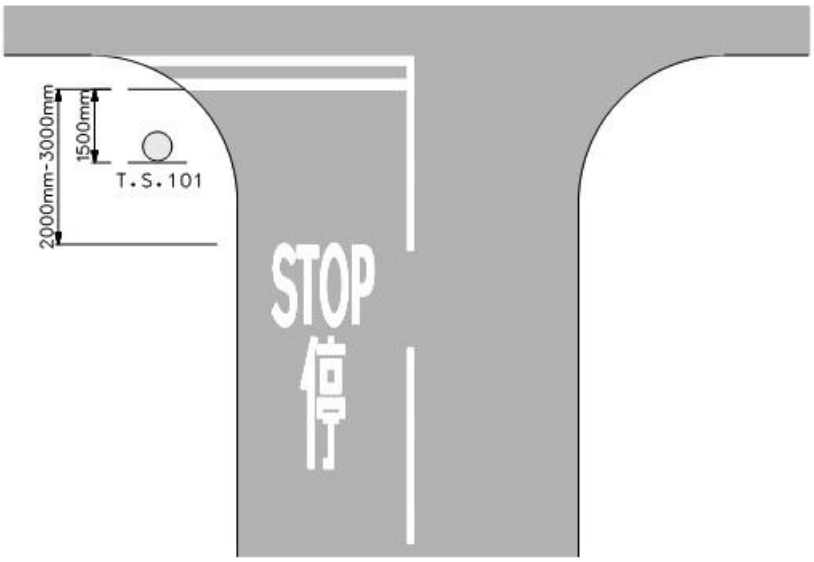
(iii) bad alignment

2.3.2.11 At a four-way junction a "Stop" sign on one arm does not automatically justify the use of the same sign on the opposite arm if a "Give Way" sign would be sufficient.

2.3.2.12 A "Stop" sign must always be accompanied by the appropriate markings as shown in Diagram 2.3.2.1. The transverse stop line markings should be laid at the position where a driver must stop in compliance with the requirement. Generally the line nearer the major road should follow as near as possible the edge of the main road carriageway across the junction.

2.3.2.13 For further advice on markings see Chapter 5.

DIAGRAM 2.3.2.1 : TYPICAL LAYOUT OF "STOP" PRIORITY JUNCTION



2.3.2.14 The "Stop" traffic sign should normally be located about 1.5m in advance of the stop line, as shown in Diagram 2.3.2.1, so as not to impair visibility of vehicles on the major road.

2.3.2.15 Where site conditions would prevent a sign placed in the normal position from being seen, it may be located further in advance of the stop line but should never be further than 6m from the stop line.

2.3.2.16 On wide one-way carriageways and in exceptional cases where greater emphasis is required, a "Stop" sign may be erected on both sides of the carriageway.

2.3.2.17 Where the "Stop" sign may not be clearly visible to motorists approaching the junction, an advance warning sign traffic sign 401 together with the supplementary plate 797, giving the distance to the junction should be erected. See paragraph 2.3.3.8 for details of this sign.

2.3.2.18 Table 2.3.2.2 shows the circumstances where advance warning signs for both "Stop" and "Give Way" junctions are justified.

Table 2.3.2.2
Criteria for providing advance warning of "STOP" and "GIVE WAY" signs

Speed Limit or Design Speed (km/h)	Unobstructed visibility of "Stop" or "Give Way" sign below which an advance warning sign is necessary (m)*
Up to 50	45 (60)
Over 50 Up to 70	60 (90)
Over 70 Up to 80	90 (150)
Over 80	N.A. (no at-grade junction should be provided)

* The unbracketed figure gives the normal minimum visibility required. The use of T.S. 401 may also be effective where the unobstructed visibility is below the bracketed figure and the site is considered problematic, in terms of high accident rate for example.

2.3.2.19 The traffic sign 102, "Give Way" is placed on minor roads at their junctions with major roads to indicate that vehicles on the minor road should not enter the major road, in such a manner or at such a time, as to cause danger to a vehicle on the major road or cause the driver of such a vehicle to change its speed or direction. The sign may be used in conjunction with the supplementary plate "Dual carriageway", traffic sign 736.



T.S. 102
(T.C. 102)

2.3.2.20 The "Give Way" sign should always be accompanied by the dotted give way road markings (RM 1013) as shown in Diagrams 2.3.2.2 and 2.3.2.3. However, where the road markings are not present the vehicle on the minor road must still give way. The triangular road markings (RM1115) is not always necessary and further advice on its use is given in Chapter 5.

2.3.2.21 The "Give Way" sign should be used at all roundabouts and at other junctions where emphasis is required. Such junctions will normally include :

(i) all at-grade junctions with trunk, primary distributor and district distributor roads

(ii) other junctions where it is considered desirable on account of traffic speed or volume.

2.3.2.22 On roads of lesser importance, particularly in urban areas, it is not necessary to always use the sign, as the road marking by itself will sometimes be sufficient. As a guide but, see Chapter 5 for further details, at very minor junctions where two minor roads intersect, the "Give Way" lines, RM 1013, may be used alone, and at minor road junctions where the major of the two roads has some through traffic importance, the "Give Way" lines, RM 1013, and the triangular symbol, RM 1115 should be used.

2.3.2.23 The "Give Way" traffic sign should be sited normally about 1.5m in advance of the transverse lines so as not to impair visibility of vehicles on the major road. At certain sites this location may impede pedestrians or obscure visibility and in these situations the sign may be positioned up to 6 m in advance of the transverse lines.

2.3.2.24 The "Give Way" sign should always be erected on the left-hand side of the carriageway. On wide one-way streets and roundabouts, duplication of the sign on the right-hand side may also be required, but care should be taken particularly on roundabouts that this sign does not obscure visibility.

DIAGRAM 2.3.2.2 : TYPES OF "GIVE WAY" JUNCTIONS

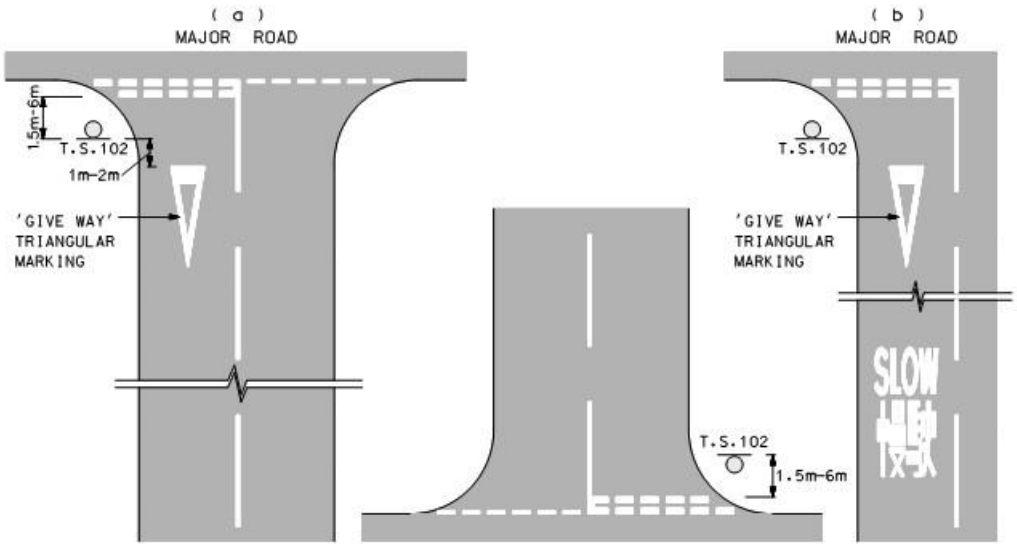
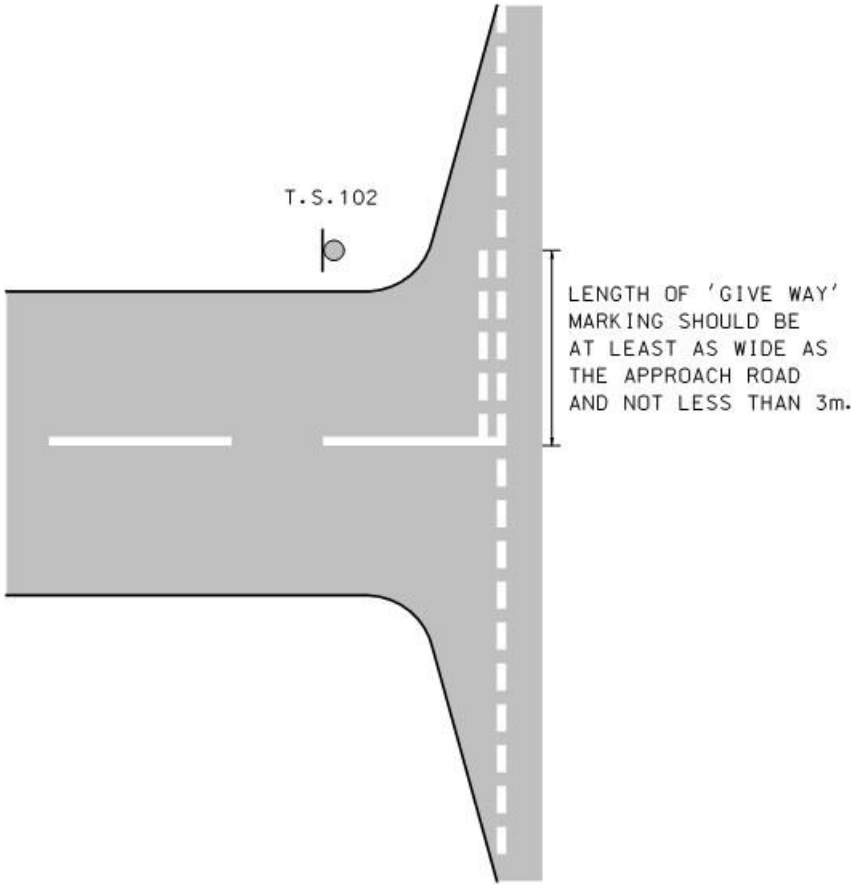


DIAGRAM 2.3.2.3 : COMBINED MERGING LANE AND "GIVE WAY" JUNCTION FOR LEFT TURNING/STRAIGHT AHEAD TRAFFIC



2.3.2.25 Traffic signs 103 and 104 are temporary signs, used at roadworks, where one-way working is necessary, to indicate to motorists when to proceed. They are manually operated signs and their use should conform to the arrangement of signs given in the Code of Practice for the Lighting, Signing and Guarding of Roadworks.



T.S. 103
(T.C. 103)



T.S. 104
(T.C. 104)

2.3.2.26 Traffic sign 105 is used by the police to stop traffic. It is a temporary sign.



T.S. 105
(T.C. 105)

2.3.2.27 Traffic signs 106 "Ahead Only", 107 "Turn Left" and 108 "Turn Right" are mandatory signs indicating that traffic must proceed in the direction of the arrows. They may be used as normal signs or in bollards (but seldom used in the latter), or in conjunction with traffic signals. The following supplementary plates may be used with these signs :

(i)	traffic sign 701	"Over 3 tonnes"
(ii)	traffic sign 707	"One way"
(iii)	traffic sign 708	"Except franchised buses"
(iv)	traffic sign 814	"Goods vehicles"
(v)	traffic sign 3706	"Time plate"
(vi)	traffic sign 831	"Vehicle length"

Additionally, supplementary plate "Dual Carriageway", traffic sign 736, may be used with the "Turn Left" and "Turn Right" signs. A typical situation requiring the use of T.S. 701, T.S. 814, T.S. 831 and T.S. 3706 would be where it is necessary to prohibit vehicles, above a certain length, from turning left at a junction, because the geometry of the junction could not accommodate such a manoeuvre. This may be a temporary traffic arrangement during certain periods or days to facilitate roadworks. It must be stressed that even legally permissible, these combinations of sign/supplementary plate should be used extremely sparingly and only after consultation with the Police.



T.S. 106
(T.C. 106)



T.S. 107
(T.C. 107)



T.S. 108
(T.C. 107)

2.3.2.28 The prohibition of a turn or turns at a junction can theoretically be signed using T.S. 106/107/108 or T.S. 131/132 "No Left Turn"/"No Right Turn". It is important therefore that a consistent practice in the choice of signs be adopted throughout the Territory. Diagram 2.3.2.4 and the following paragraphs describe typical uses of these signs.

2.3.2.29 At cross road junctions, where turns both to the left and right have been prohibited, T.S. 106 "Ahead Only" should be used. At cross road junctions where the straight ahead movement and the right or left turn have been prohibited T.S. 107 "Turn Left" or T.S. 108 "Turn Right" respectively should be used. At cross roads junctions where only the left or the right turn is prohibited, T.S. 131 "No Left Turn" or T.S. 132 "No Right Turn" respectively should be used.

2.3.2.30 At T Junctions where traffic turning into the stem or out of the stem in one direction is prohibited, T.S. 131 or T.S. 132 as appropriate should be used. At T junctions where traffic turning out of the stem is prohibited from turning left or right, because the road across the head of the T is a one-way road, T.S. 107 or 108 as appropriate should be used. These same rules for T junctions may also be applied where it is considered necessary to sign accesses to developments. Such signing will only be necessary where there is a significant flow of vehicles into/out of the development.

2.3.2.31 At a priority controlled junction with a dual carriageway, where a gap is not provided in the central reservation, the "Turn Left" sign should be mounted on the central reserve facing traffic approaching from the side road and should be accompanied by the supplementary plate "Dual Carriageway", traffic sign 736.

2.3.2.32 Traffic signs 106, "Ahead Only", 107, "Turn Left" and 108, "Turn Right", when used at signal controlled junctions should be of the 300mm size, internally illuminated and incorporated into the signal head unit, where possible. Normally the "Ahead Only" sign will be mounted on the right of the nearside primary and on the left of the secondary and offside primary. The "Turn Left" sign should be mounted to the left of the signal head and the "Turn Right" to the right. However where site conditions prevent such sitings or would mean that signs might be obscured or project too close to the adjacent carriageway, the signs may be positioned beneath the signal head. Alternatively when signal head signs cannot be obtained, reflective 450mm signs may be used, attached to the signal post if conveniently situated, but care should be taken to ensure that pedestrian sight lines are not obscured by these signs.

2.3.2.33 Where traffic signs, 106, 107 and 108 are used at signal controlled junctions, the green aspect of the signal head should be replaced by a green arrow pointing in the direction which vehicles must proceed, and whenever possible the green arrow lens should be 300mm in diameter.

2.3.2.34 Traffic sign 107 "Turn Left" may also be used on the central island of a roundabout as explained in paragraph 2.3.3.23.

2.3.2.35 The traffic sign 109, "Keep Left" is used to indicate to motorists that they must drive to the left of some permanent or temporary obstruction. It is normally used, in conjunction with bollards at permanent sites such as traffic islands, refuges and on the central reserves of dual carriageway roads. It is also extensively used as a temporary sign at roadworks. The "Keep Right" sign, T.S. 110, is generally only used at roadworks. T.S. 109 and 110 may be used with the supplementary plates T.S. 708 "Except franchised buses", and T.S. 736 "Dual carriageway". Where the sign is in the form of a bollard, it should not be accompanied by a similar sign mounted on a post, as this duplication of the sign is unnecessary and is wasteful of resources.

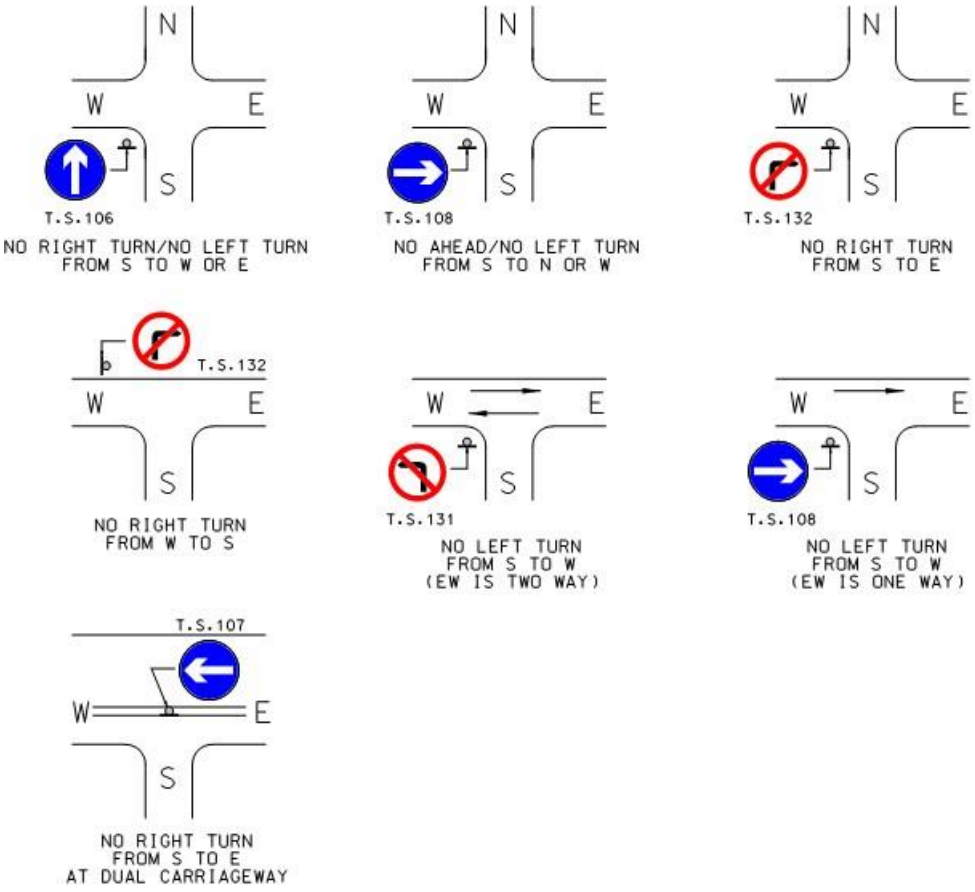


T.S. 109
(T.C. 108)



T.S. 110
(T.C. 108)

DIAGRAM 2.3.2.4 : USE OF TRAFFIC SIGNS 106, 107, 108, 131 AND 132



2.3.2.36 "Turn Left Ahead" or "Turn Right Ahead", traffic signs 111 and 112 respectively are used in advance of and not at the junction, to indicate the turn motorists must make at the junction. These signs may be used with the following supplementary plates :

(i)	traffic sign 701	"Over 3 tonnes"
(ii)	traffic sign 707	"One way"
(iii)	traffic sign 708	"Except franchised buses"
(iv)	traffic sign 736	"Dual carriageway"
(v)	traffic sign 814	"Goods vehicles "
(vi)	traffic sign 3706	"Time plate"
(vii)	traffic sign 831	"Vehicle length"

For use in conjunction with supplementary plate T.S. 701, T.S. 814, T.S. 831and T.S. 3706 refer to paragraph 2.3.2.27



T.S. 111
(T.C. 109)



T.S. 112
(T.C. 109)

2.3.2.37 Although the regulations permit the traffic signs 111 and 112 to be used with traffic signals or bollards they will not generally be conveniently located in advance of the junction for this purpose.

2.3.2.38 A reasonable siting distance for traffic signs 111 and 112 is 50m, but this may need adjustment according to prevailing site conditions, as there should not be an intervening junction between the sign and the junction to which it refers. However where this distance is 30m or less there is little value in using these signs, as traffic signs 107 or 108 located at the junction will normally be visible.

2.3.2.39 "Slow, Police", traffic sign 113 is a temporary sign for use by the police.



T.S. 113
(T.C. 110)

2.3.2.40 Traffic sign 114, "Pedestrian Priority Zone" denotes a zone where vehicles must give way to pedestrians. A gazette notice is required to designate a street or streets as a pedestrian priority zone, and signs should be erected on both sides of the street. At the exits, signs facing exiting traffic with "End" plates should be used. It is desirable that the pedestrian priority street should also be a one-way street.



T.S. 114
(T.C. 111)

2.3.2.41 Traffic sign 115, "No Entry" indicates that the entry of all vehicular traffic is prohibited. It may also be used in conjunction with directional signs, but this type of signing must not be used alone to indicate the "No Entry" requirement.



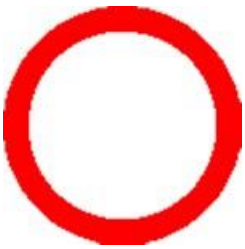
T.S. 115
(T.C. 112)

2.3.2.42 Traffic sign 115, "No Entry" should only be used in respect of a one way street where all vehicular traffic is prohibited entry. It is not the appropriate sign if contra flow for certain vehicles is to be allowed, or for those streets where occasional vehicles are permitted e.g. access only.

2.3.2.43 A "No Entry" sign should be erected on both sides of the particular street where entry is prohibited. Either or both of the signs must be easily seen by approaching traffic. It may be necessary to orientate the signs at a slight angle towards on-coming traffic and/or set back the signs to ensure visibility and to make it clear as to which street the signs refer. If the street from which traffic is approaching is two-way the sign farthest from approaching traffic should be the one orientated towards it, see Diagram 2.3.2.5. A conveniently situated bollard may be used to show an additional "No Entry" sign. It should be noted that the standard size for traffic sign 115 is 750mm diameter, other than for bollards and direction signs, and this should be used on all streets unless the approach speed indicates a larger sign would be more appropriate, or in exceptional circumstances.

2.3.2.44 The designation of a prohibited zone may, absolutely or on specified days, prohibit the driving of any motor vehicles or any specified class or description of motor vehicles on any road within the prohibited zone. It is one of the most useful traffic management tools in alleviating traffic congestion on the roads. Traffic sign 116, "All vehicles prohibited in both directions", is not used by itself but is always accompanied by a supplementary plate qualifying the prohibition. Appropriate supplementary plates are :

(i)	traffic sign 708	"Except franchised buses"
(ii)	traffic sign 711	"Except for access"
(iii)	traffic sign 712	"Except with permit" (this sign is not required if other supplementary plate is used)
(iv)	traffic sign 714	"Time plate"
(v)	traffic sign 731	"Except cycles" (alternatively traffic sign 117 which does not prohibit cycles may be used)
(vi)	traffic sign 733/734	"Arrow plates"
(vii)	traffic sign 814	"Goods vehicle"
(viii)	traffic sign 897	"Day plate"
(ix)	traffic sign 3706	"Time plate"
(x)	traffic sign 831	"Vehicle length"

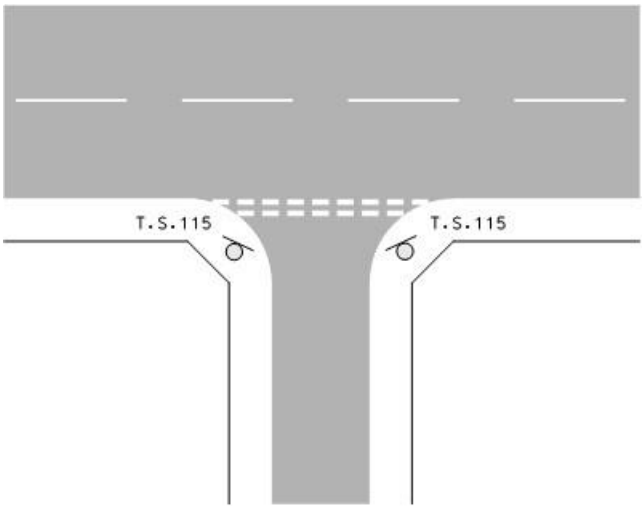


T.S. 116
(T.C. 113)

2.3.2.45 This sign may be used with supplementary plate T.S. 814 “Goods vehicles” and its variations to indicate that a prohibition only applies to one type of vehicle. Whilst such signing is legally acceptable it should be avoided if at all possible. Good signing practice is for a prohibition sign to be used only when the prohibition applies to the majority of vehicles, with a supplementary plate indicating the few exceptions if any. In most cases therefore, where only one type or description of vehicle is to be prohibited, one of the more specific prescribed signs should be used e.g. to prohibit Public Light Buses, traffic sign 119 is the appropriate sign. However, if there is an occasion where a specific vehicle type needs to be prohibited, and there is not a more appropriate sign, traffic sign 116 may be used. If the particular prohibition is intended to be permanent and is likely to be used in other locations, a purpose designed sign should be prescribed as soon as possible.

2.3.2.46 Traffic sign 116 must only be used if vehicles are similarly to be prohibited from entering at both ends of a particular street. The use of traffic sign 116 at one end of a street, and traffic sign 115, "No Entry" at the other is not correct and should be avoided. Notice of the restriction will need to be gazetted. Signs will need to be erected at both ends of the street and on both sides and should be similarly located and orientated if necessary as traffic signs 115 "No Entry". In respect of bus termini, it is appropriate to use traffic sign 116 and the supplementary plate traffic sign. 708, "Except Franchised Buses" only. Vehicles other than franchised buses, say bus company operational vehicles, would require a valid prohibited zone permit to enter the bus termini. The use of traffic sign 712 "Except with permit" is not necessary as a vehicle with a valid prohibited zone permit is already exempted under the regulation.

DIAGRAM 2.3.2.5: ORIENTATION OF NO ENTRY SIGN



2.3.2.47 Traffic sign 117, "All motor vehicles prohibited", prohibits entry only to motor vehicles from entering a street, but not non-motor vehicles such as bicycles/tricycles. Where it is required that certain classes of vehicle are to be exempted from the restriction, or where entry is to be permitted for certain activities, supplementary plates will be required. Appropriate supplementary plates are :

(i)	traffic sign 708	"Except franchised buses"
(ii)	traffic sign 711	"Except for access"
(iii)	traffic sign 714	"Time plate"
(iv)	traffic sign 838	"Except General Holidays"
(v)	traffic sign 733/734	"Arrow plates"

The use of traffic sign 712 "Except with permit" is not necessary as a vehicle with a valid prohibited zone permit is already exempted under the regulation. A gazette notice will be required prior to implementation. The sign should be erected on both sides of the street concerned and the signs orientated and located similarly to traffic sign 115, "No Entry".

When only motorcycle symbol is used, this sign prohibits the entry of motorcycles and motor tricycles. When only car symbol is used, this sign prohibits the entry of all motor vehicles except motorcycles and motor tricycles.



T.S. 117
(T.C. 114)



T.S. 2200
(T.C. 114)



T.S. 2201
(T.C. 114)

2.3.2.48 Traffic sign 118, “Buses prohibited” prohibits all buses from entering a street at all times unless qualified by the supplementary plates “Except franchised buses” traffic sign 708, or an appropriate “time plate” to T.S. 714. The use of supplementary plate T.S. 712 “Except with permit” is not necessary. Signs should be erected on both sides of the street at the point where the restriction commences, and should be orientated as for traffic sign 115, “No Entry”. Supplementary arrow plates, T.S. 733/734 may be used where necessary. A gazette notice is required prior to implementation.



T.S. 118
(T.C. 115)

2.3.2.49 Public light buses (PLB) can be prohibited entry to a street, subject to the normal gazette notice, by the traffic sign 119, “Public Light Buses Prohibited”. The sign may also be used with the supplementary plate “Time plate” traffic sign 714. The use of supplementary plate traffic sign 712 “Except with permit” is not necessary. Similar arrangements with regard to sign location as for traffic sign 115, “No Entry”, will be required. Traffic sign 119 prohibits PLBs from passing the sign for any reason and not just for the purposes of picking up or setting down passengers. Supplementary “arrow plates”, T.S.733/734 may be used when necessary.



T.S. 119
(T.C. 116)

2.3.2.50 Traffic sign 120, “Goods Vehicles prohibited” prohibits all goods vehicles, i.e. light, medium and heavy goods vehicles from entering a street at all times, unless qualified by plates showing the “Gross Vehicle Weight” of vehicles it applies to, traffic sign 704 or equivalent, or “Except for access” traffic sign 711, or a “Time Plate” traffic sign 714. Signs should be erected at the entrance to and on both sides of the street to which the prohibition applies. Supplementary “arrow plates”, T.S. 733/734 may be used when necessary. A notice in the gazette is required prior to implementation.



T.S. 120
(T.C. 117)

2.3.2.51 Traffic Signs 121, and 125 are used to indicate the start of a “with flow” bus lane. The former is used where the lane is exclusively for franchised buses and the latter where other buses are also allowed, though not light buses. Variations to suit the particular circumstances of the site may be used, but as far as possible these should be similar to signs already in use and illustrated on the CT174/51 series of Drawings. The arrows on the sign should indicate the direction of traffic flow, but the number of traffic lanes in any particular direction is not required to be shown on the sign. The appropriate road markings to be used with the sign are described in Chapter 5. Details concerning the provision of bus lanes and other criteria are included in Volume 6 - Traffic and Environmental Management. The regulations only restrict motor vehicles from using the bus lane, and therefore bicycles are not affected by the sign.



T.S. 121
(T.C. 118)



T.S. 125
(T.C. 118)

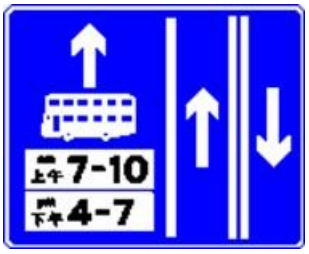
2.3.2.52 It should be noted that traffic signs 121 and 125 are relatively large and may need to be supported by two posts. Careful siting of these posts is required to avoid unnecessary obstruction to pedestrians. Rather than having one of the two posts positioned in the middle of the footway, consideration should be given to providing a larger frame so that posts can be positioned on each side of the footway. However, the development at the back of the footway e.g. shop door, shop window, entrance to building, will also need to be taken into account. To avoid causing any possible obstruction, it may be necessary to adjust the start of a bus lane marginally to fit the position where a sign can most conveniently be located.

2.3.2.53 Traffic sign 121 or 125 must be erected facing on-coming traffic, at the side of the road adjacent to the bus lane. Signs on the opposite side of the road are not necessary. A gazette notice is not required prior to implementation, as authority for introducing a bus lane is obtained from Regulation 12 of the Road Traffic (Traffic Control) Regulations.

2.3.2.54 General practice has been to allow all bus types to use bus only lanes, and therefore traffic sign 125, or equivalent will be mostly used. However as the definition of bus does not include "light bus", these latter vehicles will be excluded, unless given permits to enter the lane. Traffic sign 712, "Except with permit" is not necessary. For part time operation of bus only lane, T.S. 2181 and T.S. 2190 shall be used. The words "Except general holidays" on the traffic signs may be deleted for operation on all days. The operation time period shall be painted on the carriageway at regular intervals, 50 - 100 m on urban roads and 250 - 400 m on rural trunk roads, along the bus only lanes.



T.S. 2181
(T.C. 164)

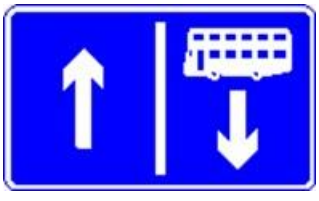


T.S. 2190
(T.C. 164)

2.3.2.55 Traffic signs 126, or 127 are for use in conjunction with "contra-flow" bus lanes, where all vehicles proceed in one direction and only franchised buses are permitted in the opposite direction. If all types of buses in addition to franchised buses are permitted to use the lane then the "bus" symbol should be replaced by the word "Bus" in both English and Chinese.



T.S. 126
(T.C. 119)



T.S. 127
(T.C. 119)

2.3.2.56 Traffic signs 126 or 127 should be located adjacent to the traffic lanes used by all traffic, at the location at which buses exit the contra-flow lane. They should face on-coming vehicles and would have their back to buses using the contra-flow lane. The purpose of the sign is to convey to motorists in the one-way street that a traffic lane is reserved for franchised or all buses, as the case may be, approaching in the opposite direction. At the other end where buses enter the bus lane the traffic sign 117, "All motor vehicles prohibited" with appropriate supplementary plates e.g. traffic sign 708, "Except franchised buses" or "Except Buses", as the case may be, should be erected on both sides of the street facing on-coming buses and away from the direction of traffic in the one-way street. A single line road marking shown in Section 5.3.2.28 should be used to delineate the bus lane. The number of lanes that may be used by all traffic should be clearly indicated on traffic sign 126.

2.3.2.57 Traffic sign 129 indicates the end of the bus lane. It is not necessary however to use it at intermediate points where the bus lane is temporarily terminated because of a junction, entrance or similar. Appropriate road markings shown in Chapter 5, should also be used in conjunction with the sign. For contra-flow lanes, the sign should be located at the back of traffic sign 117, to convey to motorists that the contra-flow bus lane has ended. The sign will not be seen by drivers using the contra-flow bus lane.



T.S. 129
(T.C. 120)

2.3.2.58 Traffic sign 130, "Learner Drivers Prohibited", prohibits the entry of vehicles driven by learner drivers at all times unless qualified by a time plate showing the particular hours of operation. The sign should be erected on at least one side of the road facing on-coming traffic and a duplicate sign on the opposite side of the road will also be generally appropriate. A gazette notice is not required prior to implementation, as authority for erection of the sign is obtained from Regulation 3 of the Road Traffic (Traffic Control) Regulations. Supplementary "arrow plates" may also be used where necessary.
The supplementary "End" plate, T.S. 767, may also be used with this sign at the end of the road to which the prohibition applies. This combination is useful to inform the instructor when he may permit the learner to drive the vehicle again.



T.S. 130
(T.C. 121)

2.3.2.59 The traffic signs 131 and 132 indicate respectively that left turning movements and right turning movements are prohibited. Whilst the use of T.S. 132 would normally imply that "U" turns are also prohibited, if a "U" turn is specifically to be banned traffic sign 133 "No U turns" should also be erected. However to avoid sign proliferation the use of traffic sign 133 in these circumstances should be limited to those locations where "U" turns are or are likely to be significant. The signs 131 and 132 may be used in conjunction with traffic light signals and bollards, as well as on their own. Supplementary plates that may be used with these signs are :

(i)	traffic sign 701	"Over 3 tonnes"
(ii)	traffic sign 708	"Except franchised buses"
(iii)	traffic sign 714	"Time plate"
(iv)	traffic sign 814	"Goods vehicles"
(v)	traffic sign 3706	"Time plate"
(vi)	traffic sign 831	"Vehicle length"

For use in conjunction with supplementary plates T.S. 701 “Over 3 tonnes”, T.S. 814 "Goods Vehicle", T.S. 3706 “Time plate” and T.S. 831 “Vehicle Length” refer to paragraph 2.3.2.27.



T.S. 131
(T.C. 122)



T.S. 132
(T.C. 122)

2.3.2.60 Traffic signs 131 and 132 should be located in the immediate vicinity of the junction to which they refer, facing on-coming traffic. They are appropriate for use at "T" Junctions where traffic across the head is prohibited from turning left or right into the stem, at "T" junctions where traffic is prohibited from turning left or right out of the stem and the road across the head is not a one-way road, and at four-way junctions where on any approach only the left turn or the right turn, but not both, is to be prohibited. See Diagram 2.3.2.4, and paragraphs 2.3.2.27 to 2.3.2.31 also.

2.3.2.61 Internally illuminated signs of nominal 300mm diameter should be used where traffic signs 131 or 132 form part of the traffic signal head. Traffic sign 131 should be mounted to the left and traffic sign 132 should be mounted to the right. Alternatively, if physical limitations of the site prevent this, the signs may be mounted immediately beneath the signal head, and Volume 4 contains further advice on this. When signal head signs cannot be obtained, a 450mm reflective sign plate may be used in the latter position, but care should be taken that it does not obscure the visibility of pedestrians.

2.3.2.62 If the prohibition on vehicles turning left or right results in traffic only being able to proceed in one direction the green aspect of the signal should be replaced by a green arrow pointing in the direction in which traffic may proceed.

2.3.2.63 Where a turning prohibition applies for only part of the day, it may be appropriate to consider the use of a "secret sign" which is only displayed when required rather than a normal sign with a time plate.

2.3.2.64 The traffic sign 133, indicates that the making of "U"-turns is prohibited, and should, if used at a junction, be located in its immediate vicinity. At traffic signal junctions, it may be appropriate to incorporate the sign in the signal head, using a 300mm diameter internally illuminated sign, usually to the right of the signal aspects. If the restriction is to be imposed over a long length of road, the traffic sign 133 should be positioned at the start of the restriction together with a supplementary plate indicating the distance over which the restriction applies e.g. "For 2 km". At the termination point of the restriction, an "End" plate should be used in conjunction with the sign. Repeater signs will be required after each point of entry from a side road and additionally at appropriate intervals. As a guide, the spacing of repeater signs for speed limits in Table 2.3.2.4 may be used. Where the distance plate is repeated, it should be amended to accord with the remaining distance over which the prohibition applies.



T.S. 133
(T.C. 123)

2.3.2.65 It is relevant to note that Regulation 42 of the Road Traffic (Traffic Control) Regulations does generally prohibit the making of 'U'-turns if they are likely to obstruct other road users. Therefore the use of traffic sign 133 should be limited to those locations where persistent "U"-turns are a potential danger or may seriously obstruct other traffic. Over-use of signs such as this in situations where enforcement may be difficult only brings the sign into disrepute.

2.3.2.66 Traffic sign 134, "No pedestrians", indicates that pedestrians and pedestrian operated or controlled vehicles are prohibited from passing the sign. Signs should be erected on both sides and at both ends of the road facing approaching pedestrians. It may also be of value to motorists if signs are erected at the end of the restricted section together with "End" supplementary plates, traffic sign 767, facing on-coming vehicles to indicate that pedestrians may now be adjacent to the carriageway. As pedestrians are prohibited, there is no reason to have this or any other sign in the restricted section mounted at the 2000mm height. Therefore, unless there are particular reasons for doing otherwise, signs in these locations, should be mounted at the lower height of 900mm-1500mm as mentioned in paragraph 2.2.3.1. Supplementary "arrow plates" may be used to clarify which road is affected by the prohibition, if the road configuration makes this necessary.



T.S. 134
(T.C. 124)

2.3.2.67 Traffic sign 135, prohibits rickshaws, handcarts and other pedestrian propelled vehicles, but not pedestrians, from passing the sign. It may be used with the "End" supplementary plate, traffic sign 767. The sign should be erected at both ends of the restricted section and depending on the circumstances on both sides of the road. As pedestrians themselves are not prevented from passing the sign the higher mounting height should be used. Supplementary "arrow plates" may be used where necessary.



T.S. 135
(T.C. 125)

2.3.2.68 Traffic sign 136, "No Pedestrians, No Cyclists", indicates that pedestrians, pedestrian operated or controlled vehicles, bicycles and tricycles are prohibited from passing the sign. It may be used with the "End" supplementary plate, traffic sign 767. The sign should be erected at both ends of the restricted section facing towards possible approaching pedestrians and cyclists. It may be advantageous as with the traffic sign 134, to have also additional signs and "End" plates at the end of the restricted section, facing motorists, to advise that pedestrians could be adjacent to the carriageway. Mounting height should be as for traffic sign 134. Supplementary "arrow plates" may be used where necessary.



T.S. 136
(T.C. 126)

2.3.2.69 Traffic sign 137, "No Cyclists" indicates that bicycles and tricycles are prohibited from passing the sign. It may be used with the "End" supplementary plate. It may be advisable to erect this sign on those roads where an adjacent cycle track is provided as cyclists are required by law to use the cycle track, and this sign serves as a reminder of this. Supplementary "arrow plates" may be used where necessary. It should be noted that neither T.S. 136 nor T.S. 137 prohibits multicycles (i.e. cycles with more than three wheels). However, Road Traffic Ordinance Section 52 prohibits such vehicles from using all roads except where signs, T.S. 229, 231 and 232, indicate that they are specifically allowed.



T.S. 137
(T.C. 127)

2.3.2.70 Traffic sign 138, Silent Zone, prohibits the sounding of an audible warning device for any reason. It may be used with, "Time plates" traffic sign 714 if the silent zone is not to be operational all day, e.g. "7 pm - 7 am", the distance plate, showing the distance over which the zone extends e.g. "For 1km", traffic sign 784 and "End", traffic sign 767 supplementary plates. Regulation 43 of the Road Traffic (Traffic Control) Regulations makes it an offence to sound an audible warning device except to warn a person of danger. It is therefore not necessary to create silent zones other than in areas adjacent to buildings where noise, even from the occasional use of an audible warning device, would cause a significant nuisance. In most circumstances only hospitals with in-patients will merit such treatment and then normally only at night. Signs will need to be erected at both ends of the area affected and on both sides of the road facing on coming traffic. On the reverse of these signs should also be placed additional signs with "End" plates to mark the termination of the zone. For dual carriageway roads signs should be erected on both sides of each carriageway. Repeater signs may be required where there are intervening side road entries and where the restricted area exceeds 1/2 km in length. A notice in the gazette will not be required prior to implementation, but adequate publicity of the restriction should be arranged. Determining the length of the zone will necessarily be dictated by the circumstances of the site. It is however perhaps relevant to note that a significant reduction in noise is only achieved, if barriers are not installed, when the distance between the source and the building is relatively large, therefore confining the silent zone to immediately in front of the building may not be sufficient.



T.S. 138
(T.C. 128)

2.3.2.71 Traffic sign 139, "No Overtaking", indicates that the overtaking of motor vehicles is prohibited. It may be used with the supplementary plates “End" traffic sign 767, and "distance plate" showing the distance over which the restriction applies e.g. traffic sign 785 "For 2 km". However the latter will only be required if the restriction applies over a distance of l km or more. The sign should be erected on both sides of the road facing on-coming traffic, and at the termination of the restriction, the sign together with "End" plates should used. Repeater signs may be required where there are intervening side road entries and where the restricted area exceeds ½ km in length. The "no overtaking" sign, will seldom be required as in most situations the use of the double white line system will be preferable.



T.S. 139
(T.C. 129)

2.3.2.72 Traffic sign 140, indicates that vehicles must keep to the nearside lane except when overtaking. It should be erected on those roads where it is desirable and practicable for slower vehicles to keep in the nearside lane, i.e. sections of dual carriageway without frequent intervening junctions which would require vehicles to occupy the appropriate lane for carrying out the intended turn. The sign should be erected adjacent to the nearside and on the central reservation if site condition permits. Repeater signs at approximately 400m intervals should also be erected. Care should be taken in siting this sign that it does not conflict with information given in any other sign erected. For example it is not appropriate to erect traffic sign 140 in the vicinity of a gantry, or similar sign, giving lane indication directions. Traffic sign 140 is not essential on expressways as regulation 12 of the Road Traffic (Expressway) Regulations makes it an offence not to drive in the nearside lane unless overtaking or merging/diverging. Use of the sign can however assist enforcement and prior consultation with the Police about the use of this sign on expressways is recommended.



T.S. 140
(T.C. 130)



T.S. 191
(T.C. 169)

Traffic sign 191 is a variation in size of traffic sign 140. Because of narrower width, T.S. 191 has higher chance to be erected at the central divider with adequate laternal clearnce.

2.3.2.73 Traffic sign 141, "Width Limit", indicates that a vehicle exceeding the width shown on the sign is prohibited from passing the sign. The measurement indicated on the sign should normally provide at least 100mm clearance on each side between the vehicle and the physical limitations of the road. The most appropriate use for this sign will be on single track roads. The supplementary plate "Except for access" traffic sign 711 may be used with the sign, but this will only be appropriate if for example the restriction has been imposed for environmental reasons, but the carriageway will actually accommodate vehicles of greater width. Other standard widths as shown on the CT 174/51 series of drawings may be used. Supplementary "arrow plates" may be used where necessary, but their need is likely to be rare.



T.S. 141
(T.C. 131)

2.3.2.74 Traffic sign 147 which prohibits all vehicles, not just goods vehicles, or combination of vehicles having a length greater than that shown, from passing the sign shall not be used in future. Some motorists think that the prohibition applies to goods vehicles only as the sign displays a goods vehicle symbol. This might be inferred from traffic sign 120 “Goods vehicles prohibited” and / or traffic sign 281 “Parking for goods vehicles only”. For prohibition of motor vehicles exceeding certain length, the use of traffic sign 116 “All vehicles prohibited in both directions” together with the supplementary plate traffic sign 831 “Vehicle length” would be appropriate and user friendly.



T.S. 147
(T.C. 132)



T.S. 116 & T.S. 831
(T.C. 113 & T.C. 432)

2.3.2.75 Traffic sign 155, indicates that a vehicle, including any load, with a height greater than that shown is prohibited from passing the sign. The dimension on the sign should allow at least 100mm clearance between the permitted vehicle height and the restricted headroom. The actual headroom figure should be rounded down to the nearest 0.1 m and then a further 0.1 m deducted to arrive at the dimension to be included on the sign. The sign may be used with the supplementary plates "Except franchised buses" traffic sign 708, and "Except for access" traffic sign 711, but these will only be applicable where it is physically possible to allow vehicles of a greater height. The use of "Except with permit" traffic sign 712 is not necessary. The Road Traffic (Construction and Maintenance of Vehicles) Regulations stipulate that, apart from vehicles with special permits, the maximum height of vehicles is 4.6m, and this should therefore be the maximum dimension to appear on the sign. Other standard heights, below this maximum, as shown on the CT 174/51 series drawings may be used. Warning signs are also used to indicate restricted headroom and paragraphs 2.3.3.34 and 2.3.3.35 provide more details.



T.S. 155
(T.C. 133)

2.3.2.76 Traffic sign 161, “Weight Limit”, indicates that vehicles with a gross vehicle weight greater than that shown are prohibited from passing the sign. The numerals on the sign may be varied to suit different weight restrictions. Supplementary plates “Except franchised buses” traffic sign 708, “Except for access” traffic sign 711, and “Time plate” traffic sign 714 or similar, giving the hours of operation of the restriction, and supplementary “arrow plates” may be used with the sign. The use of “except with permit” traffic sign 712 is not necessary. A gazette notice is required to designate the prohibited zone. As the gross vehicle weight means the sum of the weights transmitted to the road surface by a vehicle, it is important to note that a particular vehicle with a permitted gross vehicle weight of 5.5 tonnes can legitimately pass a 3 tonnes weight limit sign when in an unladen condition. However, for ease of enforcement, it is recommended to set the weight limit with reference to the maximum gross vehicle weights for various categories of vehicles. Given the increasing popularity of new energy private cars and taxis whose gross vehicle weight may exceed 3 tonnnes, supplementary plates “Except taxis and private cars” traffic sign 3722 should normally be used when a 3 tonnes weight limit is set, unless there are structural constraints of the road or other considerations.



T.S. 161
(T.C. 134)

2.3.2.77 Traffic sign 168, “Axle Weight Limit” indicates that vehicles with an axle weight in excess of that shown are prohibited from passing the sign. It may be used with the supplementary plates “Except franchised buses” traffic sign 708, “Except for access” traffic sign 711, and “Time plate” traffic sign 714 or similar and where necessary, supplementary “arrow plates”. The use of “except with permit” traffic sign 712 is not necessary. Alternative standard axle weights to be used are shown on the CT 174/51 series of drawings.



T.S. 168
(T.C. 135)

2.3.2.78 Whilst information in this section deals with the signing of speed limits, Volume 6 Chapter 6 should be referred to for the criteria to determine the appropriate speed limit. All speed limits in the Territory are expressed in kilometres per hour. The standard speed limit is 50 km/h as specified in Section 40 of the Road Traffic Ordinance. The Commissioner has the power to impose a different speed limit on specified sections of the road network, by issuing a gazette notice and erecting appropriate signs. Inadequate signing of speed limits causes enforcement problems and is one of the major causes of complaints from motorists. Particular attention must be given therefore to providing clearly visible signs of an adequate size. In some situations, particularly where traffic diverges and a different speed limit applies to the two diverging streams, it may be necessary to use the supplementary arrow plates to indicate which speed limit applies to which road. As motorists are used to the metric system, we have amended the traffic sign in early 2000 by removing the lettering “km/h” to enable larger speed limit numerals to be shown. This amendment would facilitate motorists viewing from a distance.



T.S. 174
(T.C. 136)

2.3.2.79 At the locations where speed limits change, large signs with minimum unobstructed visibility should be placed in accordance with Table 2.3.2.3. The size and visibility will relate to the speed limit with the visibility varying depending whether the new limit is an increase or decrease from the approach limit.

Table 2.3.2.3
Appropriate sizes of Main Speed Limit Signs

Posted Speed Limit (km/h)	Recommended Minimum Diameter of Sign (mm)	Minimum Unobstructed Visibility of Sign (m)
Less than 50	600	60
50	750 (600)	60
70	900 (750)	60 - increase in speed limit 75 - decrease in speed limit
80	900	75 - increase in speed limit 100 - decrease in speed limit
Above 80	1200	100

2.3.2.80 Advance warning traffic signs 570, 572 or 573 to alert drivers of lowering of speed limit ahead should be provided in accordance with paragraph 6.7.1.4 of Volume 6. Repeater signs should be erected to remind motorists of the speed limit in force. The appropriate size and spacing of repeater signs is related to the speed limit as detailed in Table 2.3.2.4.

Table 2.3.2.4
Size and Location of Speed Limit Repeater Signs

Speed Limit (km/h)	Repeater Sign Size (mm)	Approximate Spacing
less than 50	450 (300)	200m or mid-point where distance between main signs is greater than 200m but less than 400m.
50	600 (450)	One set only within 300m to 600m of main sign to remind motorists of the reduction in the limit
70, 80	750 (600)	400m to 900m spacing depending on distance between junctions and character of road. For roads with a high design speed a spacing approaching 900m is appropriate, for low design speed roads the spacing will be closer to 400m
Above 80	900	

Note : Figures in brackets are absolute minimum figures where there is a problem of clearance.

2.3.2.81 Speed limit signs, including repeater signs, should be placed on both sides of the road, and both sides of each carriageway of a dual carriageway road. On single carriageway roads signs for adjacent speed limit zones will be placed back to back. It is important, to ensure that problems of enforcement are not encountered, that signs are located in accordance with descriptions given in the gazette notice. In this respect site inspections prior to fixing the position of the speed limit zone are essential, and if the sign cannot be placed in a particular position the zone should be adjusted accordingly.

2.3.2.82 Variable speed limit signs may be used, but the gazette notice must specify what the alternative speeds are.

2.3.2.83 Where variable speed limit signs are used it is recommended that amber flashing lamps form part of the installation. A lamp should be positioned on both sides of the sign and should flash at the rate of not less than 60 flashes per minute, when a speed limit lower than that normally displayed is operative. Variable speed limit signs should be internally or externally illuminated.

2.3.2.84 On those roads with a speed limit in excess of 70 km/h, medium goods vehicles, heavy goods vehicles and buses are subject to a maximum speed limit of 70 km/h. Separate signs to indicate this restriction are not required and should not be erected.

2.3.2.85 Traffic signs 179 & 180 indicate a combined footway and cycle way and that pedestrians and cyclists must walk or ride respectively on the side indicated by the sign. It is appropriate to use an “End” traffic sign 767, supplementary plate at the termination, and to use repeater-signs at intervals along the route. Supplementary plate “Unaccompanied Children Permitted”, traffic sign 805, should also be used at those locations where children, under the age of 11, are permitted to ride bicycles or tricycles whilst unaccompanied by an adult.



T.S. 179
(T.C. 137)



T.S. 180
(T.C. 137)

For a combined footway and cycleway for multicycles, use traffic signs 231 and 232 as appropriate instead. The signing arrangement is similar to traffic signs 179 and 180.



T.S. 231
(M A2)



T.S. 232
(M A2)

2.3.2.86 Traffic sign 181 "Cycles Only", is used to indicate that a route is for cycles only and that where such a route is provided adjacent to the carriageway cyclists must use the cycle route. "End" supplementary plates, traffic sign 767 may be used to mark the termination. Intermediate signs will generally only be appropriate at intersection points with other routes or paths. Supplementary plate "Unaccompanied Children Permitted" is also appropriate at certain locations as described in the previous paragraph. For cycleways and playground for use by multicycles only, traffic sign 229 should be erected instead. If traffic sign 181 is also erected, in which case riding of bicycles and tricycles is also permitted.



T.S. 181
(T.C. 136)



T.S. 229
(M A1)

2.3.2.87 Traffic sign 182 "One Way Traffic" is used to inform motorists of the direction of permitted traffic flow on a one-way street. Signs should be erected on both sides of the carriageway facing on-coming traffic at the point of entry, or to avoid confusion, may be positioned a short way into the mouth of the one-way street. Similar signs should be erected beyond all side street entries. Repeater signs should also be erected alternately on each side of the street such that there is at least one sign on each side every 100m. Traffic sign 182 should only be used in the vertical position, horizontal arrangements of this sign must not be used as traffic sign 107 or 108 are the appropriate signs to indicate that vehicles must turn left or right.



T.S. 182
(T.C. 139)

2.3.2.88 The Road Traffic (Traffic Control) Regulations allow considerable flexibility in the signing arrangements for stopping restrictions and the following paragraphs describe the signs and markings available and their usage. For all stopping restrictions, details of the restriction including indication by traffic signs and/or road markings, extent, time and types of vehicle affected must be gazetted, prior to implementation. The combination of traffic signs and/or road markings stated in the gazette notice for indication of the restriction zone must be consistent with the actual combination of traffic signs and/or road markings placed on site.

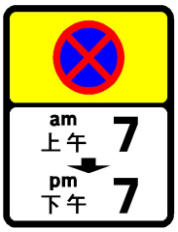
2.3.2.89 The imposition of no stopping restriction zone is a very useful traffic management tool particularly in busy areas to alleviate traffic congestion due to frequent loading/unloading activities. The restriction may be applied to all motor vehicles or any particular class, type or description of motor vehicle. However, a vehicle with a valid restricted zone permit issued for the restricted zone in accordance with the Road Traffic (Registration and Licensing of Vehicles) Regulations is exempted. To facilitate taxi pick up and drop off on roads with speed limit 70km/h or below, taxis shall be exempted from part-time no stopping restrictions of periods i) 8 - 10 am & 5 - 7 pm, ii) 8 - 10 am & 5 - 8 pm, iii) 7 am - 7 pm, iv) 7 am - 8 pm; i.e. T.S. 860 “Except taxi pick up or drop off” shall be used in conjunction with T.S. 2133 and 2230 on these roads.

2.3.2.90 In accordance with the legislation, "parking" means the standing of a vehicle, whether occupied or not, except when standing temporarily for the purpose of and while actually engaged in loading or unloading or picking up or setting down passengers. As such, vehicles standing on a road while actually engaged in loading or unloading or picking up or setting down passengers is always allowed unless the road is designated as a no stopping restriction zone or under other restrictions. To minimise complaints on inadequate provision of kerbside space for loading / unloading and / or picking up / setting down activities, no stopping restriction should be reserved only for those locations where stopping of vehicles would represent an unacceptable interference to traffic flow and the restriction should apply to all motor vehicles as far as possible. No stopping restriction should also be imposed on high speed roads where any stopping of vehicles would cause a potential hazard to their occupants and other vehicles.

2.3.2.91 T.S. 2131, 2133, 2137 and 2230 “No stopping” zone indicate the start of the length of road over which the stopping of vehicles, except franchised buses at designated bus stops, during the time designations is prohibited. The signs may be used in conjunction with the supplementary plates T.S. 838 “Except General Holidays”, T.S. 860 “Except taxi pick up or drop off” and T.S. 898 “Except taxi drop off” (see paragraph 2.3.2.92 below) only, but not T.S. 710 “Except taxis” or the like. T.S. 897 “Except Sundays and Public Holidays” should no longer be used as stated in paragraph 2.3.5.74. T.S. 2139 indicates the end of a no stopping restriction zone. All the above signs as well as other relevant signs and supplementary plates for designating no stopping restrictions should be erected facing on-coming traffic except those under rare circumstances erected with “arrow” or “double arrow” plates (see paragraph 2.3.2.92 below).



T.S. 2230
(T.C. 165)



T.S. 2133
(T.C. 165)



T.S. 2131
(T.C. 165)



T.S. 2137
(T.C. 165)



T.S. 2139
(T.C. 166)

(Note: upper part background - yellow, lower part background - white)

2.3.2.92 T.S. 183, if used alone without any supplementary plate, is generally used as a 24-hour “No Stopping” repeater sign on high standard roads (see paragraph 2.3.2.94). The sign may be used in conjunction with a number of supplementary plates as described below:



T.S. 183
(T.C. 140)

(i)	T.S. 3706/3707	"time plate" – They are used to indicate the period of time during which the restriction is in force. The plate can specify any period of time or times, and the standard time periods are 8 - 10 am & 5 - 7 pm, 7 am - 7 pm, 7 am - midnight and 24 hours.
(ii)	T.S. 733/734	"arrow plate" - They are used to indicate the start or end of a restriction but normally not used as the “Start/End” restriction signs are already erected facing traffic.
(iii)	T.S. 735	"double arrow plate" - It is only used with repeater signs to indicate a continuing restriction where a yellow line is not used. When used, it should be erected parallel to traffic together with T.S. 183.
(iv)	T.S. 767	"End" - It is used to indicate the end of the restriction.
(v)	T.S. 784	"For 1 km" - The numerals may be varied. It may be used to indicate the extent of the restriction but the combination is rarely used.
(vi)	T.S. 814	"Goods vehicles" - The wording may be varied to specify any motor vehicle or any class or description of motor vehicle to which the restriction applies.
(vii)	T.S. 838	″ Except General Holidays” – The sign is a “day plate” indicating the day or days such as “Except General Holidays”, “Mon - Fri”, etc. during which the restriction applies. It may also be used in conjunction with “time plate” to indicate the period of time of the specified day or days during which the restriction applies, such as “9am – 6 pm, Except Sundays”, “4pm – 10pm, General Holidays”, etc. [Note: General Holidays include Sundays and Public Holidays.]
(viii)	T.S. 860 / T.S. 898	"Except taxi drop off" - The word “taxi” may be omitted or varied to "Lantau taxis", "NT taxis" or "Urban taxis" or to specify any type, class or description of motor vehicles excepted. The word "drop off" may be varied to "pick up", "pick up or drop off", "loading", "unloading" or "loading or unloading". For safety reasons, the exception should not be permitted on roads with speed limit of above 70 km/h, and at locations with potential hazard.

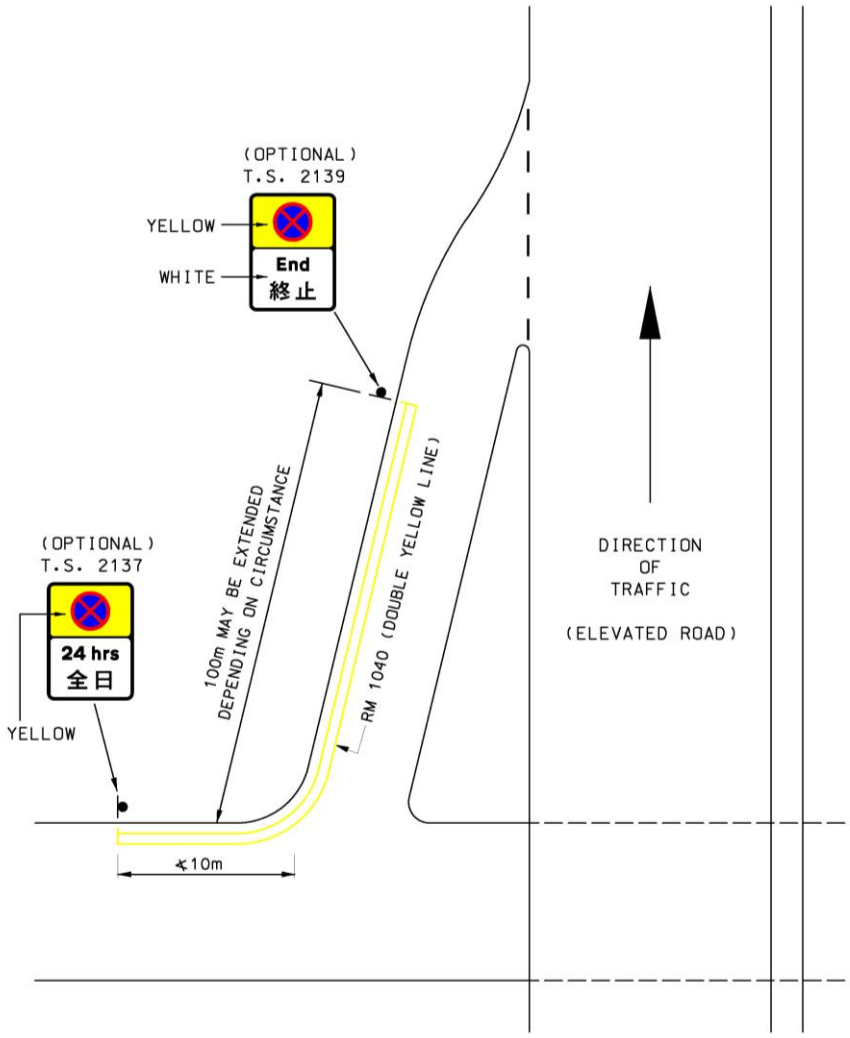
2.3.2.93 In addition to the signs described in the previous paragraphs, yellow line road markings and coloured sign posts are also used to indicate no stopping restrictions as appropriate. A single yellow line is used to indicate a part-time restriction, while a double yellow line indicates no stopping at any time (24 hours). The no stopping sign posts (including those supporting the “Start” and “End” as well as all the intermediate repeater signs) should be painted in green, yellow or red to indicate the standard part-time periods of 8 - 10 am & 5 - 7 pm, 7 am - 7 pm, and 7 am - midnight respectively. The sign post colour is not affected by the use of supplementary plates T.S. 838, 860 and 898. If a post supporting a “Start” sign which also indicates the end of a preceding restriction zone, its colour should follow the “Start” sign. This colouring system is only a practice (not regulatory requirement) to help motorists note the time periods of the restriction zones at distance. For all other time periods including 24 hours no stopping restriction, the sign posts should be painted in grey. The following paragraphs describe the practice to be adopted in signing various no stopping situations.

2.3.2.94 High standard roads with no frontage access

Trunk Roads and Primary Distributor Roads which are non-expressway with no frontage access will invariably carry 24 hours no stopping restrictions. On such roads, double yellow lines are not necessary as the extent of the no stopping restriction can be clearly indicated with signs only. As double yellow lines on these roads would cause maintenance problems and traffic disruption during repainting, they should not be used. T.S. 2137 should be erected facing on-coming motorists at the start of the restriction and T.S. 183 should be erected facing on-coming motorists following each intervening slip road. T.S. 183 should also be erected at approximately 500m intervals as intermediate repeater signs, if required. On slip roads, the same principles apply. At the start of a slip road however, if there are too many other essential signs, the no stopping restriction can be indicated with just double yellow lines and the no stopping sign can be erected subsequently, part way along the slip road (see Diagram 2.3.2.6). On both the main carriageway and slip roads, signs need only be erected on the left hand side of the road, unless it is considered that these signs are likely to be obscured. The gazette notice should however specify that the no stopping restrictions apply to the whole carriageway or slip road. T.S. 2139, should be used to indicate the end of the no stopping restriction zone.

2.3.2.95 On expressway, it is not necessary to implement no stopping restrictions or erect any no stopping signs/markings as Section 9 of the Road Traffic (Expressway) Regulations already prohibits stopping of motor vehicles on such roads.

DIAGRAM 2.3.2.6 : SIGNING AND MARKING OF NO STOPPING RESTRICTIONS ON SLIP ROADS



(DIAGRAMMATIC)

2.3.2.96 Other Roads – 24 hours no stopping restrictions

For no stopping restrictions which apply to all motor vehicles over 24 hours on ordinary roads, double yellow lines must be used and are legally sufficient to indicate the restriction, without any signing. T.S. 2137 at the start of the restriction and T.S. 2139 at the end are not required unless particular emphasis is required. Repeater signs are also not required, but care should be taken to ensure that the double yellow lines are maintained in good repair. On dual carriageways, double yellow lines are not required adjacent to the central reserve, but the gazette notice should specify that the restrictions apply to the whole carriageway. 24 hours no stopping restrictions are implemented at critical locations to avoid unacceptable interference to traffic flow, and the restriction should therefore apply to all motor vehicles (including minor exception such as "Except taxi drop off"). The question of signing arrangements for 24 hours restrictions, applying to specific vehicle classes, should not therefore arise. Should there be such a need however, and it should be stressed that such a situation would be extremely rare, double yellow lines would not be appropriate as they imply that the restriction applies to all motor vehicles. In such a situation, repeater signs are required at approximately 50 - 100 m intervals, and both the "Start", "End" and repeater signs should be of the T.S. 183 type erected facing on-coming traffic and carrying appropriate supplementary plate. For no stopping restriction for PLBs, buses and goods vehicles, refer to paragraphs 2.3.2.99 and 2.3.2.100. At intermediate junctions, no stopping restrictions should be extended into the minor road as shown in Diagrams 2.3.2.7 and 2.3.2.8.

DIAGRAM 2.3.2.7 : SIGNING OF NO STOPPING RESTRICTIONS AT AN INTERMEDIATE SIDE ROAD JUNCTION

TWO-WAY SIDE ROAD

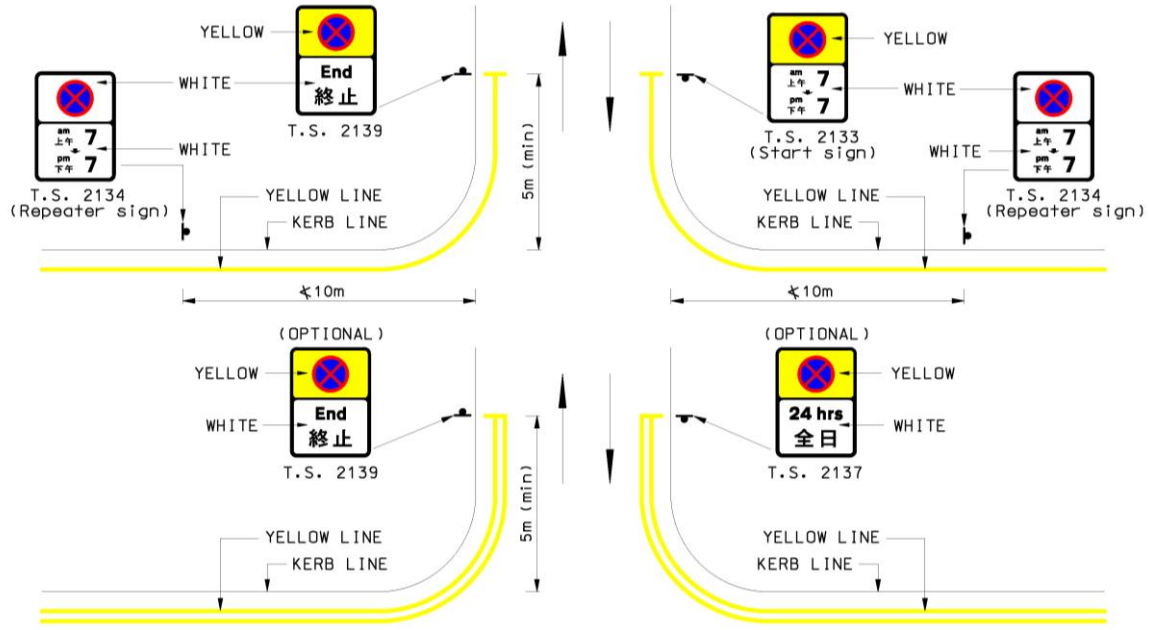
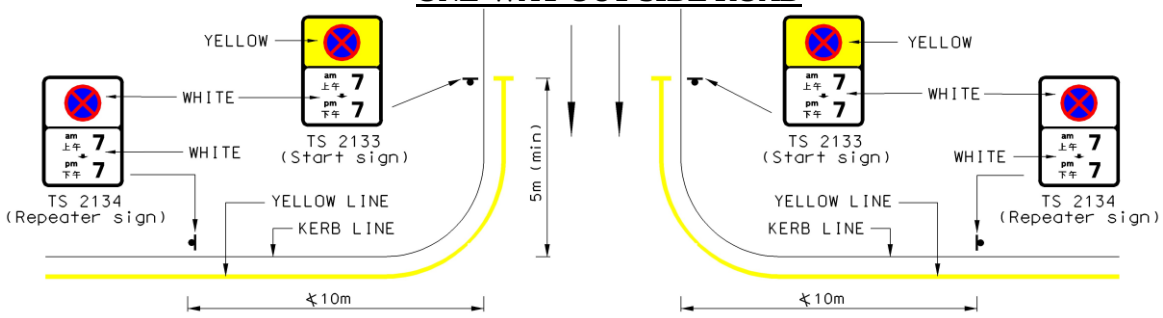
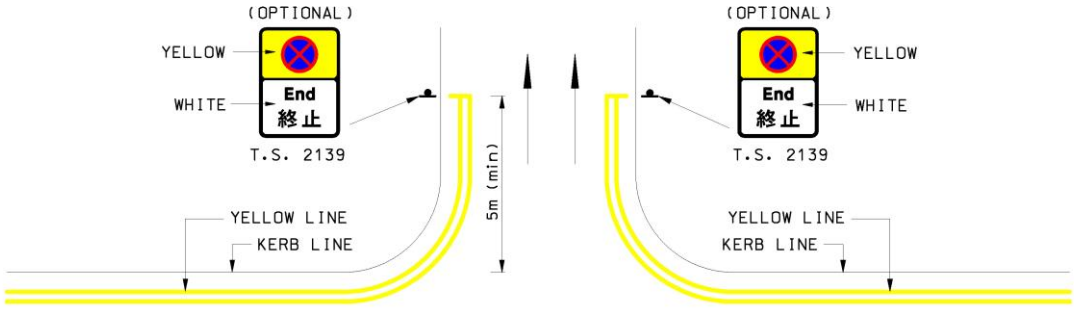


DIAGRAM 2.3.2.8 : SIGNING OF NO STOPPING RESTRICTIONS AT AN INTERMEDIATE SIDE ROAD JUNCTION

ONE-WAY OUT SIDE ROAD

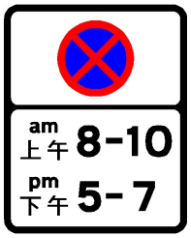


ONE-WAY IN SIDE ROAD



2.3.2.97 Other Roads - part-time no stopping restrictions

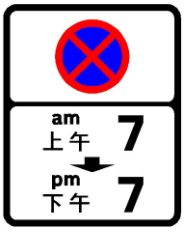
For part-time no stopping restrictions on ordinary roads, obviously the "Start/End" and repeater signs are necessary to provide details of the restricted times and where applicable the type(s) of vehicle affected by the restriction. Although single yellow line is not an essential requirement under the Regulations, it should always be used to indicate clearly the extent of the restrictions provided that the restrictions apply to all motor vehicles (including minor exception such as "Taxi drop off only"). The start of the restriction should be signed with T.S. 2131, 2133 or 2230 (or other non-standard time period sign) and the end by T.S. 2139 both facing on-coming traffic. As single yellow line tends to get worn out much more quickly than double yellow lines, as a result of the scuffing action of vehicle tyres braking and accelerating over the line during those periods when the restrictions do not apply, repeater signs are essential. Repeater signs, T.S. 2132, 2134 or 2231, etc. similar to the "Start" signs but with white colour background instead of yellow background in the upper part of the signs, should be erected facing on-coming traffic, at approximately 50 m intervals. On dual carriageways, signs and markings are not required adjacent to the central reserve, however the gazette notice should state that the 24 hours no stopping restriction applies to the whole carriageway.



T.S. 2231
(T.C. 165)



T.S. 2232
(T.C. 165)



T.S. 2134
(T.C. 165)

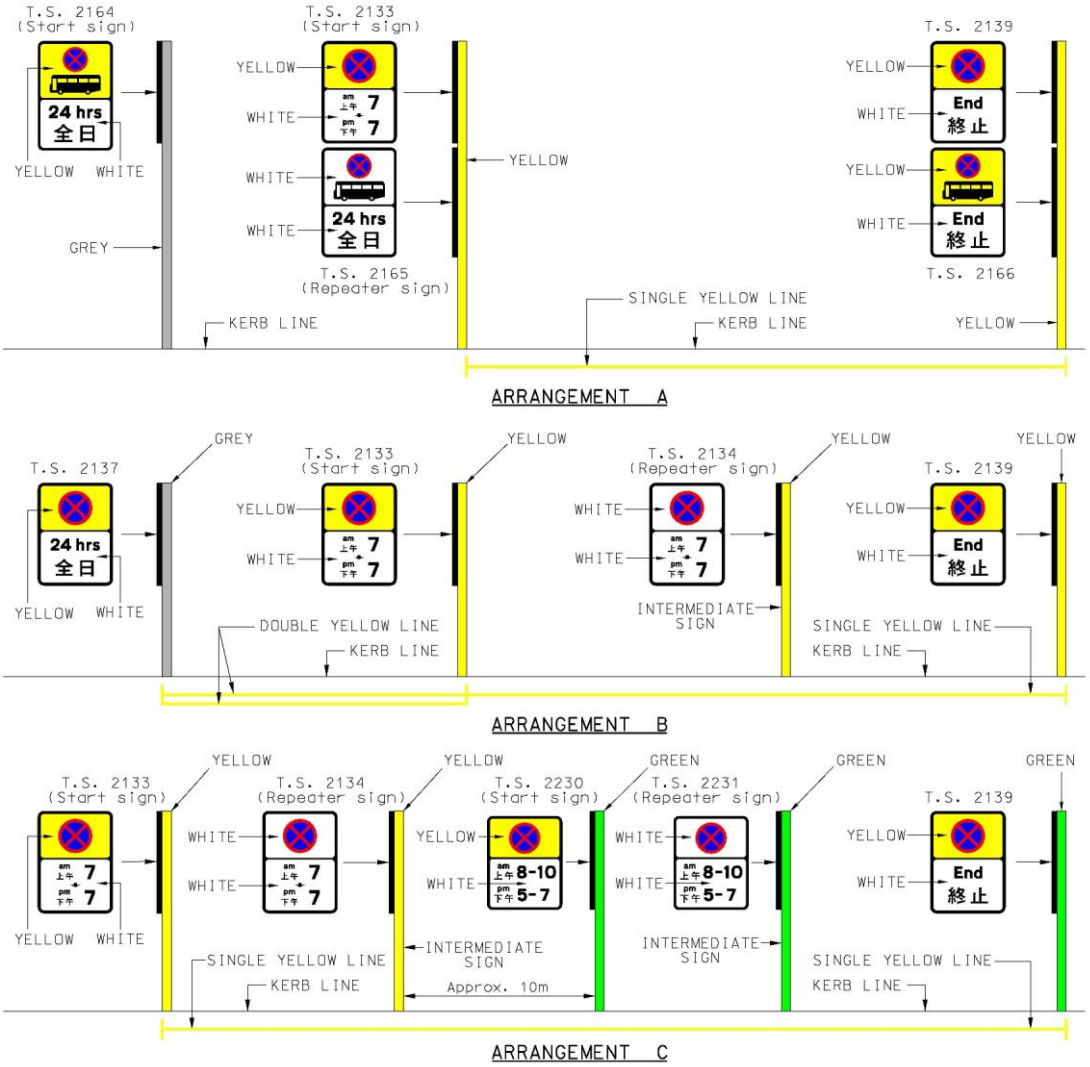
(Note: upper part background - white, lower part background - white)

At intermediate junctions, no stopping restrictions should be extended into the minor road as shown in Diagrams 2.3.2.7 and 2.3.2.8. Where the no stopping restriction applies only to a particular type / class of vehicle, e.g. goods vehicles, the yellow line and the colour painted post should not be used unless the traffic signs demarcating no stopping restriction zone for a particular type / class of vehicle are installed with T.S. 2131, 2132, 2133, 2134, 2139, 2230 or 2231 on the same post as shown in Diagram 2.3.2.9 (Arrangement A).

2.3.2.98 Other Roads - different time periods on adjacent sections

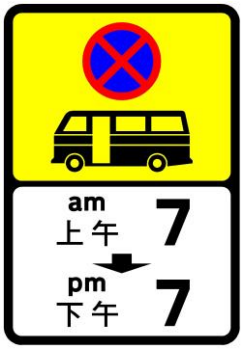
Where, along a route, no stopping restrictions with different time periods occur adjacent to one another and this cannot be avoided by adopting the same time period for both, careful consideration should be given to the signing proposed at the end of one no stopping restriction and the start of the next, in order to reduce any confusion to motorists and ensure that one sign does not obscure the other. Diagram 2.3.2.9 indicates two possible arrangements (Arrangements B and C) using T.S. 2134/2231 as examples. A reduction in signs is possible because the "End" sign is not used, the end being indicated by the start of the next restriction and the perpendicular bar on the yellow line. However in the case where the preceding restriction is not one applying at 24 hours, an intermediate sign should be erected approximately 10m from the limit of the restriction. Such a signing arrangement is necessary, as the single yellow line does not indicate the time period of the preceding restriction before the start of the next, and without a sign near the end of the restriction, confusion may arise. The "End" plate sign post should be painted in the same colour as the immediately preceding no stopping sign post.

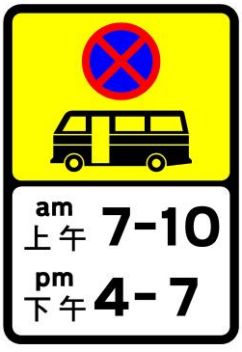
DIAGRAM 2.3.2.9 : SIGNING OF ADJACENT NO STOPPING RESTRICTIONS



Note :
For two adjoining no stopping restrictions with different time periods, “End” sign is not necessary for the immediately preceding restriction and could be indicated by the “Start” sign of the next restriction.

2.3.2.99 T.S. 2142, 2144, 2146 and 2148 are used to demarcate PLB no stopping restriction zones. The intermediate repeater signs, T.S. 2143, 2145 and 2147, which are similar to the “Start” signs but with white colour background in the upper part of the signs instead of yellow background, should be erected at 50m to 100m intervals. At intervening junctions along a route, repeater signs should also be erected generally at the mouth of the minor road as indicated in Diagram 2.3.2.10. Gazette notices will be required prior to implementation. If Schedule Service Vehicles (GMB) are to be exempted, permits will need to be issued. The “Start” signs may be used in conjunction with supplementary plate “Except General Holidays”, T.S. 838.



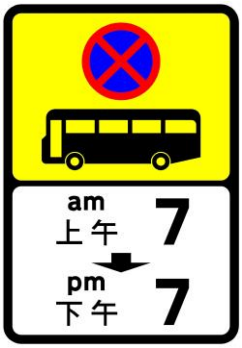




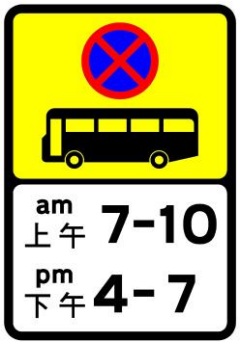


T.S. 2142 (T.C. 167) | **T.S. 2144 (T.C. 167)** | **T.S. 2146 (T.C. 167)** | **T.S. 2148 (T.C. 168)**

2.3.2.100 T.S. 2160, 2162, 2164 and 2166, and T.S. 2151, 2153, 2155 and 2157 are used to demarcate no stopping restriction zone for buses and goods vehicles respectively. Similar to PLB no stopping signs, their repeater signs have white background colour in the upper part of the signs instead of yellow background in the start signs.



T.S. 2160 (T.C. 167)



T.S. 2162 (T.C. 167)



T.S. 2164 (T.C. 167)



T.S. 2166 (T.C. 168)



T.S. 2151 (T.C. 167)



T.S. 2153 (T.C. 167)



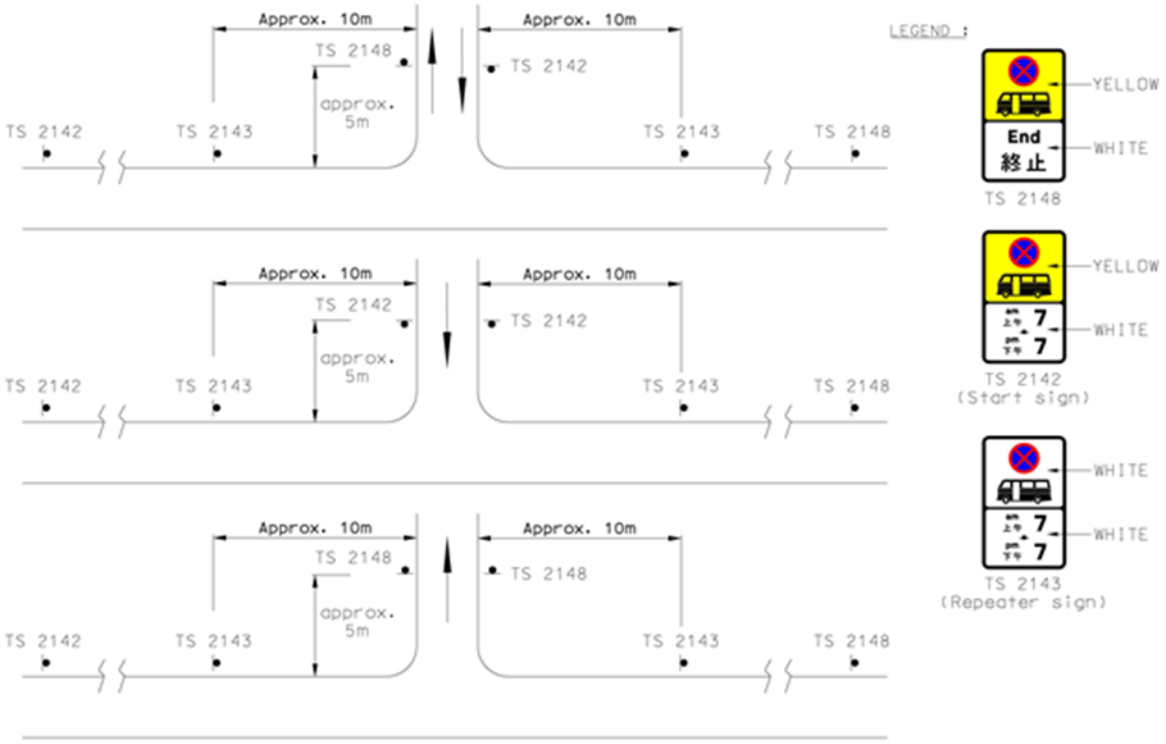
T.S. 2155 (T.C. 167)



T.S. 2157 (T.C. 168)

(Note: upper part background - yellow, lower part background - white)

DIAGRAM 2.3.2.10 : SIGNING FOR PLB "NO STOPPING" RESTRICTION



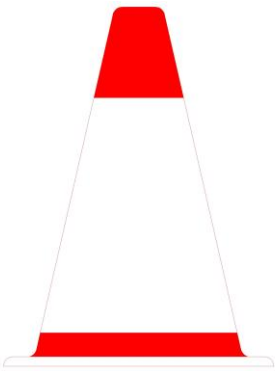
Note :
Signing for bus and goods vehicle no stopping restrictions are similar.

2.3.2.101 T.S. 216, "Hard Shoulder, For Emergency Only", indicates that the hard shoulder is for use by vehicles in emergencies only, and not for stopping or parking of vehicles or for use as part of the carriageway. It should only be used if a hard shoulder of at least 2.5m in width is provided. It is not appropriate therefore for marginal strips. The appropriate 200mm edge line marking should also be used in conjunction with this sign, see Chapter 5 for details. This sign should be erected at or near to the start of the hard shoulder on the main line and the slip roads. Where a transitional taper is provided for the start of the hard shoulder, the sign should be positioned at or near the point where the hard shoulder attains its full width. The sign should be repeated on the main line after an intervening junction. Since the typical position of this sign may coincide with other signs, the relative position and mounting arrangement of all these signs should be precisely determined to ensure that they do not obscure one another.



T.S. 216
(T.C. 145)

2.3.2.102 T.S. 217 and 218 are traffic cones, being used to delineate the edge of a temporary carriageway or the path for vehicular traffic when part of the carriageway is closed, or to indicate the temporary division of opposing traffic flows. T.S. 218 may also be used at emergency openings of dual carriageway roads as a regulatory sign to prohibit vehicles from using the gap, other than when permitted. More information as to the use of traffic cones may be found by reference to the Code of Practice for the Lighting, Signing and Guarding of Roadworks. The collapsible cylinders T.S. 218 could be used near diverge point to guide motorists or as demarcation of opposite flow at narrow flyovers. In the latter case , the collapsible cylinders should be placed at interval of 2m to 3m at bend (depending on sharpness of the bend) and 5m at straight or nearly straight roads.



T.S. 217
(T.C. 146)



T.S. 218
(T.C. 147)

2.3.2.103 T.S. 219, is a temporary sign used in association with portable traffic light signals at roadworks. More information on the use of this sign can be found by reference to the Code of Practice for Lighting, Signing and Guarding of Roadworks. The sign is useful as it removes the need for a stop line and avoids the confusion that can arise when roadworks are relocated and stop lines are not properly erased.



T.S. 219
(T.C. 148)

2.3.2.104 T.S. 220, "Road Closed", is for use when a road has been closed, under regulation 27 of the Road Traffic (Traffic Control) Regulations, as for example the closed roads in the vicinity of the boundary with the Mainland, or when a road is closed due to roadworks. A notice of such closure shall be published as soon as reasonably practicable in the Gazette or in one issue of at least one English newspaper and one Chinese newspaper circulating in Hong Kong. The use of supplementary plate "Except with permit" T.S. 712 is not necessary as vehicles issued with a valid closed road permit for the road in accordance with the Road Traffic (Registration and Licensing of Vehicles) Regulations are exempted under regulation 27.



T.S. 220
(T.C. 149)

2.3.2.105 T.S. 221, 222, 223 and 224 are used to regulate traffic movements at car parks, petrol filling stations and other premises. The signs should be erected, preferably in pairs on both sides of the access within the boundary of the premises to which they apply, adjacent to the relevant entrance or exit.



T.S. 221
(T.C. 150)



T.S. 222
(T.C. 151)



T.S. 223
(T.C. 152)



T.S. 224
(T.C. 153)

2.3.2.106 T.S. 225 is for use where a main road intersects a cycle track. It should be positioned at the end of the cycle track facing cyclists approaching the main road. The sign indicates to cyclists that they must dismount and use the pedestrian crossing when crossing the road. If a zebra crossing or light signal pedestrian crossing is not available near the end of the cycle track, the sign should not be erected. The use of this sign at pedestrian crossings not associated with cycleways is not appropriate.



T.S. 225
(T.C. 154)

2.3.2.107 T.S. 227 “Cycling Restriction” indicates that cycling is prohibited beyond the sign and cyclists must dismount and push their bicycle or tricycle if they wish to proceed beyond the sign. The end of such a cycling prohibition is indicated by T.S. 228. T.S. 227 should not be confused with T.S. 136 “No Pedestrians No Cyclists” or T.S. 137 "No Cyclists" where cyclists are prohibited from riding or pushing their bicycle/tricycle beyond the sign.



T.S. 227
(T.C. 155)



T.S. 228
(T.C. 156)

When new cycling restriction signs are proposed, the Police should be consulted on law enforcement aspects. The necessity to use these two signs should be critically reviewed on a case by case basis with due regards to various factors such as traffic flow, sightline, road condition, etc.

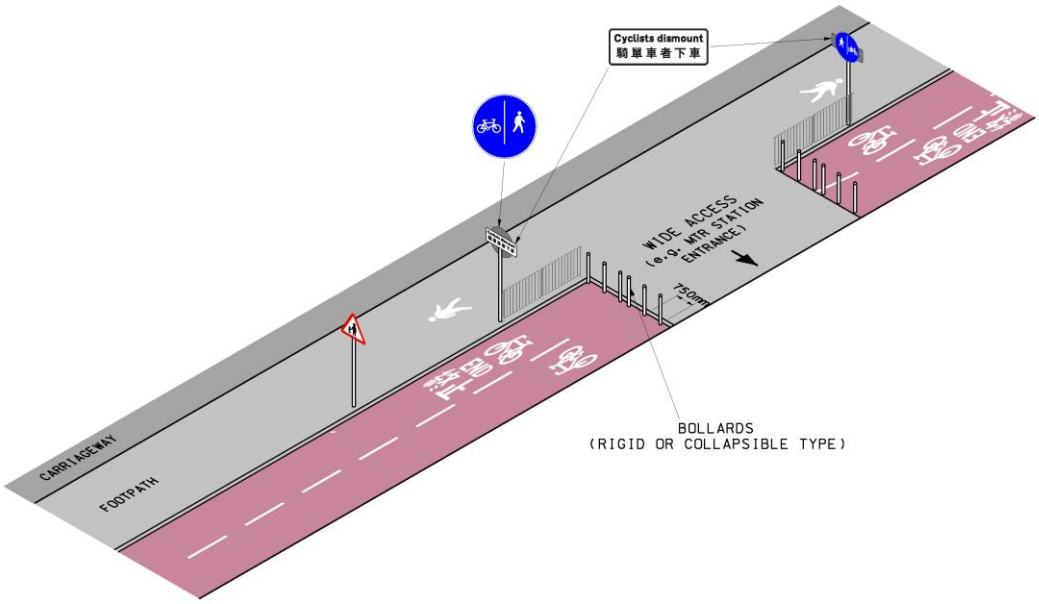
2.3.2.108 It should be noted that T.S. 227 is generally not necessary at the following locations:

(i) end of cycle track at footpath – cycling on footpath already prohibited under Summary Offences Ordinance Cap. 228 as shown in Diagram 2.3.2.11.

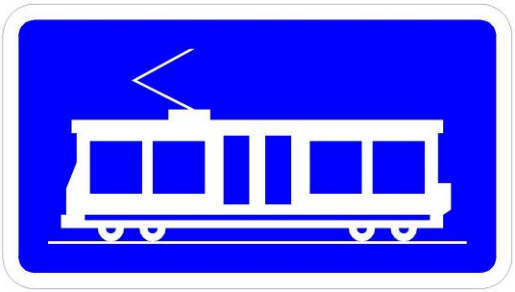
(ii) end of cycle track near pedestrian crossing – regulatory sign T.S. 225 “Cyclists dismount, Use pedestrian crossing” should be used.

(iii) end of cycle track at road junction – cycling is allowed on carriageway, "Give Way" or "Stop" should be used as stated in TPDM Volume 3 Section 6.3.2.7, except for Bicycle Prohibition Zones where T.S. 136 or T.S. 137 should be used.

DIAGRAM 2.3.2.11 : TERMINATION OF CYCLE TRACK AT FOOTPATH



2.3.2.109 T.S. 333 prohibits the entry of all vehicles except vehicles of the North-west Railway (Light Rail Transit) and trams and such vehicles as are authorized by the MTRC or by the HK Tramways Ltd., as the case may be. It also prohibits the entry of all persons except those authorized persons of these two companies. T.S. 2624 indicates the end of rail only lane for vehicles of the North-west Railway. The word "rail" may be varied to "tram" to indicate the end of tram only lane for trams.



T.S. 333
(T.C. 159)



T.S. 2624
(T.C. 163)

2.3.2.110 T.S. 355 indicates that a speed limit of 60 km/h is imposed on all vehicles of the North-west Railway, on the section of road immediately following the sign, notwithstanding any other speed limit that may be imposed on all other vehicles. The sign should be erected on both sides of the road at the start of the restriction. The numerals on the sign may be altered to suit the speed limit required.



T.S. 355
(T.C. 160)

2.3.2.111 T.S. 375 is for use by school crossing patrols which have been authorized by the Commissioner of Police under regulation 34 of the Road Traffic (Traffic Control) Regulations.



T.S. 375
(T.C. 805)

2.3.2.112 T.S. 376 indicates that goods vehicles with a gross vehicle weight in excess of that indicated must keep to the left most lane within the area covered by the restriction. T.S. 376 together with supplementary plate to T.S. 767 "End" is used to indicate the end of such a restriction. The sign is intended to be used only in the vicinity of a weighstation in order to ensure that targetted goods vehicles pass over the dynamic weigh-in-motion equipment which is embedded in the left most lane. The numerals on the sign may by varied to suit different targetted vehicle populations.



T.S. 376
(T.C. 161)

2.3.2.113 T.S. 377 “Go to Weighstation” is a "secret sign" which when displayed indicates that the vehicle passing the sign must proceed to the weighstation at the next junction. The direction of the arrow may be altered to suit the particular situation.



T.S. 377
(T.C. 162)

2.3.3 Warning Signs

2.3.3.1 Warning signs are normally triangular in shape, bearing a black symbol on a white background with a red border. They are required to alert motorists to a hazard or a potential hazard on the road ahead, and further inform them that they should take extra care and generally reduce the speed of their vehicle.

2.3.3.2 The past practice of using a supplementary “slow” plate, should not be continued as this is implied symbolically by the triangular red border of warning signs. If further emphasis to motorists to slow down is required, and this should only be in exceptional cases, the road marking 1141 or 1142, “Slow”, may be used, and further advice on this will be found in subsequent sections and in Chapter 5.

2.3.3.3 To be most effective, warning signs should be used sparingly, sited uniformly in relation to hazards, and have the appropriate unobstructed visibility distance.

2.3.3.4 Details of siting distances, visibility requirements and appropriate sign sizes are given in Table 2.2.2.1.

2.3.3.5 The speed limit or design speed may be used to determine appropriate sign sizes and siting distances.

2.3.3.6 The details given in Table 2.2.2.1 will generally apply equally to permanent and temporary signs and further details on the latter may be found in subsequent sections of this Chapter and in the Code of Practice for the Lighting, Signing and Guarding of Road Works.

2.3.3.7 The warning signs described in subsequent paragraphs have been prescribed in the Road Traffic (Traffic Control) Regulations. Generally, most situations will have been catered for, and the use of other signs should not normally be necessary. However, where a new sign is required, it should follow the same design principles as other warning signs and advice should be obtained from the Chief Engineer of the Road Safety and Standards Division of Transport Department.

2.3.3.8 Traffic sign 401 is for warning that the Junction ahead is controlled by a "Stop" or "Give Way" sign. The sign must be used with either the supplementary plates, traffic sign 797 or 798, stating the type of junction control and the distance to the junction.



T.S. 401
(T.C. 201)

2.3.3.9 The criteria for when traffic sign 401 will be appropriate are given in Table 2.3.3.1.

Table 2.3.3.1 Criteria for the use of traffic sign 401

Speed Limit or Design Speed (km/h)	Unobstructed visibility to junction is less than*
Up to 50	45 (60)
Over 50 Up to 70	60 (90)
Over 70 Up to 80	90 (150)
Over 80	N.A. (no at-grade junction should be provided)

*The unbracketed figure gives the normal minimum visibility required. The use of T.S. 401 may also be effective where the unobstructed visibility is below the bracketed figure and the site is considered problematic, in terms of high accident rate for example.

2.3.3.10 Traffic signs 402 and 403 are used to warn of merging traffic ahead. Traffic sign 402 indicating that traffic will merge from the left and conversely traffic sign 403 indicating that traffic will merge from the right. Traffic signs 402 and 403 should be erected on the left or right hand side of the carriageway, respectively, and should be used on the major of the two carriageways joining. If both carriageways are of equal status and the same number of lanes continues from each, then it is appropriate to use either traffic sign 402 or 403 on both the merging carriageways. The signs should be sited at the standard advanced distance. Where this is not possible a supplementary distance plate of the T.S. 772 type should be used. Traffic signs 402 and 403 and also traffic signs 404 and 405 were phased out at grade separated interchanges where they were replaced by a more detailed informatory sign which describe the lane configuration ahead, much more clearly. These signs are described in more detail in paragraph 2.3.4.18.



T.S. 402
(T.C. 202)



T.S. 403
(T.C. 202)

2.3.3.11 Traffic signs 404 and 405 are similar to traffic signs 402 and 403, but are intended to indicate the warning that motorists will be required to merge into traffic on the right or left respectively. The signs should be erected on the same side of the carriageway that the merge will occur, and normally will be used on the less major of the two routes merging. Supplementary distance plate of the T.S. 772 type may be required, as explained in the previous paragraph. Also explained in the previous paragraph is the intention to phase out these signs at grade separated interchanges.



T. S. 404
(T.C. 203)



T.S. 405
(T.C. 203)

2.3.3.12 Traffic signs 406 and 407 are generally used in conjunction with each other to indicate the end of a dual carriageway and the start of two-way traffic on a single carriageway. However, there are occasions when a one-way road, not part of a dual carriageway system, changes to a two-way road and in these situations it is appropriate to use traffic sign 407 alone, the sign being erected at the beginning of the two-way section.



T.S. 406
(T.C. 204)



T.S. 407
(T.C. 205)

2.3.3.13 Where a dual carriageway road changes to a two-way road, traffic sign 406 should be erected at the normal distance for warning signs, in advance of the end of the dual carriageway and on the left hand side of the road. At or near the beginning of the two-way traffic section, traffic sign 407 should be erected also on the nearside of the road, and it may also be advisable to repeat this sign after some 50m to 100m. On roads with a speed limit or design speed in excess of 70 km/h, traffic sign 406 should be erected on both sides of the carriageway approximately 400m and 200m in advance of the end of the central reserve, and traffic sign 407 on the nearside, opposite the end of the central reserve and the end of the tapered hatched markings. If the length of the dual carriageway is not sufficiently long to site traffic sign 406 as mentioned above, then these distances may be adjusted but the signs should always be duplicated on both sides of the carriageway.

2.3.3.14 Always, on roads with a speed limit or design speed in excess of 80 km/h, and on roads where the desirable siting distances for traffic sign 406, as mentioned in paragraph 2.3.3.13, cannot be attained, the supplementary plate “Reduce Speed Now’’, traffic sign 737 should be erected in conjunction with traffic sign 406. On other roads, this supplementary plate should seldom be used, unless vehicle speeds are considered to be excessive in relation to the prevailing conditions, and traffic sign 406 itself, is not considered sufficient to warn motorists to slow down. A supplementary distance plate, traffic sign 772, or similar, may be used with traffic sign 406, to indicate the distance to the end of the dual carriageway.

2.3.3.15 Diagrams 2.3.3.1 and 2.3.3.2 illustrate signing appropriate for normal conditions and when speed limits are in excess of 70 km/h, respectively.

2.3.3.16 Traffic sign 408 is used to give warning to motorists that the road joining or crossing the one-way street or dual carriageway they are presently driving along, has two-way traffic. Whether or not it will be necessary to use this sign will be determined by other signs to be erected, and the layout of the location which may impart the same message without the necessity of this additional sign.



T.S. 408
(T.C. 206)

DIAGRAM 2.3.3.1 : SIGNING ARRANGENENTS AT JUNCTIONS WITH A DUAL CARRIAGEWAY ROAD

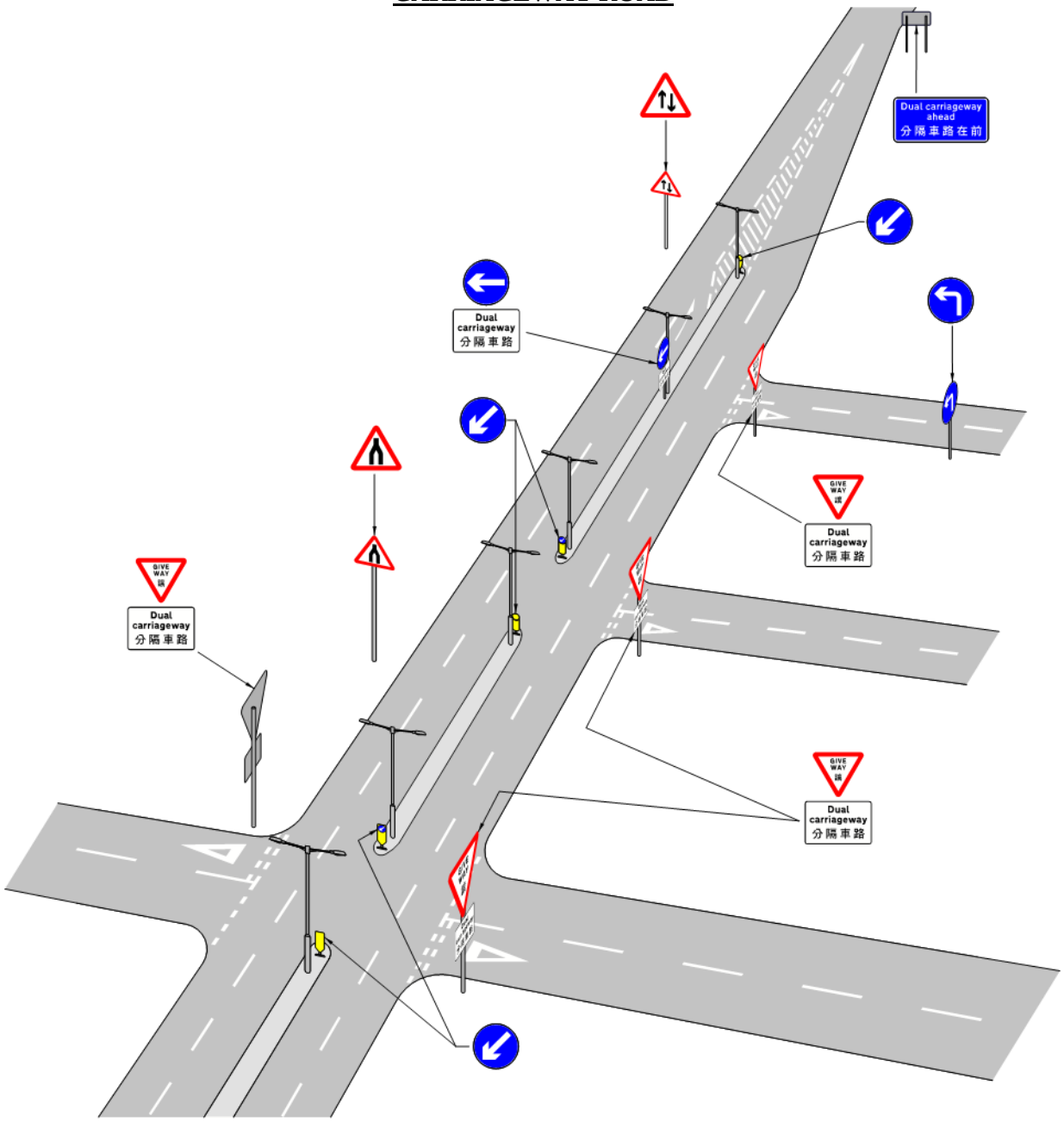
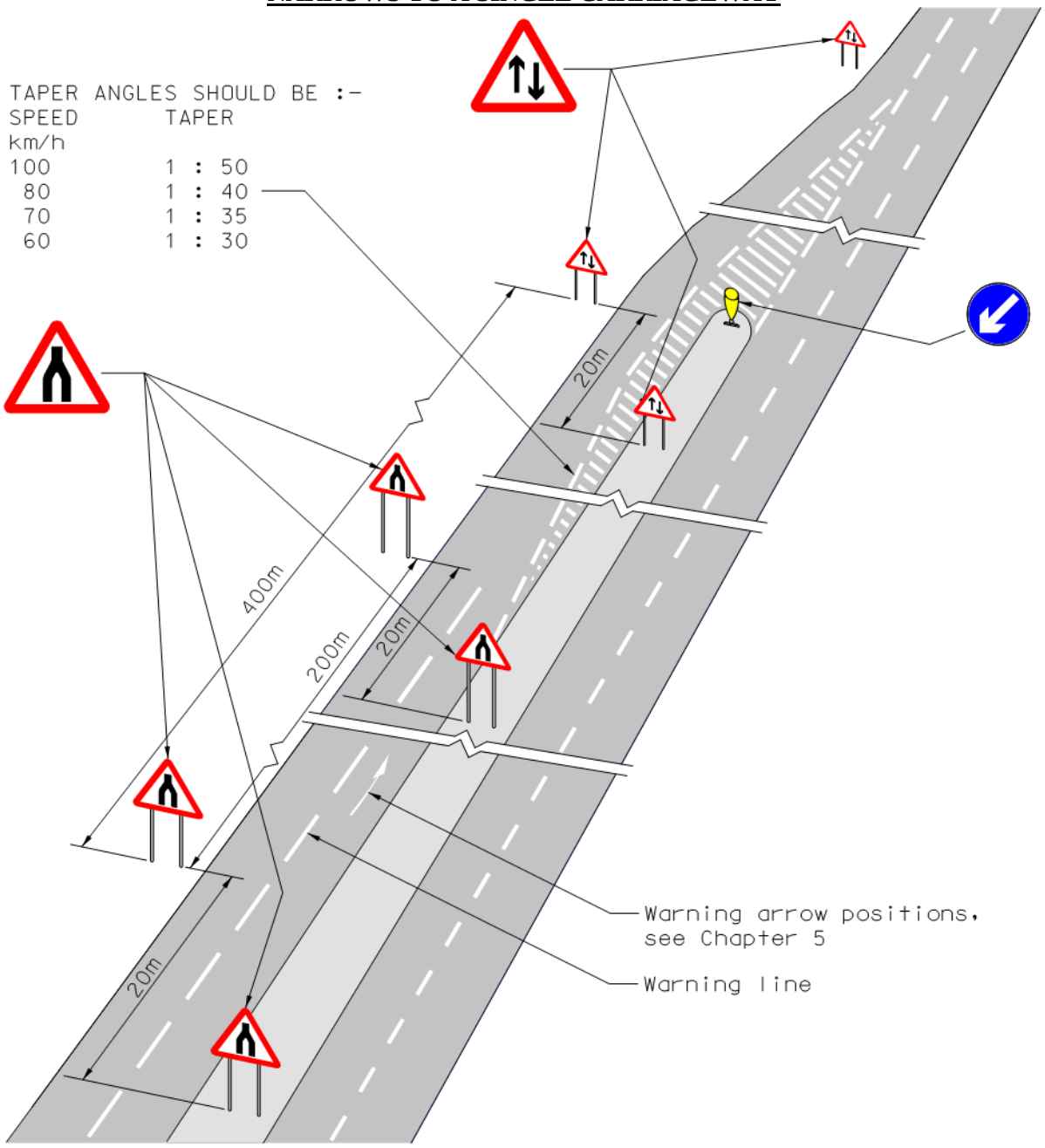


DIAGRAM 2.3.3.2 : THE USE OF WARNING SIGNS SUPPLEMENTED BY HATCHED CARRIAGEWAY MARKINGS WHERE A HIGH SPEED DUAL CARRIAGEWAY ROAD NARROWS TO A SINGLE CARRIAGEWAY



2.3.3.17 Traffic sign 409, traffic signals ahead, will mostly be used as a temporary sign in association with portable traffic signals. It should be noted, however that this sign is not appropriate for use with Stop/Go signs as at these locations traffic sign 509 should be used. As a permanent sign, traffic sign 409 will not normally be appropriate unless one or more of the following conditions are satisfied :-

(i) The road is subject to a speed limit of 50 km/h and the visibility distance of the primary signal is less than 45m.

(ii) The road is subject to a speed limit of 70 km/h and the visibility distance of the primary signal is less than 90m.

(iii) The speed limit of the road is in excess of 70 km/h.

(iv) The road is subject to a speed limit of 70 km/h and the signals are part of an isolated pedestrian actuated light controlled crossing.

(v) The road is subject to a speed limit of 70 km/h and the traffic signals may not be expected by the general motorists.



T.S. 409
(T.C. 207)

2.3.3.18 When the siting distance between traffic sign 409 and the signals is different to that shown in Table 2.2.2.1, a supplementary distance plate, traffic sign 772 or similar, should be used in conjunction with the sign.

2.3.3.19 The “Bend” warning signs, traffic signs 410, 411, 412 and 413, should be used sparingly and only in situations where a real hazard exists because of the bend. Also the same shaped “Bend” symbol is used regardless of the actual angle of the bend, and the “Slow” supplementary plate should not be used with this sign. Generally the “Bend” warning signs should be placed on the left of the carriageway. But on wide one-way carriageways and in exceptional cases where greater emphasis is required, a bend sign together with supplementary plate as appropriate may be erected on both sides of the carriageway. Guidelines as to when “Bend” signs and other associated signs may be considered appropriate are as follows :-

(i) For bends of radius R3 - R8, Table 3.3.3.1, Volume 2

(a) "Bend" signs should not normally be necessary at these locations unless accident statistics indicate a problem exists.

(ii) For bends of radius Rl or R2, Table 3.3.3.1, Volume 2

(a) A "Bend" sign should only be erected if it is warranted. Factors to be taken into account in determining whether a sign is necessary are :-
- Approach speed of vehicles
- Superelevation
- Surface texture of road surface
- Accident statistics

(b) If it is determined that a warning of the bend or series of bends is necessary, then normally the appropriate traffic sign 410, 411, 412 or 413 will be sufficient. However, if for any reason the curvature of the bend is not considered to be readily apparent, it will be appropriate to erect chevrons traffic sign 414 around the outside of the bend.



T.S. 410 (T.C. 208)



T.S. 411 (T.C. 208)



T.S. 412 (T.C. 208)



T.S. 413 (T.C. 209)

(c) A further warning that may be used at these locations particularly where an additional hazard such as the likelihood of pedestrians crossing the road in the vicinity of the bend, or a run-in occurs on or adjacent to the bend with less than the desirable sight distance, is the "Slow" road marking 1141 or 1142. However this marking should not be used indiscriminately as its use will be devalued. When it is used it should be placed on the carriageway immediately adjacent to the "Bend" sign.

(iii) Bends with radius less than Rl, Table 3.3.3.1, Volume 2

(a) As the consequence of unawareness of the sharp bends are relatively more serious, extra effort is needed to alert motorists of the potential danger of turning sharply at an excessive speed. Under the circumstances, "Bend" signs may be used in conjunction with "Reduce Speed Now" supplementary plate on a yellow background. Only under extenuating circumstances would the deletion of the yellow background or smaller size of signs be allowed.

(b) An assembly of "Bend" sign and "REDUCE SPEED NOW" supplementary plate on yellow background, TS 590, 591, 592 and 593, should be erected at a location according to Table 2.2.2.1. There are circumstances where the distance specified in table 2.2.2.1 cannot be achieved, for instance a bend on slip road branched off from a main carriageway. Under these conditions, the assembly may be erected at a location as far in advance of the bend as possible and yet avoiding confusion to motorists as a warning sign on the main carriageway.



T.S. 590



T.S. 591



T.S. 592



T.S. 593

(c) Where space allows, additional "Bend" signs and "Distance" supplementary plates, TS 594, 595, 596 and 597 may be erected to provide further advance warning to motorists of the bend ahead. The signs should normally be located at a distance of about 50m in advance of the assembly mentioned in the above paragraph, but in no case should it cause obstruction to the "Bend" sign erected ahead.



T.S. 594



T.S. 595



T.S. 596



T.S. 597

(d) All the "Bend" signs and supplementary plates should be of size compatible with the prevailing speed or at least one size larger than the usual minimum for the speed limit of the section of road, whichever is the larger.

(e) "SLOW" road marking 1141 or 1142 is found to be very effective in reducing the approaching speed on bends. Their use on critical sharp bends are encouraged.

(f) Additionally, special "Chevron" signs, TS 588, should be erected to emphasize the curvature of the bend.



T.S. 588

(g) It is common experience that there may not be sufficient space on the parapet of a flyover or the central divider of a dual carriageway to accommodate "Chevron" signs. To get round this problem, a shortened version of "Chevron" sign T.S. 589 may be used at the appropriate location to achieve the same effective width.



T.S. 589

(h) As pointed out in paragraph (ii)(a), the surface texture of the bend is one of the contributory factor to some accidents occurred at bends. For the completeness of the improvement to sharp bend, the project engineer should arrange with Highways Department to check that the skidding resistance of the road surface at the bend is appropriate for the location and the prevailing traffic conditions.

2.3.3.20 The "Double Bend" signs, traffic signs 412 and 413 should be used instead of traffic signs 410 and 411 when the proximity of adjacent bends having similar severity is less than the length "x" given in Table 2.3.3.2. Length "x" is defined as the distance from the tangent point at the end of one bend to the tangent point at the start of the next bend.

Table 2.3.3.2
Criteria for use of traffic signs 412 and 413

Sign Size (mm)	Length "x" (m)
1200	300
900	250
750	200
600	100

2.3.3.21 It should be noted that the “Safe Speed” supplementary plate, traffic signs 760 to 764 should not be used.

2.3.3.22 Traffic sign 414 indicates a sharp deviation and is used at permanent sites, unlike the red and white version, traffic sign 503, which should be used only as a temporary sign, generally in association with road works.



T.S. 414
(T.C. 210)

2.3.3.23 On normal roundabouts, traffic sign 414 should be erected on the central island opposite each approach road. In conjunction with traffic sign 414, the “Turn Left” sign, traffic sign 107 should be erected in accordance with one of the alternative arrangements illustrated in Diagram 2.3.3.3. Attention should be given to possible adverse effects on forward visibility for traffic on the roundabout circulatory carriageway, in which case the signs should be reasonably set back. The minimum size of the chevron used with either the preferred or alternative arrangement shown on the diagram would normally be related to the “x” height used on the approach direction sign, the approach conditions and the size of the roundabout. For small roundabout with low approach speed and “x” heights of 150mm or less, the 400mm size is appropriate. For large roundabout, high approach speed or “x” heights greater than this, the 800mm sign will be appropriate. However if it is considered that particular emphasis is required, the larger 800mm size can be used at any site.

2.3.3.24 (i) On sharp bends, see also paragraph 2.3.3.19, the “Chevron” sign should be used when the severity of the bend may not be apparent to approaching motorists. The correct and incorrect arrangement for the use of this sign, at these locations, is illustrated in Diagram 2.3.3.4. It should be noted that the mounting height of the sign used at these locations is different from that at roundabouts.

(ii) For narrow footpath or restricted verge, shorter “Chevron” sign of 600mm wide may be used in a manner depicted in Diagram 2.3.3.4 to achieve the same effective width.

(iii) Where the central divider or restricted verge may not be wide enough to accommodate even the shortened version of “Chevron” signs, advantages may be derived from the hazard markers with traffic sign, TS 514. They can be erected on the top of the concrete profile barrier or parapet at an interval of 2m with projection of at least 300mm above the street furniture but not more than 1.3m above the adjacent carriageway. Details of the use of TS 514 can be found in paragraph 2.3.3.67.

2.3.3.25 A further use of the “Chevron” traffic sign is at “T” junctions, where the major road turns through an angle of 90°. At these locations, the chevron should be erected along the head of the “T”, and be of a length and position determined by the circumstances of the site and at a mounting height of 1m to its lower edge. The traffic sign 420, “T junction ahead”, in advance of the junction, may also be appropriate.

2.3.3.26 Traffic signs 415, 416 and 417 are used to warn of a road narrowing ahead. Generally traffic sign 415, road narrows on both sides, should be used, unless a clearer indication of the narrowing can be given by the other signs, and/or there is a reduction in width of at least one lane. Mostly these signs will be used at roadworks but they are also appropriate as permanent signs. A minor narrowing or a long taper, when the reduction in width involves a more gradual taper than 1 in 40 for a road with a 50 km/h speed limit or 1 in 60 for a speed limit of 70 km/h, would not justify the use of the sign. Where the reduced width

of road necessitates single file traffic, the supplementary plate T.S. 738, "Single File Traffic" should also be used.



T.S. 415
(T.C. 211)



T.S. 416
(T.C. 212)

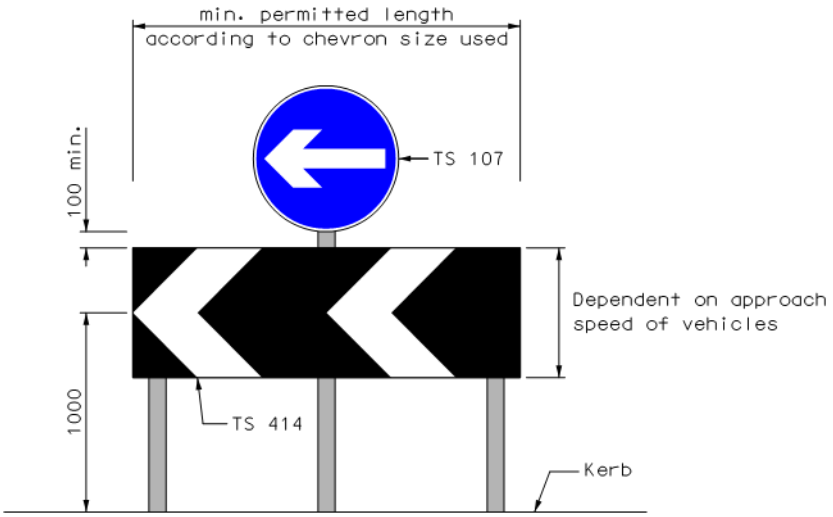


T.S. 417
(T.C. 212)

2.3.3.27 The "Reduce Speed Now" supplementary plate, traffic sign 737 may be used with the road narrows traffic signs 415, 416 and 417, but its use should normally be restricted to locations where speed limits are in excess of 70 km/h. Other supplementary plates that may be used with these signs are "Single file traffic" traffic sign 738, and the distance plates traffic signs 772, 780 and 784.

DIAGRAM 2.3.3.3 : ROUNDABOUT SIGNS (SEE PARAGRAPH 2.3.3.23)

(a) Preferred arrangement



(b) Alternative arrangement

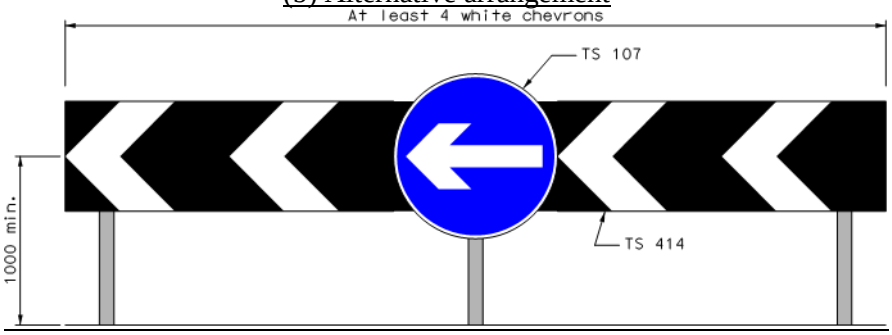
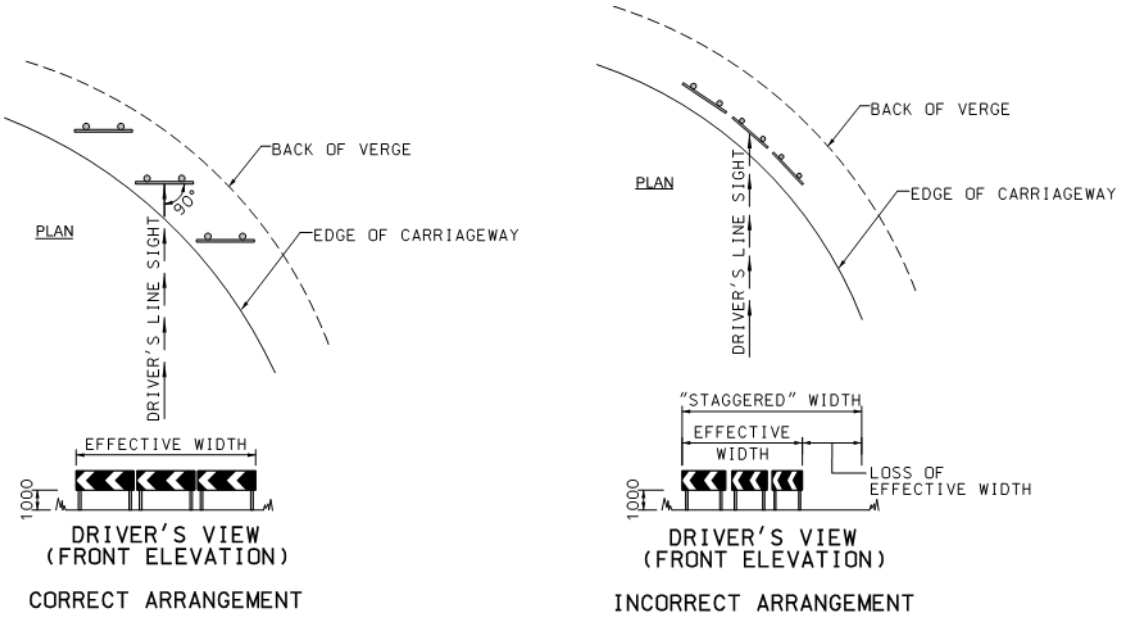


DIAGRAM 2.3.3.4 : CHEVRON SIGNS ON CURVES



ON BENDS WITH RESTRICTED VERGE WIDTH OR WORKING SPACE CHEVRON SIGNS SHOULD BE ERECTED AT 90° (APPROX) TO THE DRIVERS LINE OF SIGHT AND STAGGERED TO AFFORD DRIVERS A VIEW OF THE GREATEST POSSIBLE AREA OF SIGN FACE. THEY SHOULD NOT BE ERECTED IN LINE AROUND THE CIRCUMFERENCE OF THE CURVE OF THE ROAD.

2.3.3.28 Traffic signs 418, 420, 421 and 424 are used to indicate along a route that there is a junction with a minor road ahead, and that traffic on the route where the sign is displayed has priority. Traffic signs 420, 421 and 424 can of course be reversed to indicate the minor roads on the opposite side. It is important to note that the signs are never used on the road that does not have the priority, that is the minor road. Signs 418 to 424 should generally be restricted in use and confined to those junctions where there are no map type direction signs, or where the junction is not under traffic signal control and there is inadequate sight distance. Traffic sign 420 however, may be appropriate even though the conditions mentioned previously do not apply, to give additional emphasis that the major route turns through 90°, at the junction. Traffic sign 424 or its equivalent, indicating the first side road is on the left, should only be used when the distance between the two side roads is 60 metres or less. If any of the signs are placed at a distance before the junction much greater than that indicated in Table 2.2.2.1, a supplementary distance plate should be used with the sign.



T.S. 418 (T.C. 213)



T.S. 420 (T.C. 214)



T.S. 421 (T.C. 215)



T.S. 424 (T.C. 216)

2.3.3.29 Traffic sign 425 is used to indicate the approach to a roundabout. On Trunk Roads and Primary Distributor Roads where speed limits are above 70 km/h, the sign should be used in conjunction with the "Reduce Speed Now" supplementary plate, traffic sign 737. The sign and plate should be located on the central reserve, approximately 500 metres in advance of the roundabout, and a second sign and plate located on the left hand side, approximately 450m in advance of the roundabout. The second sign acts as a repeater and is closer to the junction as traffic on the inside lanes is generally slower than that on the outside lanes. It should be noted that these siting distances are far greater than those normally recommended in Table 2.2.2.1 and supplementary distance plates should therefore also be used. On roads with lower speed limits, the sign would normally be used without the "Reduce Speed Now" supplementary plate and should be located on the left hand side at a distance in advance of the roundabout, in accordance with Table 2.2.2.1. On dual carriageways, which are not Trunk or Primary Distributor Roads, it may be appropriate to erect an additional sign on the central reserve opposite that on the nearside. It should also be noted that advance warning of a roundabout is often given by the use of a map type direction sign, and T.S. 425 should not be located in the immediate vicinity of such a sign, as it would be superfluous in such a situation.



T.S. 425 (T.C. 217)

2.3.3.30 Traffic signs 428 and 432 are used to indicate a steep gradient, downhill and uphill respectively. They should only be used in situations when the gradients are 10% or more. Although the actual gradient can be used on the signs it is recommended that only the values "1:10", "1:8" or "1:5" be used as it is considered that these will provide sufficient information to motorists of the general severity of the gradient.



T.S. 428 (T.C. 218)



T.S. 432 (T.C. 219)

2.3.3.31 On long downhill gradients, it may be advisable to repeat the traffic sign 428. The use of the supplementary plates, “Low gear for 1½ km”, traffic sign 801, “Low gear now” traffic sign 806 or “Keep in low gear” traffic sign 807 may also be appropriate in these situations. However it should be appreciated that motorists will normally make their own assessment as to the appropriate gear to be in and therefore these supplementary plates should not be used in all situations. Generally the “low gear now” traffic sign 806 and “low gear for 1 km” traffic sign 800, should only be used with the warning sign where the gradient is longer than 800 metres and where overall or in part it is 1:8 or steeper. “Keep in low gear” supplementary plate together with the gradient sign may be used at intervals of about 800 metres as a reminder. A closer spacing than this will not generally be appropriate unless there is a sudden change of gradient which is not clearly visible. Where the “low gear” plates are not used, it is acceptable to use “distance plates” of the T.S. 784 type. If the warning sign is used without the supplementary plates as a repeater sign, the spacing of these signs may be reduced to 500m.

2.3.3.32 With regard to traffic sign 432, or its equivalents, the use of this sign will generally not be necessary unless the gradient exceeds 1 in 8 or on a long ascent of 1 in 10 for 1 km or more. A supplementary plate showing the length of the gradient should be used for gradients 1 km or more long, but other supplementary plates such as keep in low gear will not be applicable.

2.3.3.33 Traffic sign 434 is used to warn of an uneven road surface, which may affect the control of the vehicle. It will generally only be appropriate as a temporary sign in association with roadworks and in such situations it may be used with T.S. 772 or similar "distance plate". As a permanent sign, its main use will be to indicate the presence of rumble strips if these are installed to control the speed of vehicles, as described in Volume 2, Chapter 5. The extent of the uneven surface or rumble strip may be indicated by the use of a supplementary "distance plate" of the T.S. 784 type. The termination of such areas may be indicated by repeating the sign, supplemented by an "End" plate, T.S. 767.



T.S. 434
(T.C. 220)

2.3.3.34 The standard minimum clearance of any structures over a carriageway is 5m, and 5.1m for new structures. Only when the minimum vertical clearance is less than 5m is it necessary to warn vehicles of the actual headroom available, by using traffic sign 444, or similar, in advance of the restricted headroom, and traffic sign 457, or similar, on the structure itself. It may be advantageous if traffic sign 444 is also erected in the vicinity of the preceding major junction, so that any vehicles, which may be affected by the height restriction, can seek an alternative route. In this latter case a supplementary plate showing the distance to the restricted headroom would be appropriate. Alternatively, the sign may be incorporated in a map type direction sign, located at the junction, as shown in Diagram 2.3.3.5.



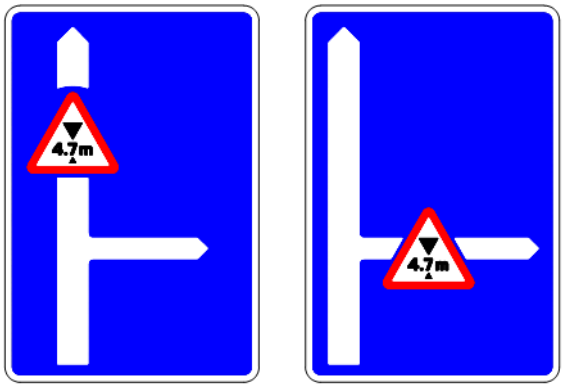
T.S. 444
(T.C. 221)



T.S. 457
(T.C. 222)

2.3.3.35 The heights indicated on traffic signs 444 and 457 or their equivalents are expressed in increments of 0.1m, and the actual headroom used on the sign should be at least 0.1m less than that actually available, in order to allow a margin of safety. Table 2.3.3.3 shows the appropriate values to be shown on the sign according to the minimum headroom available. It should also be appreciated that the maximum height of vehicles together with any load should not exceed 4.6m. Therefore for any headroom of 4.7m or less, consideration should be given to whether vehicles over the restricted height should be prohibited by the use of traffic sign 159 or its equivalent as referred to in paragraph 2.3.2.75.

DIAGRAM 2.3.3.5 : DIRECTION SIGNS WITH HEIGHT RESTRICTION WARNING



Place names should be included as appropriate

Table 2.3.3.3
Values for height restriction signs

Actual Minimum Headroom (m)	Values to be used on signs (m)
* 2.1 - 2.5	2
* 2.6 - 3	2.5
* 3.1 - 3.5	3
* 3.6 - 4	3.5
4.1	4
4.2	4.1
4.3	4.2
4.4	4.3
4.5	4.4
4.6	4.5
4.7	4.6
4.8	4.7
4.9	4.8
5 or more	Sign not required

* For headrooms of 4m or less, because of the number of vehicles likely to be affected, it is preferable to allow a larger margin of safety.

2.3.3.36 Traffic sign 457, which is erected on the actual structure with the restricted headroom, is used to indicate that at least the headroom indicated on the sign is available, between the markings.

2.3.3.37 Traffic sign 460 may be used to warn of pedestrians in the road in situations where either footways are not present or are very narrow and pedestrians may therefore be walking along the road, or when a cautionary crossing has been installed and pedestrians are walking across the road. On most occasions traffic sign 460 will be preferable to the "Slow, Pedestrian" sign, traffic sign 515. However traffic sign 460 is not appropriate to warn of zebra crossings or light controlled crossings.



T.S. 460
(T.C. 261)

2.3.3.38 Traffic sign 461 is used to warn of zebra crossings. Normally the sign will only be erected when the zebra crossing is hidden from view to approaching traffic and the visibility of both beacons is less than 45m for a road with a 50 km/h speed limit and on a road with a 70 km/h speed limit regardless of visibility criteria. Zebra crossings should not normally be used on roads with speed limits in excess of 70 km/h. Traffic sign 461 is not appropriate to warn of a cautionary crossing. Where T.S. 461 must be erected at a distance from the crossing, significantly different to that recommended in Table 2.2.2.1, a distance plate, T.S. 772 or similar should be used.



T.S. 461
(T.C. 223)

2.3.3.39 To give a warning to motorists that they are likely to encounter disabled persons ahead whose ability to move quickly may be impaired, traffic sign 462 may be erected. It should not be used indiscriminately otherwise its effectiveness will be lost. Generally it will be appropriate in advance of crossings situated near establishments such as schools, hospitals, or Work Shops which provide facilities for the disabled. It is not necessary to have a supplementary plate describing the nature of the disability. A supplementary distance plate T.S. 772 should be used where the distance between the sign and the crossing differs significantly from that recommended in Table 2.2.2.1.



T.S. 462
(T.C. 224)

2.3.3.40 Traffic sign 463 is used to warn of the presence of children ahead and is generally used with the supplementary plates, traffic signs 740 "School" or 741 "Playground". The sign would not normally be appropriate in advance of a zebra crossing or signal controlled crossing, unless it was used in conjunction with the flashing amber lights, traffic sign 516, to warn of the presence of a School Crossing Patrol. This latter arrangement is of course also appropriate at School Crossing Patrol sites which do not have a formal crossing point. Further information on school crossing patrol signing may be found in paragraphs 2.3.3.69 to 2.3.3.71.



T.S. 463
(T.C. 225)

2.3.3.41 Traffic signs 464 and 465, are used to warn of the possibility of horses, and cattle or water buffalo, respectively in the road ahead. They should only be used when there is a recurring problem of animals being in or crossing the road, otherwise the impact of the signs will be lost. If the length over which the animals may be in or crossing the road is fairly long, a suitable supplementary plate of the T.S. 784 type, giving this distance should be used and for very long stretches that is over 400m, it may also be appropriate to use repeater signs.



T.S. 464
(T.C. 226)



T.S. 465
(T.C. 227)

2.3.3.42 Traffic sign 466 is used to warn of a gated level crossing with a railway ahead. However, there are no longer such crossings in the Territory.



T.S. 466
(T.C. 228)

2.3.3.43 Traffic sign 467 is for use with electrified overhead cables which have less than 6m clearance above the road surface. A traffic sign 810 type supplementary plate, showing the lowest hot weather clearance less 0.1m, should be used with the sign. The headroom should be expressed in increments of 0.1m. Headroom of less than 5.1m should never be permitted. If the sign is placed at a distance from the overhead cables, significantly different to that recommended in Table 2.2.2.1, distance plate T.S. 772 should be used.



T.S. 467
(T.C. 229)

2.3.3.44 The use of traffic sign 468 is, to warn of low flying aircraft and may be appropriate at a local air-field or helipad where the sudden noise of aircraft is likely to startle drivers.



T.S. 468
(T.C. 230)

2.3.3.45 Traffic sign 469 should be used to warn of unbarriered river banks, nullah banks or quaysides, adjacent to public roads. Its future use is doubtful as, in preference to erecting such a sign, action should be taken to erect adequate barriers and thereby remove the danger.



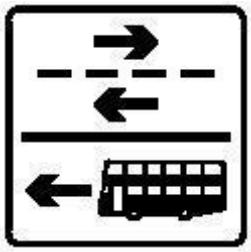
T.S. 469
(T.C. 231)

2.3.3.46 On the approach to the start of a bus lane, traffic sign 470, should be erected at the normal distance for warning signs, on the left hand side of the road. Signing on both sides of the road is not required as it is doubtful that motorists would see the far side sign, and if they did it may confuse them into believing the bus lane was on that side. If however there is a central reserve and the bus lane is located on the right hand side of the carriageway it will be appropriate to erect the warning sign on this same side. In this situation the symbols on traffic sign 470 will be reversed. The sign is not necessary and should not be used if traffic other than buses cannot proceed along the road, as for example may occur with a bus only street, or a contra flow bus lane. These situations will be indicated by no entry signs or similar. The smaller sized sign will be appropriate for most urban conditions but if approach speeds are in excess of 50 km/h the larger sized sign should be used. Where the sign must be erected at a distance significantly different to that recommended in Table 2.2.2.1, a distance plate of the T.S. 772 type should be erected. Where the bus lane operates only part-time, a supplementary “time plate” of the T.S. 714 type is required. If other buses are permitted to use the nearside lane, in addition to franchised buses, the bus symbol on the sign should be replaced by the word “Bus” in English and Chinese.



T.S. 470
(T.C. 232)

2.3.3.47 On side roads leading to roads with bus lanes, the traffic sign 471 should be used to warn of a bus lane along the main road. The pictorial representation on the sign should be similar to the actual main road layout, and alternative sign layouts have been prepared, as shown on the CT 174/51 series of drawings. Actual location of the sign will depend upon site conditions at the junction, but it should not be erected where it will obscure Give Way signs or similar. Generally siting the sign 15m to 20m in advance of the junction will be sufficient warning. In most urban areas the smaller sized sign will be the appropriate one to use. Where the bus lane is part time, a supplementary time plate is required. Where the bus lane is open to non-franchised buses, the bus symbol should be replaced by the word “Bus” in English and Chinese.



T.S. 471
(T.C. 233)

2.3.3.48 Traffic signs 481 and 482 are used to warn pedestrians, who are crossing a road containing a bus lane, of the direction from which buses will be approaching. These signs can be particularly useful if the direction of buses is contrary to that which might normally be expected. The signs should be erected facing pedestrians crossing the road, preferably at a low mounting height but in such a position that they do not impede or endanger pedestrians or their sight lines. At times it may be difficult to conveniently locate these signs and in these oases, if a warning is thought to be appropriate then consideration should be given to using the road marking 1135 or 1136 "LOOK RIGHT" or "LOOK LEFT", respectively.



T.S. 481
(T.C. 234)



T.S. 482
(T.C. 234)

2.3.3.49 Traffic sign 484 should only be used in situations where it might not be apparent that the normal driving rules should apply, such as on cycle tracks or paths in country parks and on roads which on weekends may be closed to other traffic.



T.S. 484
(T.C. 236)

2.3.3.50 Traffic sign 485 will generally only be provided in respect of routes regularly used by cyclists, particularly on roads where motor vehicles are not permitted or are restricted in use. The sign should face those vehicles travelling down hill. The decision as to whether the sign should be used will depend on local conditions and accident statistics, and the likelihood of the sign being observed. For gradients steeper than 5%, consideration should be given to the erection of the sign, taking into account the length of the gradient and other circumstances prevailing. A supplementary plate of the T.S. 784 type, indicating the distance over which the gradient exists, may also be used.



T.S. 485
(T.C. 235)

2.3.3.51 Traffic sign 487 may be used as a permanent sign to indicate the continued possibility of rock falls though obviously remedial works to prevent this are preferable. The sign can be reversed to indicate rock falling from the other direction, traffic sign 486. Where the potential rock falls extend over a significant distance, a supplementary distance plate of the T.S. 784 type should be used. In such situations, the termination of the rook fall area may be indicated by repeating the sign with a supplementary "End" plate, T.S. 767.



T.S. 487
(T.C. 237)

2.3.3.52 Traffic signs 488 to 513 are signs generally associated with road works although some of the signs can be used at more permanent locations. Further advice on the use of these signs is contained in the Code of Practice for the Lighting, Signing and Guarding of Road Works.

2.3.3.53 Where there is a possibility of loose stones on the carriageway as may occur after surface dressing, traffic sign 488 should be used to warn motorists. Supplementary plate T.S. 784, "For 1 km" or similar may be used where appropriate and in such cases the supplementary "End" plate should also be used to indicate the termination of the area.



T.S. 488
(T.C. 238)

2.3.3.54 Traffic sign 489 may be used when the danger of skidding is higher than normal, however remedial measures should be taken as soon as possible to improve the skidding resistance so that the sign can be quickly removed. It may be used with supplementary plates of the type T.S. 784 "For 1 km" and with T.S. 767 "End".



T.S. 489
(T.C. 239)

2.3.3.55 Traffic sign 490 is used to indicate a hazard which could not otherwise be adequately described by another warning sign. Because it does not convey a specific warning as to the nature of the hazard, it should always be used in conjunction with one of the supplementary plates in traffic signs 743 to 750, e.g. Accident, Land Slide, etc., or if these are not appropriate, a specifically designed one. In respect of survey work traffic sign 490 is appropriate when this is being carried out in the immediate vicinity of, but not on the carriageway. It may also be used with supplementary plates of the type T.S. 772 “400m” and T.S. 767 “End”.



T.S. 490
(T.C. 240)

2.3.3.56 Traffic sign 491 should be used in advance of all works carried out on the carriageway, regardless of whether such works involve excavations or not, and will include such activities as street sweeping, surveying, gully emptying, excavations, cleaning of street furniture etc. It may be used with a supplementary plate, such as traffic signs 752 to 757, if it is considered that advice as to the actual work being carried out is necessary. Certainly in the case of road marking where work may be proceeding some distance ahead of the sign the supplementary plate "Line Painting" should be used. It may also be appropriate to show the distance over which the road works extend, by using the supplementary plate traffic sign 784 or similar. As advanced warning of road works should be given over a distance in excess of the normal warning sign siting distance, supplementary distance plates of the type T.S. 772 and T.S. 780, will normally be appropriate. The sign should be repeated, together with the "End" plate, to indicate the termination of the area of road works.



T.S. 491
(T.C. 241)

2.3.3.57 Traffic signs 492, 498 and 499 are used to indicate the particular lanes closed to traffic as a result of road works ahead. They may of course be varied to suit the particular circumstances of the location. Generally these signs will be used in conjunction with road works on dual carriageway roads, but in certain cases they are also appropriate for use on two way single carriageway roads. Supplementary plates indicating the distance to the lane closure (T.S. 772 and T.S. 780 etc), the extent of the lane closure (T.S. 784) and the "End" plate (T.S. 767), may be used as necessary.



T.S. 492
(T.C. 242)



T.S. 498
(T.C. 244)



T.S. 499
(T.C. 245)

2.3.3.58 Traffic sign 501 is used to warn motorists that it is necessary to divert from one carriageway of a dual carriageway road onto the other carriageway. On a recurrent basis, possibly in the form of a secret sign, it is used in Tunnel Areas to give additional warning and guidance as to the route to be followed when one of the tubes is closed for maintenance purposes. Traffic sign 502 is used to warn of a return to the other carriageway. Supplementary distance plates of the type T.S. 772 and T.S. 780 are normally appropriate with both T.S. 501 and T.S. 502.



T.S. 501
(T.C. 246)



T.S. 502
(T.C. 246)

2.3.3.59 Traffic sign 503 is used to warn of a temporary sharp deviation as for example would occur when traffic from one carriageway of a dual carriageway road is diverted to the other carriageway. It is red and white in colour and should not be confused with traffic sign 414, which is black and white and is used to indicate permanent sharp deviations as may occur on a road bend. Traffic sign 503 has longer standard lengths than traffic sign 414. The sign can of course be reversed to indicate a deviation to the right. It may also be used on a semi-permanent basis where appropriate such as on lifting barriers in Tunnel Areas, and further details on this may be found in Chapter 4.



T.S. 503
(T.C. 247)

2.3.3.60 Traffic sign 504 is normally used in conjunction with roadworks and should be placed across the carriageway at the start of the actual road works, to indicate the extent of an excavation or that a lane, or lanes, are closed for other reasons. It may also be used to mark the longitudinal boundary of the road works if this is not indicated by other signs, barriers or markings. The sign is also appropriate for use on certain lifting barriers in Tunnel Areas, and further information on this is given in Chapter 4.



T.S. 504
(T.C. 248)

2.3.3.61 Traffic sign 505 is a temporary sign used to warn motorists of a sudden change in the level of the carriageway, as occurs for example where a section of resurfacing is temporarily finished or started and there is a sharp difference in level between adjacent surfaces. Traffic sign 506 should be used in advance of this to warn motorists of the ramp ahead.



T.S. 505
(T.C. 249)



T.S. 506
(T.C. 250)

2.3.3.62 On T.S. 507 the words “WET TAR” may be changed to indicate some other hazard if an alternative symbolic sign is not suitable and it is considered that detailed information should be given. The sign is rarely used.



T.S. 507
(T.C. 251)

2.3.3.63 Traffic sign 508 is used in advance of traffic sign 220, “ROAD CLOSED”, when the closure is of a temporary nature for the purpose of carrying out road works.



T.S. 508
(T.C. 252)

2.3.3.64 It is important to remember that traffic sign 509, and not traffic sign 409, is the appropriate sign to use, when traffic control ahead is in the form of Stop/Go signs, traffic signs 103 and 104.



T.S. 509
(T.C. 253)

2.3.3.65 Where it is necessary to close a crossing place temporarily, traffic sign 510 should be used in conjunction with any necessary barriers. Indications should also be given either by using traffic sign 511 or another more appropriate sign, as to the nearest alternative crossing point.



T.S. 510
(T.C. 254)

2.3.3.66 Where a pedestrian route is temporarily diverted or closed, traffic sign 511 should be used to indicate the alternative route to be taken. The arrow on the sign can of course be reversed (T.S. 512) or arrows pointing in both directions (T.S. 513) may be used.



T.S. 511
(T.C. 255)

2.3.3.67 Traffic sign 514, in either form should be mounted on black and white posts as shown in Diagram 2.3.3.6. The sign itself must of course be reflectorised, and the white sections of the black and white post preferably should be reflectorised also. The signs should be coloured in accordance with the following :

(i) Red - to delineate the left side of the carriageway.

(ii) White - to delineate the right side of a single two-way carriageway.

(iii) Amber - to delineate the right side of each carriageway of a dual carriageway road.

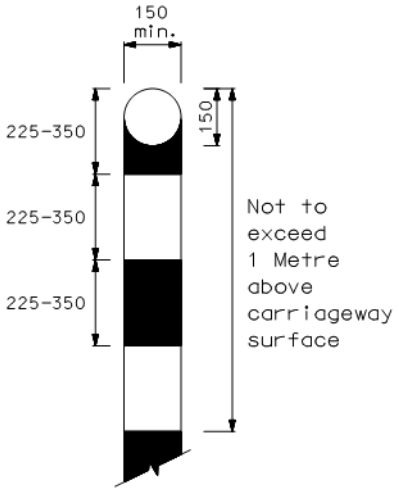
The hazard markers may be used to indicate the edge of carriageway on embankments and where a road narrows, and the edge of carriageway on a sharp bend on single carriageway roads, though preferably traffic sign 414 “Chevron” should be used in the latter circumstances. In all cases, regular maintenance and replacement of damaged signs is necessary if the signs are to serve a useful purpose. Where barrier fences are installed at locations where hazard markers are considered appropriate, proprietary brands of reflectors are available which can be attached to the barrier itself. In these cases, the black and white post will not be required, and the reflectors may not conform in shape or size to traffic sign 514. This is acceptable providing the actual colours are in accordance with those given above.



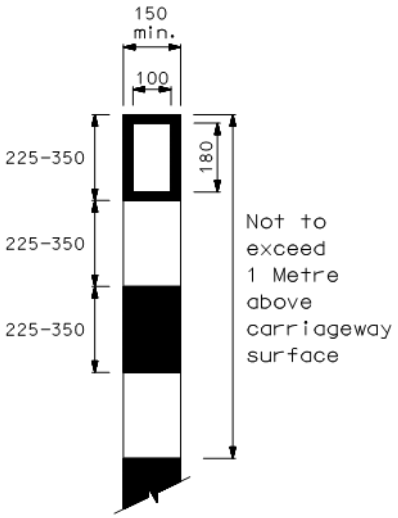
T.S. 514
(T.C. 256)

DIAGRAM 2.3.3.6 : HAZARD MARKERS

HAZARD MARKER POST (CIRCULAR MARKER)



HAZARD MARKER POST (RECTANGULAR MARKER)



2.3.3.68 Traffic sign 515 may be used in situations where pedestrians may be walking in the road ahead either by reason of the lack of footways, or where footways are too narrow to accommodate the pedestrian flows. Generally, however, traffic sign 460 will be preferable at these locations as it follows the symbolic sign principle.



T.S. 515
(T.C. 257)

2.3.3.69 Traffic sign 516 is composed of twin amber flashing lights and should only be used in conjunction with traffic sign 463 “Children”. The purpose of this sign is to warn of the operation of a school crossing patrol ahead. The lights should flash at a rate of not less than 60 nor more than 90 flashes per minute and in such a manner that the light of one lamp is always shown at the time when the other lamp is not. The lights are not a substitute for light signal crossings and should not be regarded as such.

Traffic sign 463, in combination with traffic sign 516 may be used in advance of a signal controlled crossing, zebra crossing or cautionary crossing over which a school crossing patrol operates. Whilst such signing would serve a useful purpose, if erected in advance of every location, where there is a school crossing patrol, financial restrictions will generally prevent this and the order of priority of installation should therefore be :

(i) On roads with a speed limit above 50 km/h. However in these situations it may be necessary to consider some other form of crossing.

(ii) On roads with a speed limit of 50 km/h and visibility to the patrol is less than 100 metres, and only a cautionary crossing place is provided.

(iii) On roads with a speed limit of 50 km/h and visibility to the patrol is less than 100 metres, but it operates over a zebra crossing.

(iv) On all other roads where safety may be a hazard.



T.S. 516
(T.C. 258)

2.3.3.70 If installed, T.S. 463/516 should be positioned in advance of the crossing on all the approaches along the road where the school crossing patrol operates. The matter of who actually operates the lights will need to be determined between the Police, the Education Authority and the Headmaster/Principal of the school in question. If it is agreed that school personnel should be allowed to operate the lights during the time of a school crossing patrol, the Headmaster must as part of this agreement give assurance :

(i) that the lights will be switched on only when an authorized crossing patrol equipped with sign T.S. 375 is operating;

(ii) that responsibility for turning on and off the flashing lights is accepted by him/her, or a senior teacher at the school, but not by a pupil;

(iii) that the lights will always be switched off immediately after the operation of the patrol.

2.3.3.71 The procedure to be followed for the approval of the use of Amber Flashing Lights at School Crossing patrol sites is as follows :

Step 1 Requests for lights, initiated by Schools, Transport Department or other bodies, are sent to Police.

Step 2 If there is not a crossing patrol in existence, Police refuse request, or state that the matter will be reviewed subject to the establishment of a crossing patrol;

or If there is a crossing patrol established, Police pass the request to Transport Department for further investigation.

Step 3 Transport Department consider the validity of the request taking into account, type of crossing, speed limit and volume of traffic, availability of funds, etc., and make recommendation to Police as to whether lights should or should not be installed, and likely implementation date, if agreed.

Step 4 Based on recommendations, Police inform School, copying this to Education Department and Transport Department as to whether lights can be approved, and if agreed requesting school to reply accepting responsibility for operation of lights.

Step 5 Subject to agreement, School writes to Police, accepting responsibility for operation of lights, copying reply to Education Bureau and Transport Department.

Step 6 Police revoke old permit and issue new permit which includes the following clause, or similar : “The headteacher will be responsible for ensuring the correct operation of amber flashing lights and that they are switched off at all times when the school crossing patrol is not operating.”

Step 7 Transport Department arranges for installation of lights.

Step 8 Transport Department issues school with key to operate lights, informing the Education Bureau and Police accordingly.

2.3.3.72 Traffic sign 518 is a traffic bollard used to indicate the extremity of traffic islands. There are three types of bollards: illuminated bollards, non-illuminated retro-reflective traffic bollards and omnidirectional non-illuminated retro-reflective traffic bollards. For details on the appropriate bollard type, installation and application locations, designers should refer to the Public Lighting Design Manual. The bollard may incorporate on its face or faces the following signs :

(i) blank -
this is appropriate where the bollard is on an island which separates traffic streams proceeding in the same direction but to different routes, including diverging noses on expressways.

(ii) traffic signs 106, 107 and 108, ahead only, turn left/right may be used in the situations described in paragraphs 2.3.2.27 to 2.3.2.31. However the full sized road sign should also be used.

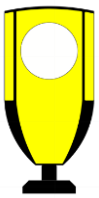
(iii) traffic sign 109, keep left -
this sign will be appropriate on a central island on a two way road, and on the central reserve of a dual carriageway road.

(iv) traffic sign 110, keep right -
this sign in association with a bollard should seldom be required, but may be used in the rare circumstance that vehicles are required to keep right of a traffic island.

(v) traffic sign 111 and 112, turn left/right ahead -
it is doubtful that there would be many locations where there would be a suitably located bollard to house this sign. However if used, it should be additional to and not a replacement for the roadside sign.

(vi) traffic sign 115, no entry -
when used in conjunction with a bollard the sign should be additional to the full sized roadside signs. Its use will be most appropriate where there is a pedestrian refuge situated across the exit of a one-way street, where it can serve as a further reminder not to enter. It may be of particular value where the orientation of the road side signs may cause visibility problems to one or other stream of traffic.

(vii) traffic sign 602, pass either side -
this sign must only be used when a central island temporarily divides traffic streams proceeding in the same direction, and immediately after the island the traffic streams rejoin the same route again. It is not therefore appropriate where a road diverges, into two different routes.



T.S. 518
(NOT PRESCRIBED)

2.3.3.73 The value of T.S. 519 is a little dubious as it is intended to advise motorists to switch on their dipped headlights, and should be used with a supplementary plate indicating this. How to achieve this effect satisfactorily the sign must be located in advance of any fog, and must only be visible when there is fog present. In this respect therefore secret sign would be most appropriate but quite expensive.



T.S. 519
(T.C. 259)

2.3.3.74 Traffic sign 520 will generally be used in association with cycle tracks, or routes, to either warn pedestrians of the presence of cyclists or, to warn motorists on a road of a junction with a cycle track ahead. When it is used as a warning for pedestrians, the 300mm or 450mm size is appropriate. But if it is erected to warn motorists, then sizes appropriate to the speed limit should be used as normal. Further details as to the use of this sign will be found in Chapter 6.



T.S. 520
(T.C. 260)

2.3.3.75 Traffic sign 524 may be used to warn vehicular or pedestrian traffic that there is a North-West Railway track or tram track in or crossing the road ahead and that vehicles of the North-West Railway or trams may be operating. A distance plate of the T.S. 772 type may be used to supplement the main sign, when the distance between the sign and the track does not conform with that recommended in Table 2.2.2.1.



T.S. 524
(T.C. 262)



T.S. 527
(T.C. 264)



T.S. 530
(T.C. 265)

Traffic sign 527 may be used to give advance warning to motorists and pedestrians of the presence of vehicles of the North-West Railway or trams ahead if the visibility of the traffic sign 524 is inadequate. The sign may be used in conjunction with a distance plate T.S. 772 type.

On side roads leading to roads with North-West Railway track or tram track, traffic sign 530 should be used to warn motorists and pedestrians of the operation of such vehicles or trams along the main road. The pictorial representation of the sign should be similar to the actual main road layout. The sign should be sited about 15 to 20 m in advance of the junction. The sign should not obscure the GIVE WAY sign or similar.

2.3.3.76 Traffic sign 539 is used to indicate that there is a road hump or a series of road humps in the road ahead. Where there is a series of road humps, supplementary plate T.S. 784 “For 1 km” or equivalent should also be used. Intermediate signs are not required unless there is an intervening side road; in which case the main sign without supplementary plate should be repeated. More information on the use of road humps is given in Volume 2 Chapter 5.



T.S. 539
(T.C. 263)

2.3.3.77 Traffic sign 570 is used to give advance warning that the speed limit on the road ahead shall be lowered. The sign in conjunction with the distance plate T.S. 769 shall be used on roads where the speed has to be lowered by 20 km/h or more. The sign shall be erected in pairs about 100m ahead of the change and under special circumstances, e.g. for speed change of 30 km/h or more, an additional pair at about 200m in advance. The numerals on the sign may be altered to suit the actual speed limit being adopted.



T.S. 570

2.3.3.78 Traffic sign 586 "Beware of Reversing Vehicles" should be installed at blind alleys and narrow service lanes subject to the following criteria:

(i) where there are frequent reversing of goods vehicles into or out of the alleys/lanes due to lack of turnabout facility or of sufficient width to turn around within the carriageway;

(ii) which are frequently used by pedestrians, especially with nearby attractions to children/elderly;

(iii) where driver sightlines of pedestrians are likely to be obstructed, e.g. sharp bend, steep gradient etc.; and

(iv) where the footpath is narrow, lacking or frequently obstructed.



T.S. 586

2.3.3.79 The sign should be erected to face traffic and in both directions such that both drivers and pedestrians can view the sign in either direction. For long blind alleys and service lanes, provision of repeater signs at spacing 60m–100m would be required, and lesser spacing if visibility is inadequate. For narrow alleys and service lanes with narrow or absence of footpath, repeater signs should only be provided if the required horizontal clearance can be maintained.

2.3.4 Informatory Signs

2.3.4.1 Informatory signs, as the name implies, are used to impart information concerning matters occurring along a route, to indicate places or facilities of particular interest, or to indicate directions to be followed.

2.3.4.2 Informatory signs will generally have a white border, blue background and white symbols or lettering. However there are exceptions which are explained in the descriptions of individual signs.

2.3.4.3 The siting of informatory signs will vary according to the particular type, some being located similarly to warring signs and others immediately adjacent to the facility being described. The siting required for each sign where it does not conform with the standard warning sign distance is given in the description to that sign in the subsequent paragraphs.

2.3.4.4 The informatory signs described in subsequent paragraphs are prescribed in the Road Traffic (Traffic Control) Regulations. Non-prescribed signs should be avoided, but where necessary it is important that they follow the same design principles, and are used in the same way throughout the Territory. Therefore should a sign be required which is not described in the following sections, the design should accord with similar existing signs and advice on this should be obtained from the Road Safety and Standards Division of Transport Department.

2.3.4.5 Traffic sign 601, is for use by the Police, and is a blue sign, with white border and lettering. It is used to convey the reason for the obstruction and that there is a police presence. It should be accompanied by other appropriate regulatory and warning signs required to control traffic and at night should be surmounted by a blue flashing beacon light.



T.S. 601
(T.C. 301)

2.3.4.6 Traffic sign 602 is used to indicate to motorists that they can pass either side of a traffic island or roadworks and that they will return to the same route whichever side they pass. It is not appropriate, and must not be used, at slip roads or similar where two route diverge. As a permanent sign, it will normally be used in association with a traffic bollard, see paragraph 2.3.3.72. Although it may be erected as a normal sized reflectorised sign mounted on a post, as for example at some tram islands, a traffic bollard sign is preferable. Doubling up of a bollard and a post mounted sign has sometimes been used in the past, but this is unnecessary and a waste of resources.



T.S. 602
(T.C. 302)

2.3.4.7 Traffic sign 603, has a white border and lettering on a blue background, it should be erected on a single carriageway road to give advance warning of a dual carriageway ahead which is 400m or more in length. If the dual carriageway is less than 400m in length, the sign should not normally be used. The appropriate size and siting distances to be used are given in Table 2.3.4.1.



T.S. 603
(T.C. 303)

Table 2.3.4.1
Size and siting of traffic sign 603

Speed Limit or Design Speed (km/h)	Sign size (mm)	Distance in advance of start of dual carriageway (m)	Minimum clear visibility of sign (m)
Up to 50	550 x 1150	50	60
Over 50	875 x 1850	75 - 110	60

2.3.4.8 Traffic sign 604, has white borders and lettering on a blue background and should be erected at the start of a single track road which has occasional passing places along it. At the passing places, traffic sign 620, “Passing place”, should be erected.



T.S. 604
(T.C. 304)

2.3.4.9 Traffic signs 605, 606 and 607 are count down markers to indicate the distances 300m, 200m and 100m respectively to the start of the taper of a diverging (deceleration) lane of a slip road. The signs have a blue background and white symbols and borders but on expressways the background colour is changed to green, traffic signs 3624 to 3629 refer. Traffic sign 605 may be omitted where, by reason of the proximity of one junction to another, the sign could not be conveniently located, or because of physical limitations at the location, but as far as possible it is preferable to erect all three signs. Where the slip road occurs on the off side the symbols on the sign should be reversed so that they slope from right to left. The signs are not appropriate and should not be used for "lane drop" situations where routes diverge, and the tapered deceleration lane is not employed.



T.S. 605
(T.C. 305)



T.S. 606
(T.C. 305)



T.S. 607
(T.C. 305)

2.3.4.10 Traffic sign 611 is used in conjunction with Advance Direction Signs in advance of a diverging manoeuvre to give further advice to motorists to get into correct lane well before the manoeuvre takes place. The exact location of traffic sign 611 will depend upon site conditions. The sign should be erected in such a position that motorists after seeing it can immediately see the Advance Direction Sign. Table 2.3.4.2 gives an approximate indication of the siting distance of traffic sign 611 in this respect. On a carriageway with four lanes or more, the sign should be erected on both sides of the carriageway. Traffic sign 611 will normally consist of white lettering on a blue background. However, when used on expressways the background colour should be green.

Table 2.3.4.2
Siting distance for traffic sign 611

Speed Limit or Design Speed (km/h)	Sign size (mm)	Distance of sign in front of gantry (m)	Clear visibility of sign (m)
Up to 50	500 x 750	30 - 40	60
Over 50	1200 x 1000	60 -75	70

2.3.4.11 A further use of traffic sign 611 is in advance of a junction where road markings 1017 to 1030, directional arrows, are placed on the carriageway. The exact location of the sign for use in this respect will need to be determined by actual site conditions, but where possible the sign should be located slightly in advance of the first set of arrows seen by approaching motorists. If three sets of arrows are used and it is not possible to locate traffic sign 611 in advance of the first set, it is acceptable to erect the sign in advance of the second set of arrows. Under the Road Traffic (Traffic Control) Regulations, motorists may change lanes, providing it is safe to do so, prior to the stop or give way lines. See also paragraph 2.3.4.14, in respect of the use of traffic sign 618 for the same purpose.



T.S. 611
(T.C. 306)

2.3.4.12 Traffic signs 612, 613 and 614 are for use at traffic survey points, and even though these are temporary signs, authority for their use is obtained from Regulation 3 of the Road Traffic (Traffic Control) Regulations. Even so, a police officer should always be present to control and actually stop traffic. Authority to collect information relating to road traffic is derived from Regulation 52 of the Road Traffic (Traffic Control) Regulations. It is essential that a survey point is properly signed and the layout is safe with minimum interference to that traffic which is not required to stop.



T.S. 612
(T.C. 307)



T.S. 613
(T.C. 308)



T.S. 614
(T.C. 309)

2.3.4.13 Traffic sign 615, indicates that the road on which it is placed is not a "through road" for vehicles. The traffic signs 616 and 617 on the other hand should be erected on the main road in advance of a side road to advise that the side road is a cul-de-sac. Discretion will be required in the use of these signs as not all "no through" roads need to be signed. A very long cul-de-sac where it is not obvious that it is such a road should be signed, as should roads which might be confused with relatively important adjacent through road routes. The signs may also be used with suitable supplementary plates, as advanced warning signs, on routes where certain types of vehicles are, at some point along the route, prohibited further entry. The wording on the supplementary plate should indicate the vehicle which is restricted and should be prefaced by "for", e.g. "For goods vehicles". However, the use of these signs for this purpose should be restricted to exceptional situations when no other form of signing is possible, because even with the supplementary plate it is possible that the sign could be confusing to drivers of other vehicles. It should also be remembered that traffic signs 615, 616 and 617 are not in themselves regulatory signs, and other signs are required to prohibit the particular vehicle.



T.S. 615
(T.C. 310)



T.S. 616
(T.C. 311)



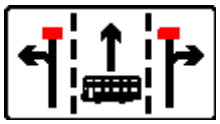
T.S. 617
(T.C. 311)

2.3.4.14 Traffic signs 522, 523, 548, 554, 555, 563, 564, 618, 626, 627, 631, 665, 666, 667 and 668 are used to advise motorists of the correct lane to be in when approaching a junction, in order to make the required manoeuvre at the junction. The background colour is white and the symbols are black, apart from the bar which is red. The signs are recommended to be used at difficult locations to give more advance notifications to motorists particularly the following circumstances :

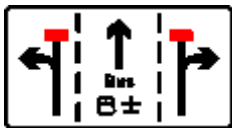
(i) TS 618, 548 and 564 should be used to indicate the bus lane arrangement ahead, for example, TS 618 indicates situation where a bus lane terminates prior to a junction and commences again immediately afterwards, to allow other vehicles to turn left from the nearside lane. In these situations the words "except buses" may be added above the red bar.



T.S. 618 (T.C. 312)



T.S. 548 (T.C. 232)



T.S. 564 (T.C. 312)

(ii) TS 522, 523, 554 and 563 are used to forewarn motorists of a prohibition of a specific type or class of vehicle against certain manoeuvre.



T.S. 522



T.S. 523



T.S. 554 (T.C. 312)



T.S. 555 (T.C. 312)



T.S. 563 (T.C. 312)

(iii) At non-standard complex junctions with 3 or more lane approaches where the lane allocation is not readily obvious to the motorists, TS 626, 627, 631, 665-668 should be used to advise motorists of the correct lane to be in.



T.S. 626 (T.C. 312)



T.S. 627 (T.C. 312)



T.S. 631 (T.C. 312)



T.S. 665 (T.C. 312)



T.S. 667 (T.C. 312)



T.S. 668 (T.C. 312)

2.3.4.15 Traffic sign 618 may also be used as an alternative to traffic sign 611, as a complementary sign for lane direction arrows, see paragraph 2.3.4.11. Whether traffic sign 618 is used for this purpose, or, in the situation described in paragraph 2.3.4.14 to indicate the temporary termination of a bus lane, the siting of the sign should be the same, being slightly in advance of the first set of lane direction arrows seen by the motorist on the approach, to the junction. The sign should be erected at the side of the road. Care will be required in locating the sign, in order to avoid inconveniencing pedestrians or obstructing shop blinds as even the smallest of the three sizes is quite large. Table 2.3.4.3 gives the appropriate size of sign according to the approach speed of light vehicles. In cases where there are four or more lanes on the approach, consideration should be given to duplicating the sign on both sides of the carriageway or, using the next largest sign shown in Table 2.3.4.3. All these warning signs can of course be amended to suit the particular circumstances of the site, but should be enlarged or made smaller by adding or deleting a lane as appropriate, but not by reducing the widths of lanes or using smaller arrows on the sign.

Table 2.3.4.3
Appropriate sign size for traffic sign 618

Speed Limit or Design Speed (km/h)	Sign size (mm)
Up to 50	600 x 1100
Over 50 Up to 70	900 x 1650
Over 70	1200 x 2200

2.3.4.16 Traffic sign 620 is used to indicate passing places, provided to allow slower moving vehicles to drive off the main carriageway in order for other vehicles to pass. Vehicles should be discouraged from parking in passing places and if necessary parking restrictions should be introduced to prevent this. The sign should be positioned to achieve the maximum visibility distance attainable within the limitations of the site.



T.S. 620
(T.C. 313)

2.3.4.17 Traffic sign 621 is a temporary sign for use by the Police



T.S. 621
(T.C. 314)

2.3.4.18 Traffic signs 2641, 2642, 2643 and 2644 are examples of informatory merging sign used at grade separated junctions. These signs indicate clearly to drivers on both the mainline and the slip road, the lane configuration at the junction, and particularly whether or not an extra lane is gained.
Traffic signs 2641, 2642 or similar should be erected on the left hand side of the main carriageway before the merge. Whilst traffic signs 2643, 2644 or similar should be erected on the right hand side of the slip road before the merge.



T.S. 2641



T.S. 2642



T.S. 2643



T.S. 2644

2.3.4.19 The background color of these signs should be green when used on expressways and blue when used on other roads.

2.3.4.20 Traffic sign 540 is used to warn drivers of goods vehicles with a gross weight in excess of the weight indicated that they should proceed or keep to the nearside lane before the start of the restriction indicated by the traffic sign 376. See also Section 2.3.2.108 for details of traffic sign 376. The numerals on the sign may be altered to suit different weight limits.



T.S. 540
(T.C. 315)



T.S. 583
(T.C. 316)

2.3.4.21 Traffic sign 583 is used to warn drivers of goods vehicles with a gross weight in excess of the weight indicated approaching a major road that they should keep in the nearside lane of the major road before the start of the restriction indicated by traffic sign 376. The numerals on the sign may be altered to suit different weight limits. Depending upon the local traffic condition, the sign may be erected at about 50 to 100 m on the approach to the major road. The sign should not obscure the GIVE WAY sign or similar.

2.3.4.22 Traffic sign 2711 "Slow Bus Stop Ahead" should be used to alert motorists the presence of bus stop where its location will create a potential hazard to road users. The use of the sign should only be considered when all other measures (such as resiting of the bus stop, trimming of vegetation along roads, etc) have been investigated and found not feasible. In consider whether a bus stop will create a potential hazard to motorists, the following criteria should be used for assessment:

(i) speed limit of road section must be at 70 km/h or higher;

(ii) the absolute minimum sight distance could not be provided between:

(a) drivers and bus stop without layby,

(b) drivers and entrance/exit of the bus stop layby/service road (whichever is the less), and

(c) drivers and the bus at end of the queue;

(iii) there are accidents involving other vehicles colliding with buses at the bus stop; and

(iv) there are repeated complaints.



T.S. 2711

2.3.4.23 The sign is to be used together with "SLOW" road marking RM 1142. Supplementary distance plate TS 772 can be used in conjunction with the "Slow Bus Stop Ahead" sign to indicate the distance to the hazard whenever necessary.

Road Mirrors

2.3.4.24 Road mirrors, usually in convex circular shape, are not uncommon in car parks, private roads and their connections to public roads. They help improve road users' visibility by indicating the presence or absence of a moving or stationary vehicle and / or pedestrians. They may be construed as traffic signs for the purpose of the Road Traffic Ordinance. However, road mirrors referred in the following guidelines exclude mirrors placed for security purpose such as at pedestrian subways.

2.3.4.25 Use of road mirrors on public roads should be discouraged as they could induce road safety implications:

(i) motorists may misjudge the speed and distance of approaching vehicles due to distorted images ;
(ii) non-local motorists may be confused with the direction of approaching vehicles due to "mirror image" effect ; and
(iii) glare from sunlight or reflecting headlights can dazzle or disorientate drivers.

2.3.4.26 For locations with sightline problem, designers should review whether the length of visibility splay stipulated in Section 3.6.3 of Chapter 3, Volume 2 can be fulfilled. If insufficient, physical improvement measures should be explored thoroughly to overcome the problem. These include, but not limited to, road realignment, relocation of driveway or private access, vegetation trimming, tree / planter removal, slope cutting, etc. In addition, traffic management measures such as turning restriction, provision of traffic aids (e.g. concealed entrance signage), adjustment of carriageway alignment by road marking, etc. may be considered.

2.3.4.27 Request for installing road mirrors on public roads should normally be rejected with reference to the rationale cited in Section 2.3.4.25 above, unless there are exceptionally strong road safety justifications and all practical alternatives have been exhausted. Road mirror should only be considered as a last resort in an extreme difficult situation for aiding access to / from an existing vehicular access, and meeting the following criteria and technical requirements:

Criteria:

(i) length of the visibility splay is far below the safe stopping distance;
(ii) on local roads with low traffic volume and operation speed less than 50 km/h; and
(iii) siting of road mirrors should be confined to the private lot whenever practical.

Technical requirements:

(i) road mirrors on public roads should be erected at height typically 2.0 metres clearance above ground;
(ii) road mirrors should normally have a diameter between 0.8m to 1m and be in convex shape; and
(iii) radius of curvature of road mirrors depends on the distance to be viewed and is typically in the order of 1.5m to 3m.

2.3.4.28 Applications for installing road mirrors by private lot owners should follow the procedure as specified in Section 5.2 of the Code of Practice for Private Roads.

2.3.5 Supplementary Plates

2.3.5.1 Supplementary plates, are used to qualify regulatory and warning traffic signs by giving information concerning :

(i) the type or class of vehicle affected by a restriction e.g. "Goods vehicles", traffic sign 814;

(ii) the time period during which a restriction may occur;

(iii) the time period during which an activity may take place;

(iv) exemptions to a restriction, e.g. "Except franchised buses", traffic sign 708;

(v) the limits of a restriction e.g. "arrow plates", traffic sign 733;

(vi) the distance over which a restriction or hazard may occur, e.g. "For 2 km", traffic sign 785;

(vii) the distance ahead that a hazard occurs e.g. "100 m", traffic sign 769;

(viii) additional information as to the type of hazard, e.g. "School", traffic sign 740;

(ix) the manner in which to negotiate a particular hazard, e.g. "Single file traffic", traffic sign 738.

2.3.5.2 Prescribed supplementary plates are included in legislation and have a defined meaning therein. Those plates described in the following paragraphs are prescribed in the Road Traffic (Traffic Control) Regulations.

2.3.5.3 The permitted variations to the prescribed supplementary plates and the permitted sign/supplementary plate combinations are clearly stated in the Regulations and repeated in this Chapter. When used with a regulatory sign, it is important that the supplementary plate is prescribed (including the permitted variants) and that the sign/supplementary plate combination is permitted within the legislation. If this is not the case, the legality of the signing and therefore its enforceability is questionable. It is also desirable that prescribed supplementary plates be used in permitted combinations with warning signs for the sake of consistency and, therefore, easier recognition by motorists.

2.3.5.4 Non-prescribed supplementary plates, i.e. plates which do not have a meaning which is defined in the legislation, may also be used by reason of the authority derived from Regulation 3 of the Road Traffic (Traffic Control) Regulations. This Regulation essentially empowers the Commissioner for Transport to erect any sign whether prescribed or otherwise and is an essential provision to cover the erection of direction signs, for example, which are non-standard. However, as stated above, non-prescribed plates should not be used with regulatory signs and should be avoided with warning signs.

2.3.5.5 It is acceptable, and sometimes unavoidable, to use more than one supplementary plate with a sign. It should be recognized, however, that with more than one supplementary plate, great care is required to ensure that the intended meaning is clear and that the motorist is not given confusing or even misleading information. This is particularly so for regulatory signs.

2.3.5.6 In order to standardize the use of multiple plates, the following principles should be adhered to :

(i) A supplementary plate can only qualify the main sign and does not qualify other supplementary plates in the sign assembly.

(ii) The number of plates used should preferably be limited to not more than two and ideally not more than one, in addition to directional arrows (T.S. 733 - 735).

(iii) The mounting position of the plates, in descending order, should be as follows :
top - plate showing type, class or description of vehicle to which the main sign applies, e.g. “Franchised bus”, “Over 3 tonnes” etc.
next - plate indicating the time during which the main sign applies' e.g. “7 a.m.- 7 p.m.”, “General Holidays” etc.
next - plate indicating exemptions, e.g. “Except with permit”, “Except N.T. taxis” etc.
next - direction arrows
bottom - plates giving additional information e.g. “One way”, “For 1 km”, “Dual carriageway” etc.

2.3.5.7 Another reason for restricting the number of supplementary plates on a sign assembly is the small “x” height generally used on supplementary plates (see 2.3.5.10). With too many plates assembly, it is impossible for the motorist to absorb all the necessary information in the limited time available.

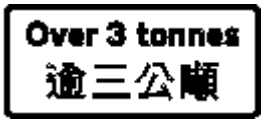
2.3.5.8 As supplementary plates are used to qualify the main traffic sign, they should be treated as being part of the main sign and therefore always orientated in the same plane as that sign.

2.3.5.9 Supplementary plates are always placed beneath the main sign to which they refer, with the gaps between the main sign and the plate being in accordance with paragraphs 2.2.3.11 and 2.2.3.12. Where more than one supplementary plate is used the gap between adjacent plates should be in accordance with that given in paragraph 2.2.3.11.

2.3.5.10 Owing to the bi-lingual nature of supplementary plates, it is often necessary to adopt a smaller “x” height than for other signs to avoid excessively large plates. Appropriate sizes of supplementary plates are given in Table 2.2.2.1 and the CT 174/51 series drawings. Where a choice of sizes is given, the larger should be used whenever possible.

2.3.5.11 Supplementary plate T.S. 701 "Over 3 tonnes" may be used to qualify the following traffic signs :

(i)	traffic sign 106	"Ahead only"
(ii)	traffic sign 107	"Turn left"
(iii)	traffic sign 108	"Turn right"
(iv)	traffic sign 111	"Turn left ahead"
(v)	traffic sign 112	"Turn right ahead"
(vi)	traffic sign 120	"Goods vehicles prohibited"
(vii)	traffic sign 131	"No left turn"
(viii)	traffic sign 132	"No right turn"



T.S. 701
(T.C. 401)

2.3.5.12 Traffic sign 701 or similar when used with traffic sign 120 or traffic sign 131 or 132, signifies that goods vehicles with a gross vehicle weight in excess of that indicated are prohibited from passing the sign or making such left or right turn movement. When traffic sign 701 is used in conjunction with T.S. 106, T.S. 107, T.S. 108, T.S. 111 or T.S. 112, goods vehicles with a gross vehicle weight in excess of that indicated must proceed or turn in the direction indicated by the signs. It should perhaps be clarified that the "gross vehicle weight" referred to is not the "maximum gross vehicle weight" which is plated on the side of a goods vehicle, but is the actual weight of the vehicle, including any load at the time it passes the sign. For example a goods vehicle with a "maximum gross vehicle weight" of 5.5 tonnes could if it was empty, pass traffic sign 120 qualified by traffic sign 701 "Over 3 tonnes", and not commit an offence. For this reason, weight limits can be difficult to enforce and length limits, for example, are preferred where the choice exists.

2.3.5.13 Whilst traffic sign 701 can be varied to suit any gross vehicle weight, for ease of enforcement, it is recommended that as far as possible only the following variations be used :

(i)	traffic sign 702	"Over 5.5 tonnes"
(ii)	traffic sign 703	"Over 10 tonnes"
(iii)	traffic sign 704	"Over 12 tonnes"

2.3.5.14 Traffic sign 707, "One way", provides the supplementary information that the section of a road into which a vehicle will enter is a one-way street. The sign should not however be used if the road forms a part of a dual carriageway road as traffic sign 736 "Dual carriageway" is the appropriate supplementary plate for these situations.



T.S. 707
(T.C. 402)

2.3.5.15 Traffic sign 707, may be used with the following traffic signs :

(i)	traffic sign 106	"Ahead only"
(ii)	traffic sign 107	"Turn left"
(iii)	traffic sign 108	"Turn right"
(iv)	traffic sign 111	"Turn left ahead"
(v)	traffic sign 112	"Turn right ahead"

2.3.5.16 Traffic sign 708 "Except franchised buses", indicates the exception of franchised buses to the particular restriction referred to on the main sign.



T.S. 708
(T.C. 403)

2.3.5.17 Traffic sign 708 may be used in conjunction with the following signs :

(i)	traffic sign 106	"Ahead only"
(ii)	traffic sign 107	"Turn left"
(iii)	traffic sign 108	"Turn right"
(iv)	traffic sign 109	"Keep Left"
(v)	traffic sign 110	"Keep Right"
(vi)	traffic sign 111	"Turn left ahead"
(vii)	traffic sign 112	"Turn right ahead"
(viii)	traffic sign 116	"All vehicles prohibited in both directions"
(ix)	traffic sign 117	"All motor vehicles prohibited"
(x)	traffic sign 118	"Buses Prohibited"
(xi)	traffic sign 131	"No Left Turn"
(xii)	traffic sign 132	"No Right Turn"
(xiii)	traffic sign 147 – 149	"Length Limit"
(xiv)	traffic sign 151 – 159	"Height Limit"
(xv)	traffic sign 161 – 166	"Weight Limit"
(xvi)	traffic sign 168 - 170	"Axle Weight Limit"

2.3.5.18 Traffic sign 708 “Except franchised buses” is not required to be used with traffic signs 183, indicating “no stopping” as the description to these signs already includes an exemption to permit franchised buses to stop at designated bus stops.

2.3.5.19 The wording on traffic sign 708, may be varied to suit any particular type or class of vehicle and commonly used variations are :

(i)	traffic sign 709	"Except Public Light Buses"
(ii)	traffic sign 710	"Except Taxis"
(iii)	traffic sign 731	"Except Cycles"

2.3.5.20 “Except N.T. Taxis” traffic sign 713 is a prescribed supplementary plate under the Road Traffic (Public Service Vehicle) Regulations, and is used in a different context to those described above. Further information regarding the use of this plate is given in paragraph 2.5.2.9.

2.3.5.21 The “Except for access” supplementary plate, traffic sign 711, provides a relaxation to certain restrictions by permitting vehicles that would normally be prohibited, to enter the road in order gain access to premises.



T.S. 711
(T.C. 404)

2.3.5.22 Traffic sign 711 may be used in conjunction with the following signs :

(i)	traffic sign 116	"All vehicles prohibited in both directions"
(ii)	traffic sign 117	"All motor vehicles prohibited"
(iii)	traffic sign 120	"Goods vehicles prohibited"
(iv)	traffic signs 141 - 144	"No Left Turn"
(v)	traffic signs 145 - 150 & 160	"Length Limit"
(vi)	traffic signs 151 - 159	"Height Limit"
(vii)	traffic sign 161 – 166	"Weight Limit"
(viii)	traffic sign 168 - 170	"Axle Weight Limit"

2.3.5.23 It is recommended that other means, particularly the use of a more specific sign be first investigated before installing T.S. 711 as it can be difficult and time consuming to enforce. In this respect it is not always obvious whether a vehicle requires access or not and therefore either they have to be stopped and checked or followed through. There is also the problem that the term "access" can cover a wide range of meanings and unnecessary disputes can arise as a result of this. Prior consultation with the Police is particularly important before implementation of this particular sign.



T.S. 712
(T.C. 405)

2.3.5.24 Traffic sign 712 may be used as a supplementary plate to the following traffic signs :

(i)	traffic sign 116	"All vehicles prohibited in both directions"
(ii)	traffic sign 117	"All motor vehicles prohibited"
(iii)	traffic sign 118	"Buses Prohibited"
(iv)	traffic sign 119	"Public Light Buses Prohibited"
(v)	traffic sign 120	"Goods Vehicles Prohibited"
(vi)	traffic sign 141 – 145	"Width Limit"
(vii)	traffic sign 147 – 149	"Length Limit"
(viii)	traffic sign 151 - 159	"Height Limit"
(ix)	traffic sign 161 – 166	"Weight Limit"
(x)	traffic sign 168 - 170	"Axle Weight Limit"
(xi)	traffic sign 220	"Road Closed"

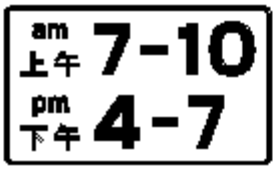
2.3.5.25 However, the use of traffic sign 712 is not absolutely necessary as a vehicle with a valid prohibited zone permit issued in accordance with the Road Traffic (Registration and Licensing of Vehicles) Regulations is exempted from the prohibition. To reduce the number of traffic signs or supplementary plates on the roads, traffic sign 712 is now normally not used, except under the special circumstance in qualifying traffic sign 116 “All vehicles prohibited in both directions” at locations where other qualifying supplementary plates are not appropriate.

2.3.5.26 “Except with permit” sign may also accompany no parking signs on private roads (see section 2.4.3).

2.3.5.27 Traffic signs 3706 and 3707 are variations of traffic sign 714 “Time plate”. They are used to indicate the period or periods during which the prohibition or restriction of the main sign applies. Whilst any period of the day or days of the week can be used, it is helpful for enforcement and for driver recognition if similar times can be used at least for signs of the same type, as has been established for "No Stopping Zone" applying to all vehicles. Wherever possible, time periods should start and finish on the hour and the use of half-hour or quarter-hour times should be avoided. For new installations, TS. 3706 and 3707 should be used instead of T.S. 714 for time designations in larger print and clearer.



T.S. 714
(T.C. 406)



T.S. 3706
(T.C. 431)



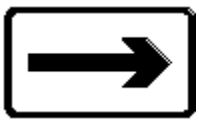
T.S. 3707
(T.C. 431)

2.3.5.28 Signs with which time plates may be used are :

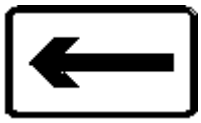
(i)	traffic sign 106	"Ahead only"
(ii)	traffic sign 107	"Turn left"
(iii)	traffic sign 108	"Turn right"
(iv)	traffic sign 111	"Turn left ahead"
(v)	traffic sign 112	"Turn right ahead"
(vi)	traffic sign 116	"All vehicles prohibited in both directions"
(vii)	traffic sign 117	"All motor vehicles prohibited"
(viii)	traffic sign 118	"Buses Prohibited"
(ix)	traffic sign 119	"Public Light Buses Prohibited"
(x)	traffic sign 120	"Goods Vehicles Prohibited"
(xi)	traffic sign 121 – 128	"Bus only lanes"
(xii)	traffic sign 130	"Learner Driver prohibited"
(xiii)	traffic sign 131	"No Left Turn"
(xiv)	traffic sign 132	"No Right Turn"
(xv)	traffic sign 138	"Silent Zone"
(xvi)	traffic sign 161 – 166	"Weight Limit"
(xvii)	traffic sign 168 - 170	"Axle Weight Limit"
(xviii)	traffic sign 183	"No Stopping"
(xix)	traffic sign 470 and 471	"Advance Warning of bus lane"
(xx)	traffic sign 838	"Except General Holidays"

2.3.5.29 Although time plates may be used with a large number of different signs, care should be exercised in this matter. Whilst time plates may offer flexibility as to when a prohibition or restriction is imposed, some of the advantage may be lost if motorists are confused and treat the prohibition or restriction as if it applied at all times. A different type of time plate may be used with “parking” and “no parking” signs and details may be found in Section 2.4.2.

2.3.5.30 The most common use of Traffic sign 733, "Arrow plate" and the variation to this, traffic sign 734, is with traffic sign 183 "No Stopping" when the latter is erected parallel to the kerb to indicate the limits of the stopping restriction. The supplementary plate, traffic sign 767, "End" should not be used in these situations. See 2.4.2 in respect of the use of arrow plates with "parking" signs and "no parking" signs. As new “No Stopping” signs are erecting facing on-coming traffic, arrow plate is not necessary to be used.



T.S. 733
(T.C. 407)



T.S. 734
(T.C. 407)

2.3.5.31 Traffic sign 733/734 may also be used with prohibitory and speed limit signs to indicate the road to which the main sign applies. The use of supplementary plates 733/734 will not normally be necessary with prohibitory/speed limit signs as the signs are erected on both sides of the carriageway to which they apply. However, where two carriageways are running parallel, as is the case where a ground level road continues alongside a flyover, for example, the arrow plates can serve to remove any ambiguity. The signs, of this type with which supplementary plates 733/734 may be used are :

(i)	traffic sign 116	"All vehicles prohibited in both directions"
(ii)	traffic sign 117	"All motor vehicles prohibited"
(iii)	traffic sign 118	"Buses Prohibited"
(iv)	traffic sign 119	"Public Light Buses Prohibited"
(v)	traffic sign 120	"Goods Vehicles Prohibited"
(vi)	traffic sign 130	"Learner Driver prohibited"
(vii)	traffic sign 134	"No pedestrians"
(viii)	traffic sign 135	"Rickshaws and Pedestrian Controlled Vehicles Prohibited"
(ix)	traffic sign 136	"No pedestrians, no cyclists"
(x)	traffic sign 137	"No cyclists"
(xi)	traffic sign 141	"Width limit"
(xii)	traffic sign 147	"Length limit"
(xiii)	traffic sign 155	"Height limit"
(xiv)	traffic sign 161	"Weight limit"
(xv)	traffic sign 168	"Axle weight limit"
(xvi)	traffic sign 173	"Speed limit"

2.3.5.32 Traffic sign 735 "Double Arrow plate" may be used with traffic sign 183 "No Stopping" as an intermediate sign to indicate that the restriction applies in both directions. However in many situations, the use of the 300 mm diameter sign for traffic sign 183, together with appropriate yellow line markings, should be sufficient indication of where the restriction applies and in these situations traffic sign 735 is unnecessary.



T.S. 735
(T.C. 408)

2.3.5.33 See also section 2.4.2 in respect of the use of traffic sign 735 with “parking” signs and “no parking” signs.

2.3.5.34 Traffic sign 736 "Dual carriageway" is used to supplement other signs providing information that the road being entered is a dual carriageway road.



T.S. 736
(T.C. 409)

2.3.5.35 Traffic sign 736 may be used with the following signs :

(i)	traffic sign 101	"Stop"
(ii)	traffic sign 102	"Give Way"
(iii)	traffic sign 109/110	"Keep Left/Keep Right"
(iv)	traffic sign 107/108	"Turn Left/Right"
(v)	traffic sign 111/112	"Turn Left/Right Ahead"

2.3.5.36 Traffic sign 736 should always be used with traffic sign 101 or traffic sign 102 when the road to be entered forms one carriageway of a free flowing rural type dual carriageway road.

2.3.5.37 With regard to traffic sign 111, “Turn Left Ahead”’ and traffic sign 112, “Turn Right Ahead”, the “Dual carriageway” plate, traffic sign 736 may be used but is not necessary if there is a “Stop” or “Give Way” sign with this plate at the junction.

2.3.5.38 Traffic sign 737, "REDUCE SPEED NOW", is a supplementary plate and therefore must not be used alone but always in conjunction with a warning sign, to give emphasis to motorists that they should reduce their speed.



T.S. 737
(T.C. 410)

Traffic sign 737 "REDUCE SPEED NOW" signs may be used together with transverse yellow bar markings at the deceleration lane of expressways or trunk roads where there is a reduction in speed limit. They are used to alert motorists to reduce speed when they leave the mainline. If the speed limit of the slip road, exiting from expressways and other major roads of 70 km/h or above, and with grade separated interchanges and proper deceleration lanes, is lowered within 400m from the tip of chevron marking, 10 No. of transverse yellow bar markings of 600mm wide with 5m gap should be provided at the diverge lane of roads as shown in Diagram 2.3.5.1. Provision of these bar markings should be in accordance to the following:

(i) For direct diverge, the first bar marking should be provided where the lane width is at least 2.5m as shown in Diagram 2.3.5.1(i); and for short diverging lane, bar marking should be provided in accordance with Diagram 2.3.5.1(ii);

(ii) Traffic sign 737 "REDUCE SPEED NOW" should be provided at the start of the bar marking.

(iii) As for other slip roads where the lowering of speed limit is beyond 400m from tip of chevron marking, transverse bar marking is not required, as it is similar to the situation of a main carriageway, and traffic signs 570 and 769 should be adequate as shown in Diagram 2.3.5.1(v).

2.3.5.39 Appropriate warning signs with which traffic sign 737 may be used are :

(i) traffic sign 406 "End of dual carriageway"

(ii) traffic sign 410 – 413 "Bend"

(iii) traffic sign 415 – 417 "Road Narrows Ahead"

(iv) traffic sign 425 "Roundabout Ahead"

2.3.5.40 It should be emphasized that traffic sign 737 is not necessary at every situation where one of the signs in paragraph 2.3.5.39 is used. In fact overuse of the sign in situations where such a warning is not necessary will only devalue the sign with the possible detrimental consequence of non-observance at locations where observance is really required. Further advice on the appropriate use of traffic sign 737 is given in the following paragraphs :

(i) traffic sign 406, - paragraph 2.3.3.14

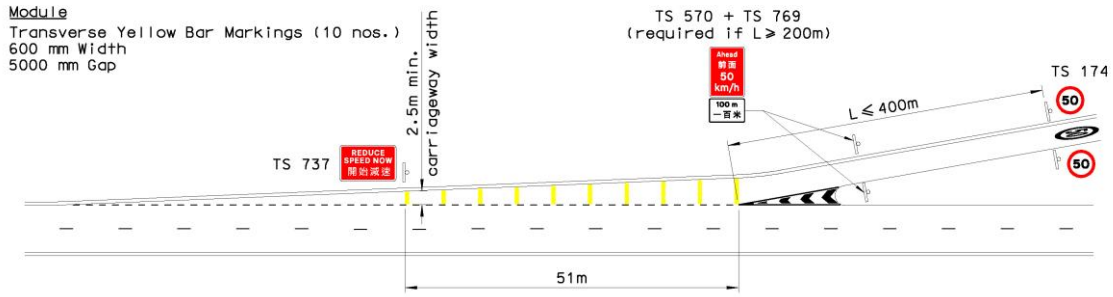
(ii) traffic signs 410 - 413, - paragraph 2.3.3.19

(iii) traffic signs 415 - 417, - paragraph 2.3.3.27

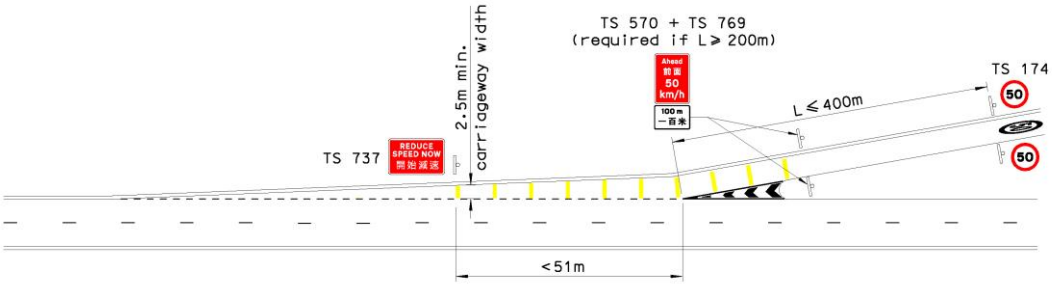
(iv) traffic sign 425, - paragraph 2.3.3.29

DIAGRAM 2.3.5.1 : PROPOSED WARNING SIGN AND MARKINGS TO ALERT MOTORISTS TO REDUCE SPEED AT SLIP ROADS

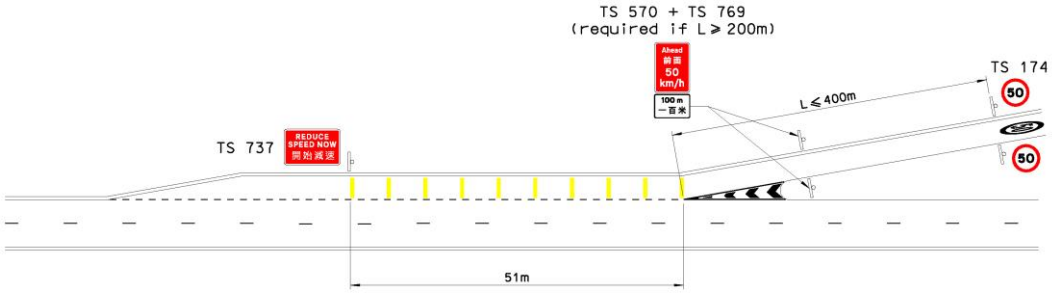
(i) NORMAL ARRANGEMENT



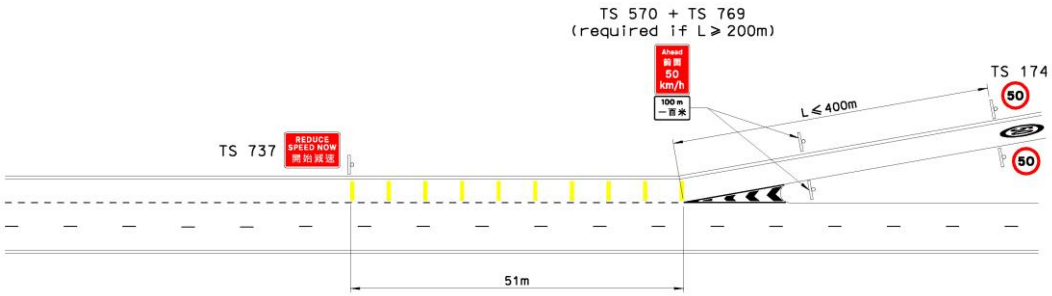
(ii) ALTERNATIVE ARRANGEMENT WITH SHORT TAPER LENGTH



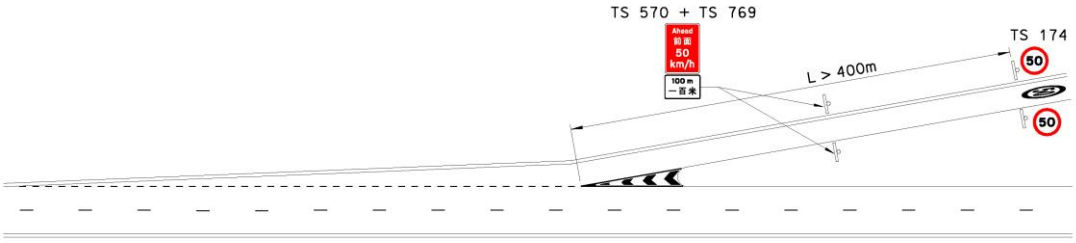
(iii) PARALLEL DIVERGING LANE



(iv) DIVERGING LANE - LANE DROP ARRANGEMENT



(v) SPEED LIMIT CHANGE For L > 400m (SIMILAR FOR LANE DROP ARRANGEMENT)



2.3.5.41 Traffic sign 738, “Single file traffic” will normally be used at roadworks, in conjunction with traffic signs 415-417, “Road Narrows”. The Code of Practice for Lighting, Signing and Guarding of Roadworks gives further information on the use of this sign. For roads with a permanent width of less than 4.5 m traffic sign 415, “Road narrows on both sides”, will be appropriate, or alternatively if passing places are provided, traffic sign 604, “Single track road with passing places”, should be used.



T.S. 738
(T.C. 411)

2.3.5.42 Traffic sign 740 “School” is a supplementary plate for use with the traffic sign, 463, “Children” to warn motorists of a school ahead and the possible presence of children crossing or near the road.



T.S. 740
(T.C. 412)

2.3.5.43 Traffic sign 741 “Playground”, may be used with traffic sign 463, “Children” to warn motorists of a playground situated near the road ahead and the possibility therefore that there may be children crossing or playing near the road.



T.S. 741
(T.C. 413)

2.3.5.44 Traffic sign 490 "Other Danger Ahead", is a warning used for situations where there is no specific warning sign to describe the hazard and is normally only appropriate in temporary signing situations. Appropriate supplementary plates that may be used to further qualify the sign are traffic signs 743-750.



T.S. 743
(T.C. 414)



T.S. 744
(T.C. 414)



T.S. 745
(T.C. 414)



T.S. 746
(T.C. 414)



T.S. 747
(T.C. 414)



T.S. 748
(T.C. 414)



T.S. 749
(T.C. 414)



T.S. 750
(T.C. 414)

2.3.5.45 Traffic sign 746 “Blasting” and traffic sign 749 “Surveying” may also be used with traffic sign 491, “Roadworks Ahead”. In this respect when the work is being carried out on or very near the carriageway traffic sign 491 should be used, but when the work is carried out away from the carriageway, traffic sign 490 “Other Danger Ahead”, is appropriate.

2.3.5.46 To provide for information as to the nature of the roadworks, traffic sign 491 may be used in conjunction with the supplementary plates shown in traffic signs 746, 749 and 752 - 757.



T.S. 752
(T.C. 415)



T.S. 753
(T.C. 415)



T.S. 754
(T.C. 415)



T.S. 755
(T.C. 415)



T.S. 756
(T.C. 415)



T.S. 757
(T.C. 415)

2.3.5.47 Traffic sign 758, "Works access", although not prescribed, may be used with traffic sign 421, "side road to right ahead", or traffic sign 422, "side road to left ahead", to indicate that the side road ahead, is an access used by construction vehicles to and from a works area.



T.S. 758
(NOT PPESCPIBED)

2.3.5.48 Traffic sign 767 "End" is used to show the end of a prohibition, restriction, or a hazard, indicated by the sign it supplements.



T.S. 767
(T.C. 417)

2.3.5.49 Traffic sign 767 is not appropriate for use with traffic sign 183, as with this sign, the arrow supplementary plate, traffic sign 734 is recommended. Traffic sign 767 may however be appropriate for use with the following signs:

(i)	traffic sign 114,	"Pedestrian Priority Zone"
(ii)	traffic sign 130,	"Learner Drivers Prohibited"
(iii)	traffic sign 133,	"No 'U' turn"
(iv)	traffic sign 134,	"Pedestrians prohibited"
(v)	traffic sign 135,	"Rickshaws and pedestrian controlled vehicles prohibited"
(vi)	traffic sign 136,	"No pedestrians, No cyclists"
(vii)	traffic sign 137,	"No cyclists"
(viii)	traffic sign 138,	"Silent zone"
(ix)	traffic sign 139,	"No overtaking"
(x)	traffic sign 179/180,	"Footway & Cycleway"
(xi)	traffic sign 181,	"Cycles Only"
(xii)	traffic sign 376,	"Goods Vehicles Keep to Nearside Lane"
(xiii)	traffic sign 434,	"Uneven Road Surface"
(xiv)	traffic sign 487,	"Falling Rock"
(xv)	traffic sign 488,	"Loose chippings"
(xvi)	traffic sign 489,	"Slippery road"
(xvii)	traffic sign 490,	"Other danger ahead"
(xviii)	traffic sign 491,	"Road works"
(xix)	traffic sign 492 – 500,	"Lane closures"

2.3.5.50 Use of traffic sign 767, is not necessary on all occasions when the signs mentioned in paragraph 2.3.5.49 are used. Its use will be based on how much advantage motorists gain by being informed that a particular restriction or hazard has ended, weighed against erecting an additional sign in an area which may already have considerable signing.

2.3.5.51 “End plates” are appropriate with “learner drivers prohibited” signs to inform the instructor as to the location when he can hand over the controls to the learner. “End plates” are also appropriate with pedestrian and cycle prohibitions in order to alert drivers of mechanical vehicles to expect the presence again of these vulnerable but not very visible road users. “End plates” are not appropriate with other vehicle prohibitions.

2.3.5.52 Traffic sign 772 and traffic sign 780, are examples of plates used to indicate the distance to a particular hazard, and should not be confused with traffic sign 784 which indicates the length over which a hazard or restriction extends.



T.S. 772
(T.C. 418)



T.S. 780
(T.C. 419)

2.3.5.53 Any distance can be used for the plates but normally this should be expressed in 100 m or km increments.

2.3.5.54 Traffic sign 772, or any variation thereof, may be used with :

(i)	traffic sign 402 and 403,	"Traffic merging ahead"
(ii)	traffic sign 404 and 405,	"Merging into traffic ahead"
(iii)	traffic sign 406,	"End of dual carriageway"
(iv)	traffic sign 409,	"Traffic signals ahead"
(v)	traffic sign 415 - 417,	"Road narrows ahead"
(vi)	traffic sign 418 - 424,	"Road junction ahead"
(vii)	traffic sign 425,	"Roundabout ahead"
(viii)	traffic sign 434,	"Uneven road surface"
(ix)	traffic sign 444,	"Height restriction ahead"
(x)	traffic sign 461,	"Pedestrian crossing ahead"
(xi)	traffic sign 462,	"Disabled persons ahead"
(xii)	traffic sign 466,	"Level crossing with barrier ahead"
(xiii)	traffic sign 467,	"Overhead cable"
(xiv)	traffic sign 469,	"Quayside or riverbank ahead"
(xv)	traffic sign 470,	"Advance warning of bus lane"
(xvi)	traffic sign 490,	"Other danger ahead"
(xvii)	traffic sign 491,	"Road works ahead"
(xviii)	traffic sign 492 - 500,	"Lane closures ahead"
(xix)	traffic sign 501 and 502,	"Diversion to another carriageway"
(xx)	traffic sign 524,	"Vehicles of the North West Railway or Trams Ahead"
(xxi)	traffic sign 2711,	"Slow Bus Stop Ahead"

2.3.5.55 Traffic sign 780, or any variation thereof may be used with :

(i)	traffic sign 415 - 417,	"Road narrows ahead"
(ii)	traffic sign 444,	"Height Restriction"
(iii)	traffic sign 491,	"Road works ahead"
(iv)	traffic sign 492 - 500,	"Lane closures ahead"
(v)	traffic sign 501 and 502,	"Diversion to another carriageway"

2.3.5.56 It is not necessary that traffic sign 772 or any variation of it should be used at all times with signs mentioned in paragraph 2.3.5.54. Generally these distance plates will only be appropriate when visibility to the hazard is restricted and the warning signs cannot be located in accordance with the distances given in Table 2.2.2.1, or on roads with relatively high speed limit or design speed where an advance warning or warning by repeating signs, is necessary. The Code of Practice for Lighting, Signing and Guarding of Roadworks gives advice on the use of distance plates in respect of road works and should be referred to if information on this type of signing is required.

2.3.5.57 Traffic sign 784, “For 1 km”, is a supplementary plate used to indicate the length over which a restriction or hazard extends.



T.S. 784
(T.C. 420)

2.3.5.58 The numerals on traffic sign 784 may be varied to suit any distance. Normally distances of less than 1 km would not be appropriate and therefore should be avoided other than in exceptional circumstances. However, in situations where lengths less than 1 km are required, the distances should be expressed in metres. For lengths in excess of 1 km, part kilometres should be avoided wherever possible, but if this would make the distance plates too unrepresentative, ½ km intervals may be used, e.g. 1½ km, 2½ km.

2.3.5.59 Traffic sign 784, or any variant of it may be used with the following traffic signs : -

(i)	traffic sign 133,	"No U-turn"
(ii)	traffic sign 138,	"Silence zone"
(iii)	traffic sign 139,	"No overtaking"
(iv)	traffic sign 183,	"No stopping"
(v)	traffic sign 415 - 417,	"Road narrows ahead"
(vi)	traffic sign 428 - 432,	"Steep gradients"
(vii)	traffic sign 464,	"Horses"
(viii)	traffic sign 465,	"Cattle"
(ix)	traffic sign 485,	"Road narrows ahead"
(x)	traffic sign 487,	"Rock fall"
(xi)	traffic sign 488,	"Loose chippings"
(xii)	traffic sign 489,	"Slippery road"
(xiii)	traffic sign 491,	"Road works"
(xiv)	traffic sign 492 - 500,	"Lane closure"

2.3.5.60 Traffic sign 797 “STOP 100m” and traffic sign 798 “GIVE WAY 50m” may only be used with traffic sign 401 “Stop or Give Way Ahead”, to indicate the distance to the actual “STOP” or “GIVE WAY” signs.



T.S. 797
(T.C. 421)



T.S. 798
(T.C. 422)

2.3.5.61 Advice as to when traffic sign 797 or 798, or any variation, may be used in conjunction with traffic sign 401, is given in paragraphs 2.3.3.8 and 2.3.3.9.

2.3.5.62 The distance on traffic sign 797 and traffic sign 798 may be varied to suit particular circumstances, but when used in advance of traffic sign 101 “STOP”, a distance of less than 100 m, or when used in advance of traffic sign 102 “GIVE WAY”, a distance of less than 50 m, would not be appropriate.

2.3.5.63 Traffic sign 800 “Low gear for 1 km”, 806, “Low gear now” and 807, “Keep in Low gear”, are used to supplement traffic sign 428, “Steep gradient downhill”.



T.S. 800
(T.C. 423)



T.S. 806
(T.C. 424)



T.S. 807
(T.C. 425)

2.3.5.64 Advice as to the appropriate use of traffic sign 800, (or any variant), 806 and 807 is given in paragraph 2.3.3.30.

2.3.5.65 The numerals on traffic sign 800 may be amended to suit the particular circumstances. Lengths greater than 1 km may be expressed in 1/2 km intervals. For lengths less than 1 km, the distance should be expressed in metres, but as mentioned in paragraph 2.3.3.30, the sign is not appropriate if the distance is less than 800 m.

2.3.5.66 Traffic sign 810 should only be used with traffic sign 467, “Overhead Cable” to indicate the minimum headroom beneath an overhead cable, where the clearance is less than 6 m.



T.S. 810
(T.C. 426)

2.3.5.67 The safe height indicated on the sign may be varied to suit particular circumstances, and should be 0.1 m less than the lowest hot weather height of the cable above the road surface. The safe height indicated should never be permitted to be less than 5.1 m above the road surface.

2.3.5.68 Traffic sign 814, “Goods vehicles” may be used as a supplementary plate with the following traffic signs :

(i)	traffic sign 106	"Ahead only"
(ii)	traffic sign 107	"Turn left"
(iii)	traffic sign 108	"Turn right"
(iv)	traffic sign 111	"Turn left ahead"
(v)	traffic sign 112	"Turn right ahead"
(vi)	traffic sign 116	"All vehicles prohibited in both directions"
(vii)	traffic sign 131	"No Left Turn"
(viii)	traffic sign 132	"No Right Turn"



T.S. 814
(T.C. 427)

2.3.5.69 The description to the sign in the Road Traffic (Traffic Control) Regulations states that “the wording may be varied to specify any motor vehicle or any specified class or description of motor vehicles”, which allows a wide range of variants to this sign. However, care should be exercised in imposing stopping restrictions which only affect one vehicle type, as normally if a stopping restriction is required it should apply to all vehicles except franchised buses.

2.3.5.70 Alternatives to traffic sign 814 which are already in use are traffic sign 818 “NT taxis”, and traffic sign 819 “Taxis”.

2.3.5.71 In respect of other variations to traffic sign 814, different “classes of vehicles” are given in the First Schedule to the Road Traffic Ordinance, and of these the following might be appropriate in particular circumstances as alternatives, though it is cautioned that such restrictions should not be imposed without consultation, particularly with the police :-

(i) Private car

(ii) Private light bus

(iii) Light goods vehicles

(iv) Medium goods vehicles

(v) Heavy goods vehicles

(vi) Private bus

2.3.5.72 With regard to the variations encompassed under their meaning of “descriptions” of a vehicle, examples would include “vehicles exceeding 10 m in length”, “goods vehicles exceeding 5.5 tonnes” etc.

2.3.5.73 Traffic sign 805, “Unaccompanied children permitted” may be used with traffic sign 137 “Footway/Cycleway” and traffic sign 138 “Cycles Only” to indicate that children under 11 years of age are permitted to ride bicycles or tricycles unaccompanied by adults. Without this plate, children under 11 years of age are prohibited from cycling, unless accompanied by an adult.



T.S. 805
(T.C. 428)

2.3.5.74 Traffic sign 838 “Except General Holidays” indicates that during general holidays including every sundays the particular prohibition or restriction referred to on the main sign does not apply. To reduce the size of the sign, traffic sign 897 “Except Sundays and Public Holidays” is replaced by traffic sign 838, which may be used with : -

(i)	traffic sign 116	"All vehicles prohibited in both directions"
(ii)	traffic sign 117	"All motor vehicles prohibited"
(iii)	traffic sign 118	"Buses Prohibited"
(iv)	traffic sign 119	"Public Light Buses Prohibited"
(v)	traffic sign 120	"Goods Vehicles Prohibited"
(vi)	traffic sign 121 – 128	"Bus only lanes"
(vii)	traffic sign 130	"Learner Driver prohibited"
(viii)	traffic sign 131	"No Left Turn"
(ix)	traffic sign 132	"No Right Turn"
(x)	traffic sign 138	"Silent Zone"
(xi)	traffic sign 161 – 166 and 178	"Weight Limit"
(xii)	traffic sign 168 - 170	"Axle Weight Limit"
(xiii)	traffic sign 183	"No Stopping"
(xiv)	traffic sign 470 and 471	"Advance Warning of bus lane"



T.S. 897
(T.C. 429)
(replaced by T.S. 838)



T.S. 838
(T.C. 429)

2.3.5.75 Traffic signs 860 “Except taxi pick up or drop off” and 898 “Except taxi drop off” may be used with “No stopping restriction” traffic signs 183, 2131, 2133, 2137 and 2230 to indicate the exception of taxis to the no stopping restriction for setting down passengers and their belongings only. Prior consultation with the Police and the taxi trades is required on the proposed locations of the sign. The word “taxi” may be omitted or varied to “Lantau taxis”, “NT taxis” and “Urban taxis”, or to specify any type , class or description of motor vehicles excepted. The words “drop off” may be varied to “pick up”, “pick up or drop off”, “loading”, “unloading” or “loading or unloading” to indicate the exception of the no stopping restriction. However, for the implementation of the above variations, policy support is necessary.



T.S. 860
(T.C. 430)



T.S. 898
(T.C. 430)

2.3.5.76 Traffic sign 831 “Vehicle length” may be used to qualify the following traffic signs :

(i)	traffic sign 106	"Ahead only"
(ii)	traffic sign 107	"Turn left"
(iii)	traffic sign 108	"Turn right"
(iv)	traffic sign 111	"Turn left ahead"
(v)	traffic sign 112	"Turn right ahead"
(vi)	traffic sign 116	"All vehicles prohibited in both directions"
(vii)	traffic sign 131	"No Left Turn"
(viii)	traffic sign 132	"No Right Turn"

Traffic sign 831 “Vehicle length” when used with the above signs indicates that all motor vehicles with a length exceeding that indicated must proceed or turn or are prohibited as indicated by the signs.



T.S. 831
(T.C. 432)

2.4 Parking Regulations

2.4.1 General

2.4.1.1 Section 2.4 of this Chapter describes the meaning and usage of those prescribed signs relating to parking. Parking signs are either regulatory signs or supplementary plates, there are no warning or informatory signs. It is essential therefore that only prescribed signs are used; as non-prescribed signs cannot have a regulatory meaning.

2.4.1.2 The main legislation concerning parking is contained in the Road Traffic (Parking) Regulations. Section 2.4.2 describes the relevant details of this legislation and also the meaning and use of each of the signs prescribed therein.

2.4.1.3 The Road Traffic (Parking on Private Roads) Regulations utilises most of the same signs. There are certain important distinctions concerning the rules for parking on “private” and “public” roads, however, and these are described in Section 2.4.3.

2.4.1.4 The Housing (Traffic) By Laws are also largely concerned with the control of parking and these regulations are discussed in Section 2.4.4.

2.4.2 Road Traffic (Parking) Regulations

2.4.2.1 The signs described in the following paragraphs are all included in Schedule 1 of the Road Traffic (Parking) Regulations and apply to all vehicles. With respect to motor vehicles however, many of the general restrictions on parking are legislated through the Fixed Penalty (Traffic Contraventions) Ordinance and not the Road Traffic (Parking) Regulations.

2.4.2.2 In respect of parking restrictions it is relevant to note that Regulation 4(1) of the Road Traffic (Parking) Regulations, and Regulation 7(1) of the Fixed Penalty (Traffic Contraventions) Ordinance, specifically prohibit parking on any road, where there is a system of street lighting consisting of lamps not more than 200 m apart, unless there are designated parking places. This in effect means that in most areas it is not necessary to erect "No Parking" signs as the lighting system automatically prevents parking other than at designated parking places. "No parking" signs may be erected in such areas in exceptional circumstances, where greater emphasis is required. Their use can however lead to a misconception on the part of the motorist, that parking is permitted on those roads without the sign. Generally, therefore the sign should not be used on lit roads. Where a system of street lighting as described above is not present it will of course be necessary to erect signs or markings or both if parking is not to be permitted.

2.4.2.3 Further to the Regulations mentioned in paragraph 2.4.2.2 Regulation 4(4) of the Road Traffic (Parking) Regulations and Regulation 7(2) of the Fixed Penalty (Traffic Contraventions) Ordinance prohibit the parking of vehicles : -

(i) on a pavement, pedestrian way, central reservation, verge, hard shoulder or traffic island;

(ii) so as to obstruct vehicular access to or from premises adjacent to the carriageway;

(iii) so as to obstruct access to a fire hydrant from the carriageway.

In all cases "No parking" signs are not required and generally should not be provided. With regard to (ii), if the access occurs along a street where parking bays are marked out, then the access should be marked with the yellow hatched markings to road marking 1043(see Chapter 5). This marking will

allow the parking area to be continued without the necessity of erecting further signs to terminate and restart the parking area on each side of the access. In respect of (iii) care should be taken to ensure the designated parking places are not inadvertently located so that the hydrant is obstructed. It is recommended that parking is not permitted within at least 5 m of the hydrant, and preferably a 20 m length should be available for a fire appliance to stop adjacent to the hydrant.

2.4.2.4 Parking signs are erected parallel to the carriageway, so that the normal visibility requirements for signs do not apply. However, care should be taken to ensure that any sign is not obscured by a canopy or similar, and that it is correctly orientated so that there is no confusion as to which section of street it applies.

2.4.2.5 Previously, parking and parking restriction signs were not manufactured with reflective material, as their positioning, parallel to the carriageway, does not allow the light to be reflected back to the motorists. However, it is now considered that the better durability of reflective material as compared with stove enamel is sufficient reason to justify its use. All new signs should therefore be manufactured using reflective material (see also paragraph 1.3.1.7 of Chapter 1).

2.4.2.6 Parking spaces are essentially designated using carriageway markings 1051 to 1066 as described in Chapter 5. 1051 is used exclusively for motorcycles while 1052 to 1066 are variations of the same markings, but enclosing different areas to suit different vehicle dimensions. Parking spaces, designated using the marking alone are available to all vehicle types. It is more normal however, to designate the space for use of a particular type or types of vehicle. To do so, the markings must be accompanied by the appropriate traffic signs T.S. 280 to 284. It should be appreciated however, that the sign alone is not sufficient - it must be accompanied by the marking.

2.4.2.7 Traffic signs 280to 284 are used to indicate parking places in accordance with the following : -

(i) traffic sign 280- Parking for vehicles, other than medium and heavy goods vehicles, buses, motor cycles and pedal cycles. These spaces may therefore be used by private cars, taxis, light goods vehicles, and light buses, public or private.

(ii) traffic sign 281- Parking for goods vehicles only. These spaces may be used by light, medium and heavy goods

(iii) traffic sign 282- Parking for buses only. These spaces may be used by coaches and buses, but not light buses.

(iv) traffic sign 283- Parking for motor cycles only.

(v) traffic sign 284- Parking for cycles only.



T.S. 280 (PA 1)



T.S. 281 (PA 2)



T.S. 282 (PA 3)



T.S. 283 (PA 4)



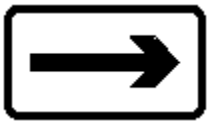
T.S. 284 (PA 5)

2.4.2.8 With respect to the placement of the traffic signs 280, 281, 282 and 283, these will need to be erected at each and of the parking bays which are to be restricted to a particular type or class of vehicle.

2.4.2.9 Signs are only required to be erected at each end of a section of on-street parking, parallel to the kerb, and as explained in paragraph 2.4.2.3 it is not necessary to terminate the parking merely because an access or run-in occurs along its length, providing the hatched yellow marking, road marking 1043, is marked across the access or run-in, and sufficient visibility is available for vehicles emerging. However, where a road junction occurs the road marking 1043 would not be appropriate and the parking should be terminated sufficiently before the junction to provide adequate visibility, and then recommenced with appropriate signs on the other side of the junction. On long lengths of parking, restricted to certain types of vehicles, it would be advisable for enforcement purposes to erect intermediate signs so that signs are not more than 60 m apart.

2.4.2.10 Three different sizes of traffic signs 280 to 284 are prescribed, and the most appropriate will normally be the middle sized ones. The smaller signs will be appropriate when there are physical restrictions on sign size, or where sizes may be required for individual parking spaces. The larger signs will only be appropriate at locations where it is considered the signs need to have greater prominence.

2.4.2.11 It is not a legal requirement for "Arrow" supplementary plates, traffic signs 733 and 734 to be erected in conjunction with parking signs and therefore they should generally be avoided. But if for clarity, in the case where a parking space is divided up for use by different classes of vehicles, and "arrow" plates would avoid any ambiguity, they should be positioned beneath the "Parking" signs. However, it is recommended that where parking spaces for different vehicle types are adjacent to one another, a gap of about 1 m is left between the end of one and the start of the other, as illustrated in Diagram 2.4.2.1, and the appropriate signs are erected on separate posts. The space between the posts should be hatched with yellow markings to RM 1043, and if this is done arrow supplementary plates will not be required.



T.S. 733/734
(PA 9)



T.S. 735
(PA 10)

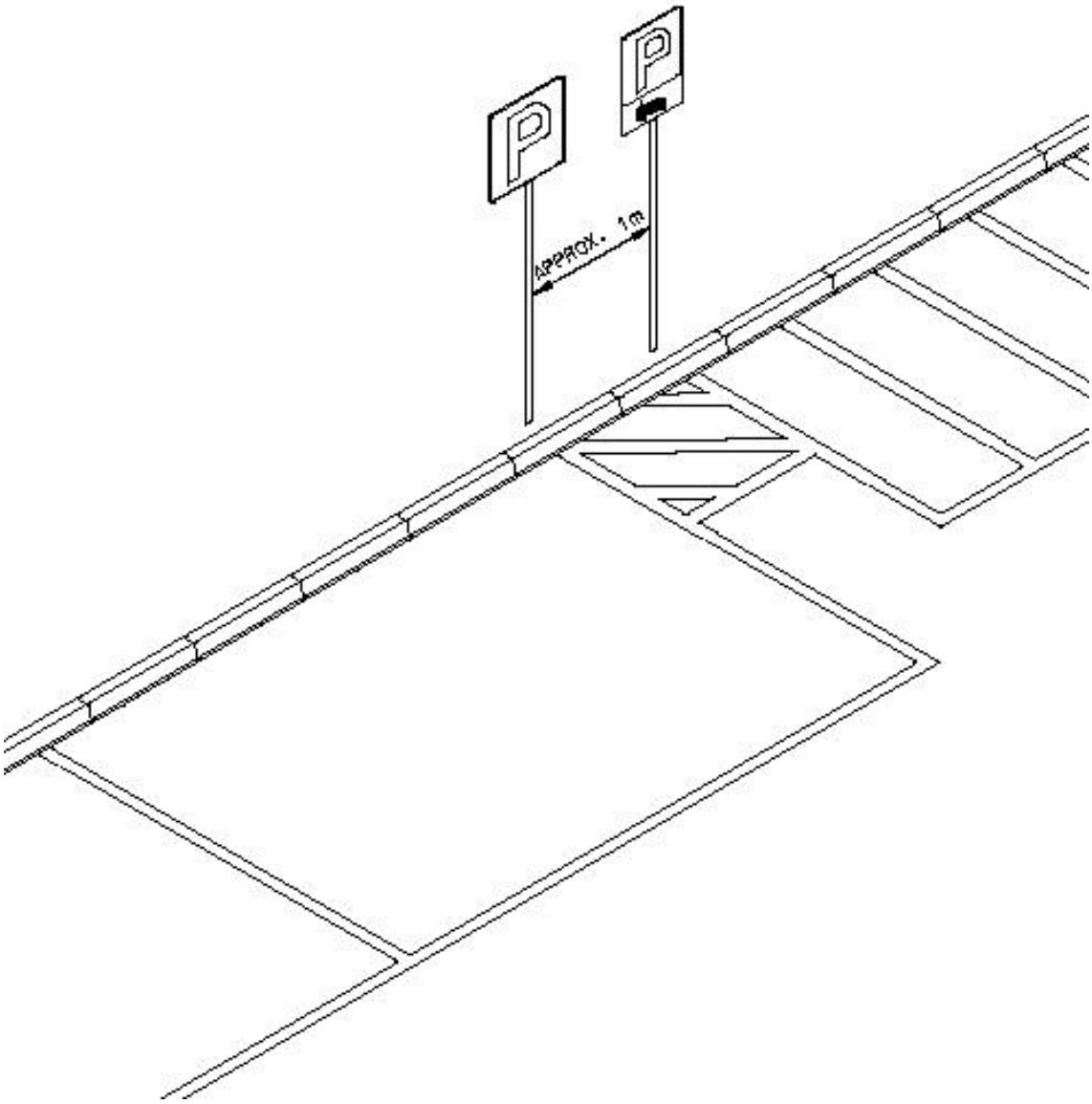
2.4.2.12 Traffic sign 822, "Time Plate" may be used with parking place signs, though this should not be considered as normal practice and should only be used in exceptional circumstances. In fact, as it is the marking that designates a parking place, and the sign only indicates the type of vehicle that may use the parking place, a time plate could be taken as meaning that outside the period specified, the parking place ceases to be a place reserved for that particular type of vehicle and becomes a parking space for any type of vehicle. For this reason therefore, if it is intended that a parking place should only operate for a restricted period, it will be necessary to erect traffic sign 286 "No parking" with a time plate covering the remaining periods on the same post. In this respect the 300 mm or even 200 mm diameter plate for traffic sign 286, "No parking" would be appropriate.



T.S. 822
(PA 8)

2.4.2.13 Where the parking is metered, as arrows and times are included on the meter time plates traffic signs 295 and 296, no further "Arrow" plates or "time" plates are required.

DIAGRAM 2.4.2.1 : SIGNING OF ADJACENT PARKING SPACES FOR DIFFERENT VEHICLES



2.4.2.14 With regard to parking for cycles this will normally be provided in the form of stands, a variety of which are available. Signing for the stands will depend on the arrangement adopted but as far as practicable signs should be limited to as few as possible. In most cases one sign conveniently located in relation to the stand arrangement should suffice.

2.4.2.15 Traffic sign 286 is the sign used to indicate areas where parking is not permitted, though as mentioned in paragraph 2.4.2.2 its use will normally be confined to those areas without street lighting. The broken yellow line road marking, 1042, may also be used to indicate a parking restriction and may be used with or without traffic sign 286, but see paragraph 2.4.2.1. Details of this road marking can also be found in Chapter 5.



T.S. 286
(PA 6)

2.4.2.16 Traffic sign 286 should be erected parallel to the kerb, at each end of the section where parking is to be restricted. Appropriate "arrow" supplementary plates, traffic sign 733 or 734, should be erected beneath the sign, if the broken yellow line is not used to indicate clearly over which section of the road the restriction applies, otherwise these plates can be omitted. If the restriction on parking is only to apply to certain periods of the day, a time plate of the T.S. 822 type will be required which should be located immediately beneath the "No Parking" sign. A "No Parking" sign with time plate should not be erected on streets with street lighting unless in conjunction with part time parking signs, as described in paragraphs 2.4.2.11 to 2.4.2.13.

2.4.2.17 Where the road marking 1042, is used in conjunction with the traffic sign 286, intermediate repeater signs should not generally be required provided the road marking is regularly maintained. If the signs are however erected alone, or the restriction is limited to certain periods of the day only, intermediate signs will be required. The number of intermediate signs required will depend on the circumstances of the location but no two adjacent signs should generally be greater than 150 m apart. Therefore as a general rule if road markings are not provided, or the parking restriction is limited to certain periods of the day only, signs should be located in accordance with Table 2.4.2.1. The preferred arrangement where parking is to be prohibited at all times is the combination of signs and the marking, but if the regular maintenance of the marking can be guaranteed then this alone will suffice. The use of signs without markings should be avoided. Where repeater signs are considered necessary, the “double arrow” supplementary plate, T.S. 735 should also be used.

Table 2.4.2.1
Spacing of "No Parking" signs when used without accompanying road markings

Length of section where parking is restricted (m)	Sign Spacing
< 150	At each end
151 - 300	At each end, and mid-point location
> 300	At each end and at intervals such that signs are not greater than 150m apart

2.4.2.18 Signs placed at each end of the parking restriction will normally be of the 450 mm size, with the 600 mm size only being used if additional emphasis is required. For repeater signs the 300 mm size may be used, providing it is considered to be sufficiently conspicuous.

2.4.2.19 Gazette notices are not required prior to the implementation of parking restrictions but in areas where there is not a street light system adequate publicity should be arranged for any new parking restriction to be imposed.

2.4.2.20 Traffic sign 287 is for use mainly by the police to indicate temporary parking restrictions. The arrows may be changed to point only to the left or only to the right. The sign may also be used in conjunction with a time plate of the type T.S. 822.Where parking meters are suspended temporarily they should be covered with meter bags bearing the 200 mm size sign to traffic sign 286.



T.S. 287
(PA 7)

2.4.2.21 Where parking places are to be reserved for particular vehicles, a sign as illustrated by traffic sign 289 should be erected at each side of the parking bay or bays. The wording may be altered to suit the particular type of vehicle concerned, and the arrow should of course be changed to point in the appropriate direction. The granting of such facilities should not be indiscriminate and any justification should show that the parking place is required for at least 2 hours everyday of the working week, and that there are no reasonable alternative parking arrangements available. Additional agreed signs for this type of parking, though others may be added from time to time, are :

(i) Post Office Vehicles Only, T.S. 313, 314

(ii) Police Vehicles Only, T.S. 317, 318

(iii) Ambulances Only, T.S. 293, 294

(iv) Driving Test Vehicles Only, T.S. 315, 316

(v) Fire Appliances Only, T.S. 341, 342

(vi) Vehicles with “Disabled Person's Parking Permit” or “Parking Certificate for Drivers Who Carry People with Mobility Disabilities” Only, T.S. 347, 348

(vii) Food and Environmental Hygiene Department refuse collection vehicles only



T.S. 289
(PA 16)

2.4.2.22 Where parking meters are installed, traffic signs similar to traffic signs 2116 and 2117 should be erected at each end of the metered section on the same post as, but beneath the traffic signs 280, 281 or 282 indicating the type of vehicles permitted to park. The sign should indicate the type of meter, e.g. 2 hour, 1 hour or ½ hour, the times of operation e.g. 8 am-Midnight, or 8 am-8 pm, and the days of operation, e.g. daily, or daily except public holidays, or Monday to Saturdays, etc. It has been agreed that the telephone number shown on the sign should be the same throughout the Territory and details of this can be obtained from the Management Services Division of Transport Department.



T.S. 2116
(PA 18)



T.S. 2117
(PA 18)

2.4.2.23 Traffic sign 396 may be used in conjunction with parking place traffic sign 280, 281 and 282 at those parking places where payment is made by purchasing and displaying a ticket. This sign is used in addition to T.S. 392 which gives the relevant information concerning operating period etc.



T.S. 396
(PA 19)

2.4.3 Road Traffic (Parking on Private Roads) Regulations

2.4.3.1 The Road Traffic (Parking) Regulations do not apply to a road which has been designated a private road under the Road Traffic (Parking on Private Roads) Regulations, and only Section 4, 5 and 6 of the Fixed Penalty (Traffic Contraventions) Ordinance, concerning dangerous parking and parking within a zebra controlled area, apply to private roads thus designated. In general, all other provisions of the Road Traffic Ordinance and its subsidiary legislation apply to private roads.

2.4.3.2 Whereas on other roads with street lighting therefore, the presumption is that parking is prohibited unless otherwise indicated, this is not the case on private roads. The responsibility for controlling parking on private roads is given to the owner of the private road. A set of signs are prescribed within the Road Traffic (Parking on Private Roads) Regulations to facilitate this control and their erection on private roads is the responsibility of the owner.

2.4.3.3 Traffic sign T.S. 371 indicates that the road is a private road and that the Road Traffic (Parking on Private Roads) Regulations apply. The sign must be located in a prominent position at the entrance to the estate or development facing on-coming motorists.



T.S. 371
(PPR 1)

2.4.3.4 Traffic sign T.S. 286, “No Parking”, T.S. 287, “Temporary No Parking”, T.S. 733/ 734 “Arrow Plate” T.S. 735 “Double Arrow Plate” and T.S. 822 “Time Plate” are all prescribed in the Regulations and are used to control parking. The signs are described in the previous Section 2.4.2 on Road Traffic (Parking) Regulations and their use is comprehensively covered in the Code of Practice for Private Roads.

2.4.3.5 Supplementary plate PPR 7 “Except with permit” is also prescribed in the regulations and may be used in conjunction with the “No Parking Sign”. It should be emphasised that this supplementary plate is only appropriate on private roads; it is not prescribed in the Road Traffic (Parking) Regulations and it should not be used to qualify the “no parking” sign on public roads. On private roads, it is often the practice to issue permits to residents and/or visitors, permitting them to park in specified locations or possibly anywhere within the estate. In such circumstances the “Except with permit” supplementary plate is required and detailed information on its use is also given in the Code of Practice for Private Roads.

2.4.4 Housing (Traffic) By-Laws

2.4.4.1 The Housing Authority may, with the approval of the Commissioner for Transport and the Director of Highways, designate any road or length of road within a Housing Authority Estate to be a restricted road. The control of parking on restricted roads and in car parks within an estate is the responsibility of the Housing Authority. That includes among other things the designation of parking spaces and the restriction of parking. Apart from traffic sign H1, which should be erected, at every point of entry to the restricted road, all other traffic signs included in the Housing Traffic By-Laws relate to responsibility for the control of parking.



H. 1

2.4.4.2 As on the majority of public roads, the presumption on Housing Authority restricted roads is that parking is prohibited unless signs and markings indicate otherwise. Traffic signs T.S. 280, T.S. 281, T.S. 282, T.S. 283 and T.S. 284 are prescribed for the purpose of designating parking spaces for specific types of vehicle. T.S. 286 and T.S. 287 are prescribed for the purpose of designating 'no parking' and 'temporary no parking' areas. The 'no parking' signs should generally not be required however as no parking is permitted on restricted roads unless otherwise indicated. Arrow plates to T.S. 733/ 734 and 735 are prescribed for use with T.S. 286 but not with T.S. 280 to 284. (see paragraph 2.4.4.4) Time plates to T.S. 822 are also prescribed and may be used with both the parking and the no parking signs. Traffic sign 289 is prescribed for the purpose of designating parking spaces for particular vehicles such as Food and Environmental Hygiene Department Refuse Collection Vehicles. All the signs mentioned in this paragraph are used in the same way as that already fully described in Section 2.4.2 on Road Traffic (Parking) Regulations.

2.4.4.3 Additional signs, prescribed in the Housing Traffic By-Laws and which are applicable to restricted roads only, are as follows: Traffic sign H18 is a supplementary plate, to be used in conjunction with the Parking signs T.S. 280 to 284, to indicate that only persons holding a parking pass may use the particular parking place or car park. The parking pass is issued by the Housing Authority and includes information concerning, the registration mark of the vehicle, the name of the estate and the restricted road for which it is valid and the validity period.



H. 18

2.4.4.4 Traffic sign H. 19 is a supplementary 'arrow' which is used only with Parking signs T.S. 280 to 284, but not with the No Parking sign T.S. 286. The colour of the sign as shown in the Regulations is different to the normal arrow plate and consists of a black arrow on a yellow background with a red border, but the colours may be varied.

2.4.4.5 The Housing Authority is responsible for the erection of all signs on restricted roads.

2.5 Public Transport Regulations

2.5.1 General

2.5.1.1 Those prescribed signs relating specifically to public transport contained in the Road Traffic (Public Service Vehicles) Regulations are dealt with in Section 2.5.2; and those related to a single N.T. Taxis Boundary sign contained in the Road Traffic (Regulation and Licensing of Vehicles) Regulations are dealt with in Section 2.5.3.

2.5.1.2 As with other vehicles, public transport vehicles are largely controlled by the signs included in the Road Traffic (Traffic Control) Regulations, already described in Section 2.2.

2.5.2 Road Traffic (Public Service Vehicles) Regulations

2.5.2.1 Traffic signs in the Road Traffic (Public Service Vehicles) Regulations are for the control and regulation of Public Light Buses, Scheduled Service Vehicles (Maxicabs) and Taxis (Urban and New Territories).

2.5.2.2 Traffic sign 320, with a green "light bus" symbol, is used in conjunction with the "bus stop" road markings 1047 and 1048 (see Chapter 5) to indicate a stopping place for scheduled service vehicles. For non-scheduled Public Light Bus stopping places the sign T.S. 321 is similar except the symbol is red. The creation of these stopping places on the carriageway should be given the same consideration as that for franchised buses and should follow the advice given in Volume 9, Public Transport, regarding this subject.



T.S. 320/321
(P.S. 2/3)

2.5.2.3 For Scheduled Service Stands, at the termini of routes, traffic sign 322, having a green border and symbol in conjunction with the road marking 1049, see Chapter 5, should be used to indicate the stand area. A similar sign T.S. 323 is used for Public Light Bus Stands, though this has a red border and symbol, together with the same road marking 1049. In both cases, the signs should be erected double-sided and facing oncoming traffic. Where appropriate, off-centered mounting method should be adopted to maximise the unobstructed widths of footpaths with arrangement similar to Diagram 2.5.2.1(i). For part-time parking at light bus stands, the signs should be erected parallel to the kerb and used in conjunction with the time plate T.S. 325 with arrangement similar to Diagram 2.5.2.1(ii). Where sign clutter is a concern, one post of T.S. 322/323 at the upstream instead of two at both ends may be used. However, there may be situation where two posts should be retained, for examples, when the stand is long or if the stand is used by several routes. The policy on the provision of Scheduled Service Stands, Public Light Bus Stands and other relevant details are given in Volume 9 Chapter 3. Arrow supplementary plates are not required as the markings will indicate the limits of the stand



T.S. 322/323
(P.S. 5/6)

2.5.2.4 Neither Scheduled Service Buses, nor Public Light Buses are permitted to park at stands unless the traffic sign 325 is also displayed to indicate that parking by Scheduled Service Vehicles or Public Light Buses, as the case may be, is permitted outside the hours of operation of the stand. The decision as to whether such parking should be permitted or not should take account of any inconvenience to the public, e.g. noise by vehicles or operators, and the effects if any on other traffic. The sign should be erected in addition to T.S. 322 or T.S. 323, as appropriate, and the parking provision is limited to only that type of vehicle for which the stand is designated.



T.S. 325
(P.S. 8)

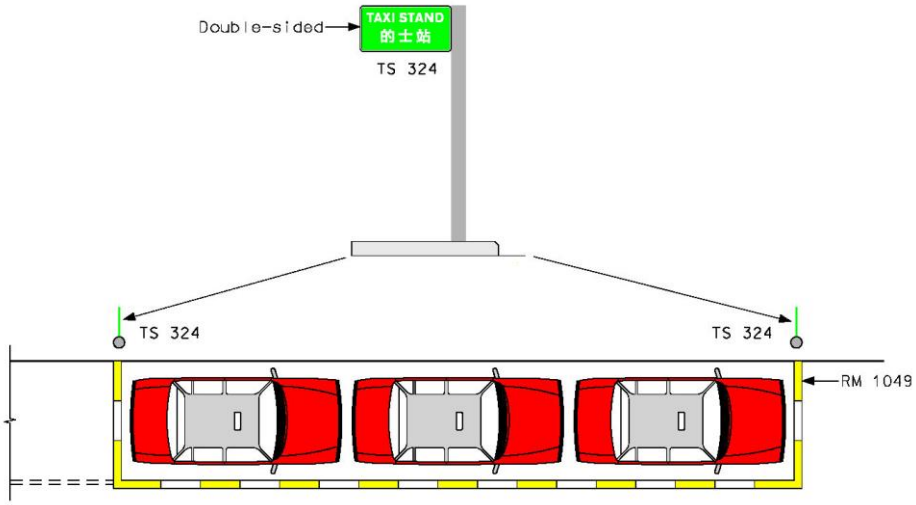
2.5.2.5 Taxi stands traffic sign 324 should be erected at each end of the area of the stand, demarcated by the road marking 1049. However, where sign clutter is a concern, placement of only one post of T.S. 324 at the upstream may be considered for short taxi stands. The sign should be erected double-sided and facing on-coming traffic. Where appropriate, off-centered mounting method should be adopted to maximise the unobstructed widths of footpaths as illustrated in Diagram 2.5.2.1(i). For part-time parking at taxi stands, the sign should be erected parallel to the kerb and used in conjunction with the time plate T.S. 326 as illustrated in Diagram 2.5.2.1(ii). The policy on the provision of taxi stands and other relevant details are given in Volume 9 Chapter 4. Arrow supplementary plates are not required as the markings will indicate the limits of the stand.



T.S. 324
(P.S. 7)

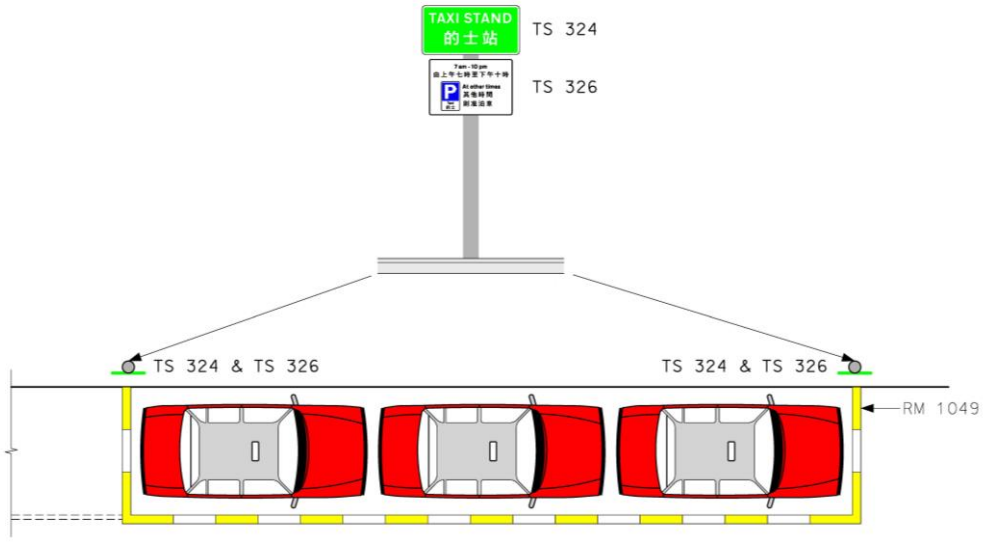
DIAGRAM 2.5.2.1 TAXI STAND TRAFFIC SIGN ARRANGEMENT

(i) TAXI STAND WITHOUT PART-TIME PARKING



FACING TRAFFIC TAXI STAND
(OFF-CENTRED MOUNTING METHOD)

(ii) TAXI STAND WITH PART-TIME PARKING



2.5.2.6 In the New Territories and airport, it is necessary to differentiate between which stands can be used by urban taxis, New Territories taxis and Lantau taxis. For the urban taxi stand, traffic sign 324 is used with the supplementary plate traffic sign 567, “Urban taxis”. For the New Territories taxi stand, traffic sign 324 is used with the supplementary plate traffic sign 818, "NT taxis". For Lantau taxi stand, traffic sign 324 is used with the supplementary plate traffic sign 566, "Lantau taxis".

2.5.2.7 As with light buses, taxis are not permitted to park at a stand, unless the traffic sign 326, indicating that taxis may park at the stand, at times outside the operating hours of the stand, is also displayed. The decision as to whether such parking should be permitted or not should take into account the effects if any on other traffic, and should not encourage parking beyond but adjacent to the stand. Parking, where permitted, is limited to those vehicles for which the stand is designated.



T.S. 326
(P.S. 9)

2.5.2.8 Traffic sign 567, “Urban taxis”, is for use with traffic sign 324, “TAXI STAND”, to indicate that the stand is for use by Urban taxis only.



T.S. 567
(P.S. 11)

2.5.2.9 Traffic sign 818, “NT taxis”, is for use with traffic sign 324, “TAXI STAND”, to indicate that the stand is for use by the New Territories taxis only.



T.S. 818
(P.S. 10)

2.5.2.10 Traffic sign 566, “Lantau taxis”, is for use with traffic sign 324, “TAXI STAND”, to indicate that the stand is for use by Lantau taxis only.



T.S. 566
(P.S. 10A)

2.5.2.11 Traffic sign 877, “Cross-harbour trips only single toll charge”, is for use with traffic sign 324, “TAXI STAND”, to indicate that the taxi stand is a cross-harbour taxi stand.



T.S. 877
(P.S. 12)

2.5.2.12 Traffic signs 567, 818 and 566 are appropriate for use within the "permitted area" for NT taxis or Lantau taxis, as specified in the Seventh Schedule of the Road Traffic (Registration and Licensing of Vehicles) Regulations, Chapter 374, as outside this area N.T. taxis or Lantau taxis are not allowed to operate as taxis.

2.5.3 Road Traffic (Registration and Licensing of Vehicles) Regulations

2.5.3.1 The Road Traffic (Regulation and Licensing of Vehicles) Regulations stipulate the area in which N.T. Taxis or Lantau Taxis may be available for hire or to carry passengers. At the point where a road intersects the boundary of these areas, traffic sign 329 should be erected for N.T. Taxis and traffic sign 569 for Lantau Taxis. It should be remembered that this traffic sign only indicates that N.T. Taxis or Lantau Taxis cannot be available for hire or to carry passengers beyond the signs; however, they do not prevent the taxis from being taken past the signs for the sole purpose of attending a vehicle examination centre for an examination arranged by prior appointment in which no passengers may be carried for hire or reward.



T.S. 329
(R&L 1)



T.S. 569
(R&L 2)

2.6 Other Regulations

2.6.1 General

2.6.1.1 This section contains details of signs prescribed in legislation not covered in earlier sections.

2.6.1.2 Section 2.6.2 covers the Road Traffic (Expressway) Regulations.

2.6.1.3 Section 2.6.3 deals briefly with the signs contained in various tunnel related regulations. However Chapter 4 of this Volume deals with tunnel signs in detail.

2.6.1.4 Section 2.6.4 covers the Tsing Ma Control Area (General) Regulation

2.6.1.5 It is envisaged that future legislation, which will be required for any specified traffic control area, will be added to this section as and when the legislation takes effect.

2.6.2 Road Traffic (Expressway) Regulations

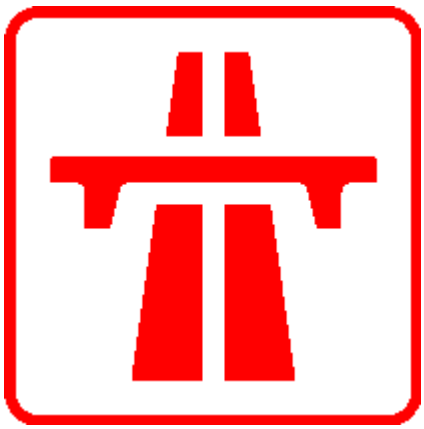
2.6.2.1 In addition to the regulations which apply to normal roads, there are regulations which apply specifically to roads designated as expressways. The Road Traffic (Expressway) Regulations detail these additional regulations which control :

(i) The type of vehicles prohibited, e.g. learner drivers, public light buses, motor cycles with engine capacity less than 125 cc and cycles. Pedestrians are of course also prohibited.

(ii) Driving Rules, e.g. no stopping, keep left unless overtaking, no medium and heavy goods vehicles and buses etc in the offside lane of a three lane carriageway, no overtaking on the nearside.

(iii) Rules concerning roadworks, e.g. need for permits, need for works – vehicle to meet certain specifications.

Because these additional regulations apply, it is essential that motorists are adequately informed that they are entering/driving along an expressway and specific signs are prescribed in the Road Traffic (Expressway) Regulations for this purpose. These signs are detailed in the following paragraphs.



T.S. 353
(E. 901)

2.6.2.2 Traffic sign T.S. 353 indicates the start and continuation of the area within which the expressway regulations apply. As the regulations control the vehicles permitted and the driving rules, as described in the previous paragraph, it is not necessary to also erect such signs as vehicle prohibitions and no stopping signs, at the commencement of or along the expressway.

2.6.2.3 As certain vehicles are prohibited from using expressways, it is essential that at the start of an expressway and alternative route is available for those vehicles so prohibited. Expressway areas are designated to make allowance for this requirement and therefore, for example, expressways always commence at the beginning and not at the end of a slip road. Expressway signing should also pay full regard to this requirement. T.S. 353 should be placed at the commencement of the expressway so that it is quite prominent, with good advance visibility, to enable those motorists who are not entitled or do not wish to use the expressway, to take an alternative route. T.S. 353 should be located on the nearside verge, in the case of a single slip road and on both sides of the carriageway, in the case of a two lane slip road, as shown on Diagram 2.6.2.1. Where the expressway commences as a continuation of the major route, T.S. 353 should be located on both sides of the carriageway at the bifurcation point. In all cases the largest size version of the sign should be used, if at all possible.

2.6.2.4 Advanced warning of the commencement of an expressway should also be provided. Where the expressway commences as a continuation of a major route, an expressway logo should be included on the advance direction sign, final advance direction sign and direction sign along the route on the approach to the interchange at which the expressway commences. In this situation the expressway logo should be white on blue and not red on white, to indicate that the route is approaching an expressway but that the expressway has not yet commenced.

2.6.2.5 For advanced warning of an expressway ahead along minor routes T.S. 2605/2606 “Expressway starts 500m ahead” should be used. Alternatively T.S. 2607 “Direction to Expressway” or equivalent may be used with a supplementary plate indicating the distance to the start of the expressway. The distance may be varied to suit the circumstances, but should not be less than 200 m and should preferably be around 500m. T.S. 2605/2606/2607 are not prescribed in the Regulations.



T.S. 2605



T.S. 2606



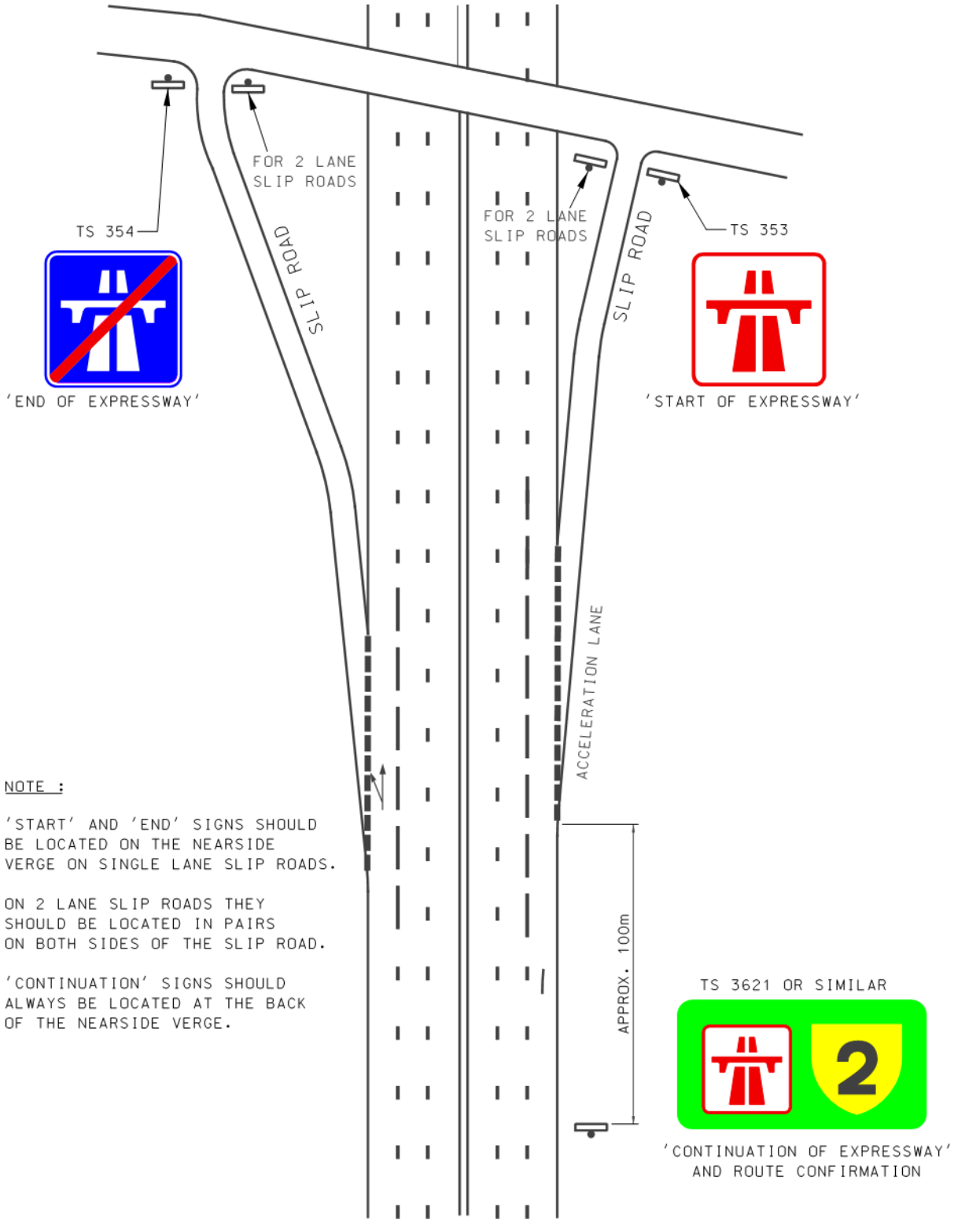
T.S. 2607

2.6.2.6 Expressway confirmatory signs in accordance with T.S. 3620 (also not prescribed) should be placed approximately 100m beyond the end of each acceleration taper. The signs, which should also show the appropriate route number, should be located at the back of the nearside verge as shown on Diagram 2.6.2.1.



T.S. 3620

DIAGRAM 2.6.2.1 : LOCATION OF EXPRESSWAY SIGNS



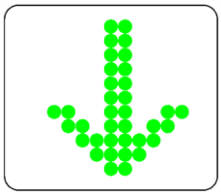
2.6.2.7 Further confirmation that the route is an expressway should be given by the inclusion of the expressway logo on all direction signs along the route. In this case the logo will be red on white to indicate that the route is actually an expressway and not merely approaching an expressway.

2.6.2.8 Traffic sign T.S. 354 must be erected at all locations where the expressway ends. These locations will normally be at the end of slip roads and/or at the bifurcation point on the main route, where the continuation of the main route is not designated as an expressway.

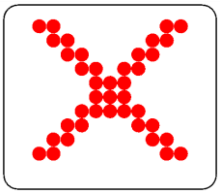


T.S. 354 (E. 902)

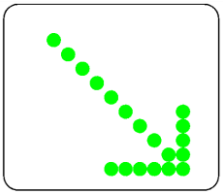
2.6.2.9 Lane control signals, T.S. 260 to 265 of the type used in Tunnels are also prescribed in the Road Traffic (Expressway) Regulations. At the present time these signals are not generally provided other than within Tunnel Areas. For their possible use on new expressways, the Major Projects Division of Transport Department should be consulted.



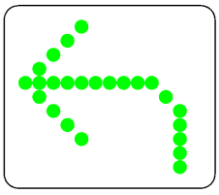
T.S. 260 (E. 903)



T.S. 261 (E. 904)



T.S. 262 (E. 905)



T.S. 264 (E. 906)

2.6.2.10 Traffic sign 2612 is used to advise pedestrians/cyclists of an expressway boundary. It should only be used at isolated sections of the expressway where pedestrian/cyclist incursion is or is likely to be problematic. It certainly should not be used at the entry slip roads to expressways, where T.S. 353 is the appropriate sign to use.



T.S. 2612

2.6.2.11 For additional information on Expressways, Volume 2 Chapter 6 should be consulted. Section 6.4 deals with signs and markings. Detailed information on the use of expressway logos on direction signs can be found in Volume 3 Chapter 3. Use of lane control signs is covered comprehensively in Volume 10 Chapter 6.

2.6.3 Tunnel Regulations and By-Laws

2.6.3.1 Chapter 4 of this Volume is dedicated to Tunnel Signs and should be referred to for detailed information.

2.6.3.2 Essentially, within tunnels and tunnel areas, all signs prescribed under the various Road Traffic Regulations are equally applicable and have the same meaning. Additionally, certain signs which have particular bearing on traffic control in tunnels, are prescribed in the tunnel regulations.

2.6.3.3 The Road Tunnels (Government) Regulations contains most of the tunnel-specific signs. Other signs are included in Western Harbour Crossing Bylaw, Tai Lam Tunnel and Yuen Long Approach Road By-laws, Discovery Bay Tunnel Link By-laws.

2.6.4 Tsing Ma Control Area (General) Regulation

2.6.4.1 Traffic sign 2198 or variable message sign 2199 is used to indicate that "wind susceptible vehicles" are not allowed to proceed beyond the sign. As defined in the regulation, "wind susceptible vehicle" means a vehicle with an overall height exceeding 1.6m, a motor cycle or a motor tricycle.



T.S. 2198
(TMC 27)



T.S. 2199
(TMC 28)

TPDM Volume 3 Chapter 3 – Directional Signs

3.1 References

1. British Standards Institution (November 2007) *BS EN 12899-1 Fixed, vertical road traffic signs – Part 1: Fixed signs*. U.K.

2. Civil Engineering Development Department (2006) *General Specification for Civil Engineering Works*, Section 12, Volume 1 (Amendment December 2019), HKSARG

3. Department for Transport (July 1994) *Local Transport Note 1/94 - The Design and Use of Directional Informatory Signs*, U.K.

4. Department for Transport (2018) *The Traffic Signs Manual*, Chapter 1 - Introduction, U.K.

5. Department for Transport (2018) *The Traffic Signs Manual*, Chapter 7 - The Design of Traffic Signs, U.K.

6. Environmental Protection Department and Highways Department (January 2003) *Guidelines on Design of Noise Barriers*, Second Issue, HKSARG

7. Highways Department (2017) *Code of Practice for the Lighting, Signing and Guarding of Road Works* (Supplementary Notes 2019), HKSARG

8. Highways Department (March 2017) *Public Lighting Design Manual* , HKSARG

9. Highways Department (May 2013) *Structures Design Manual for Highways and Railways*, (Amendment Nos. 1/2018 & 1/2020), HKSARG

10. Highways England (May 2016) *Interim Advice Note 144/16 - Directional Signs on Motorway and All-purpose Trunk Roads, Grade Separated Junctions*, U.K.

11. Highways England (May 2016) *Interim Advice Note 145/16 – Directional Signs on Motorway and All-purpose Trunk Roads, At Grade and Compact Grade Separated Junctions*, UK

12. *Road Traffic Ordinance*, Cap. 374, HKSARG

13. Scott Wilson Ltd. (2000) Consultancy Study - *Review of Traffic Signs and Road Markings Final Report*, H.K

14. Scott Wilson Ltd. (October 2002) *Comprehensive Review of Directional Signing in Hong Kong* (Final Report) (Agreement No. RSS 1/2001), H.K

15. *The Traffic Signs Regulations and General Directions*, 2016 (Amendment 2017, No. 1086), U.K.

16. Transport Department *Transport Planning and Design Manual* Volume 3, Chapters 1, 2 & 6, HKSARG

17. Transport Department *Transport Planning and Design Manual*, Volume 2, Chapters 3 & 6, HKSARG

18. U.N. *European Rules Concerning Road Traffic Signs and Signals* (1974)

19. U.N. *Convention on Road Traffic* (1968) (Amendment 1, September 1993)

20. U.N. *Convention on Road Signs and Signals* (1968) (Amendment 1, November 1995)

21. U.K. *CD 146 – Positioning of signalling and advance direction signs* (Revision 1), March 2020

3.2 Introduction

3.2.1 General

3.2.1.1 The purpose of this Chapter is to provide guidance on the design and siting of all types of directional signs, both permanent and temporary, on the roads network (including public toll roads and road tunnels operated and maintained by private companies) in Hong Kong.

3.2.1.2 Placement of directional signs on private roads are similar to those for public roads. Specific guidelines on directional signing for private roads are given in the Code of Practice for Private Roads.

3.2.1.3 Directional signs are those signs which provide directional infotbarmation for road users to enable them to find their way to a particular destination. They are considered as an integral part of the road infrastructures. Good signing will enhance road safety and can promote a positive public perception of good road infrastructures. Poor signing or inappropriate siting of signs, particularly obscured signs, are major irritant to drivers and often leads to complaints. Every efforts shall be made to follow the guidelines set out in this Chapter.

3.2.1.4 This Chapter contains essential guidance and typical examples, which by no means cover every situation. Designers are advised to thoroughly appreciate the design principles relevant to their tasks.

3.2.1.5 Designers should also refer to the relevant code of practice, circulars, guidelines, standard drawings, record drawings and materials from the Transport Department (TD), Highways Department (HyD) and other government departments as appropriate.

3.2.2 Sign type and format

3.2.2.1 The term "directional signs" is used in the Chapter as a collective term to describe a number of different types of signs which include: -

(i) Advance Information Sign (AIS) – which announces a forthcoming junction and is erected ahead of the ADS. This sign reinforces the function of the ADS and its need is subject to the specified criteria in paragraph 3.2.4.2. See Section 3.3.2.

(ii) Advance Direction Sign (ADS) - which provides directional information as to the route ahead and is erected before a junction. This sign alerts motorists to decide and get prepared for selecting the appropriate traffic lane. See Section 3.3.3.

(iii) Final Advance Direction Sign (FADS) - which provides directional information as to the route ahead and is erected immediately before the junction after the ADS. This sign marks the start of the junction and prompts motorists to commence exit manoeuvre or select appropriate exit lane. See Section 3.3.4.

(iv) Direction Sign (DS) - which provides directional information at a junction. This sign is erected immediately at the junction and pointing along specific routes. See Section 3.3.5.

(v) Route Confirmatory Sign (RCS) - which provides information shortly after a junction to confirm the route ahead. See Section 3.3.6.

(vi) Special Direction Sign - which is usually in the form of a symbol to provide information on the route to be followed to a particular destination such as the airport, road tunnels, hospitals, car park or MTR station. Generally, such information should be included in the signs in (i) to (v) above so avoiding the need to have separate signs. See Section 3.3.7.

(vii) Pedestrian Direction Sign (PDS) - which provides directional information for pedestrians on the route to follow to reach particular destination e.g. MTR station and footbridges/subways, etc. See Section 3.3.8.

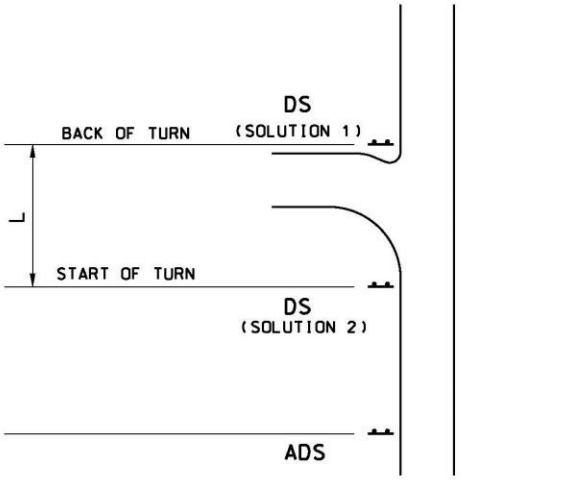
(viii) Cyclist Direction Sign - which provides directional information for cyclists. See Section 3.3.9.

(ix) Subsidiary Direction Sign (SDS) – which is used as a secondary sign to supplement directional information (eg. local destination) which cannot be accommodated in the main direction sign. See Section 3.3.10.

(x) Temporary Direction Sign – which may be any one or all of the signs in (i) to (vi) above but are erected only for a temporary period for diverting vehicles away from established routes. See Section 3.6.

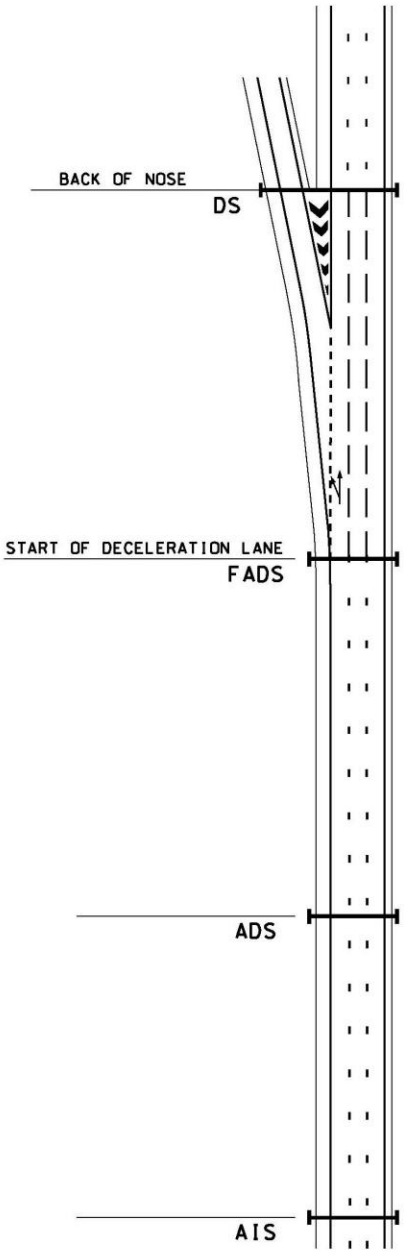
Positioning and siting sequence of the three basic directional sign types (including AIS, if provided) are illustrated in Diagram 3.2.2.1.

DIAGRAM 3.2.2.1: GENERAL ARRANGEMENT OF BASIC DIRECTIONAL SIGN TYPES



- EITHER DS SOLUTION IS NORMALLY SUFFICIENT
- BOTH DS SOLUTIONS MAY BE ADOPTED IF L >= 60m OR WHERE ADDITIONAL DIRECTIONAL GUIDANCE IS NEEDED

(i) AT-GRADE JUNCTION



(ii) GRADE-SEPARATED JUNCTION

3.2.2.2 Directional signs may be used in various formats which are as follows: -

(i) Gantry Signs (including Overhead Signs, Cantilever Signs over carriageway and those attached to footbridges/flyovers across carriageway)
These are signs erected on structures above and across a carriageway and indicate the destinations for particular lanes. The signs are mainly intended for use at junctions on expressways and trunk roads, and may also be appropriate for major junctions along roads and other roads.

(ii) Roadside Signs
These are directional signs erected at the side of the road.

(iii) Map Type Signs
These are roadside signs which show a symbolic representation of the actual layout of the junction ahead. Normally only AIS, ADS and FADS can be to this format.

(iv) Flag Type Signs
These are roadside signs at the junction where the side pointing to the direction to be turned is formed from a pointed chevron. Normally only DS is of this format, but sometimes it is used for ADS.

(v) Rectangular Signs
These are roadside signs having a rectangular shape, incorporating within the rectangle an arrow which points towards the destination. Normally only ADS is constructed to this format, but sometimes this format is also used for DS.

(vi) Stack Type Signs
These are roadside signs formed from rectangular signs "stacked" one above the other to form one complete sign assembly. Normally only ADS and DS can be to this format. See Section 3.5.5.

(vii) Variable Signs
These can generally be AIS, ADS, FADS, DS or Temporary Direction Signs, in any of the formats referred to in (i) to (v) above, but having the facility to be able to change the display of destinations or messages shown on the signs. Common technologies used are rotating prism, light box and LED. They can be in the form of roadside or gantry signs.

3.2.3 Delegated Powers

3.2.3.1 All directional signs, whether temporary or permanent, required to be erected on or adjacent to any public road or road tunnel must be approved by the Transport Department.

3.2.3.2 Any powers delegated by the Commissioner for Transport to other government departments concerning erection of traffic signs generally are not applicable in respect of the approval of any directional sign including sign face details, whether permanent or temporary.

3.2.4 Use

3.2.4.1 All Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads with design speed of 70 km/h or above must be provided with directional signs in accordance with Table 3.2.4.1, at all junctions along those roads.

Table 3.2.4.1
Provision of Directional Signs on Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads with Design Speed of 70 km/h or above

	Sign Type	Location
(i)	Advance Direction Sign (ADS)	500m before start of deceleration lane, or in advance of FADS
(ii)	Final Advance Direction Sign (FADS)	At start of deceleration lane (diverge taper situation), or 200m - 300m before the nose of the diverge (lane drop situation)
(iii)	Direction Sign (DS)	At or close to gore, or start/back of turn (see Diagram 3.2.2.1)

3.2.4.2 In addition to the above, AIS is recommended to be provided on Expressways / Trunk Roads (those that not designated as Expressways) where

(i) the design speed is 70 km/h or above; and
(ii) there are 3 or more mainline traffic lanes.

For 2/3-lane trunk roads with a design speed is 70 km/h, provision of AIS is normally not required. However, provision of AIS, if any, should be considered on individual merits such as approaching major interchanges / junctions, or ahead of weaving sections involving multiple lane changes, etc. Other 2-lane trunk roads with higher design speed, AIS are required for all exits.

In general, AIS if provided should be positioned at 400-1000m upstream of the ADS in accordance with Table 3.2.4.2.

Table 3.2.4.2
Position of Advance Information Signs on Expressways and Trunk Roads

Design Speed (km/h) *	No. of Mainline Traffic Lanes		
	3	4	5
70 or 80	400m	500m	800m
100 or above	500m	800m	1000m

* If design speed is not available for existing roads, the imposed speed limit or the 85th percentile speed of light vehicles, whichever is higher, shall be used.

The above requirements for provision of AIS should be applied to all new road projects. For existing roads, they should be applied where feasible and when opportunities arise.

3.2.4.3 Consideration should be given to erecting route confirmatory sign after major interchange on all strategic routes.

3.2.4.4 District Distributor Roads and Rural Roads with design speed of 50 km/h should be provided with directional signs in accordance with Table 3.2.4.3 at all major junctions.

Table 3.2.4.3
Provision of Directional Signs on
District Distributor Roads and Rural Roads with Design Speed of 50 km/h

	Sign Type	Location
(i)	Advance Direction Sign (ADS)	100m before junction
(ii)	Direction Sign (DS)	At start or back of turn

3.2.4.5 Where it is considered appropriate at minor junctions along District Distributor Roads and Rural Roads, DS may be erected at the junction to indicate a destination or destinations along the minor road, but an ADS may not be required. Alternatively, a combined ADS/DS at some 30-50m before the junction may be considered. Similarly, on the minor road approach, only a DS at the junction or a combined ADS/DS at some 20-30m before the junction is normally sufficient to indicate destinations along the main road.

3.2.4.6 On roads of local distributor status or lower, directional signs will not normally be necessary, but may be provided if there are strong justifications (e.g. leading to Accident and Emergency (A&E) scenario) and pedestrian movements will not be adversely affected.

3.2.4.7 It is very important that all ADS and FADS are sited in accordance with Tables 3.2.4.1 or 3.2.4.3 not only to ensure uniformity of use throughout Hong Kong, but also to give drivers sufficient advance warning. Adjustments of up to plus 100m (preferred) or minus 50m in the case of Table 3.2.4.1, and plus or minus 30m in the case of Table 3.2.4.3 for ADS and FADS as appropriate are however permissible to overcome site constraints or difficult situation. Similar adjustments of up to plus 100m (preferred) or minus 50m also apply to positioning of AIS.

3.2.4.8 It should be noted that the position of directional signs should be related to junction features and the criteria are illustrated in Diagram 3.2.4.1. For both visibility and economic reasons, close spacing of gantry or overhead signs is not advisable. In normal situations, the minimum spacing between gantries should be 150-200m and 250-350m for roads with design speed of 50-70 km/h and 80-100 km/h respectively.

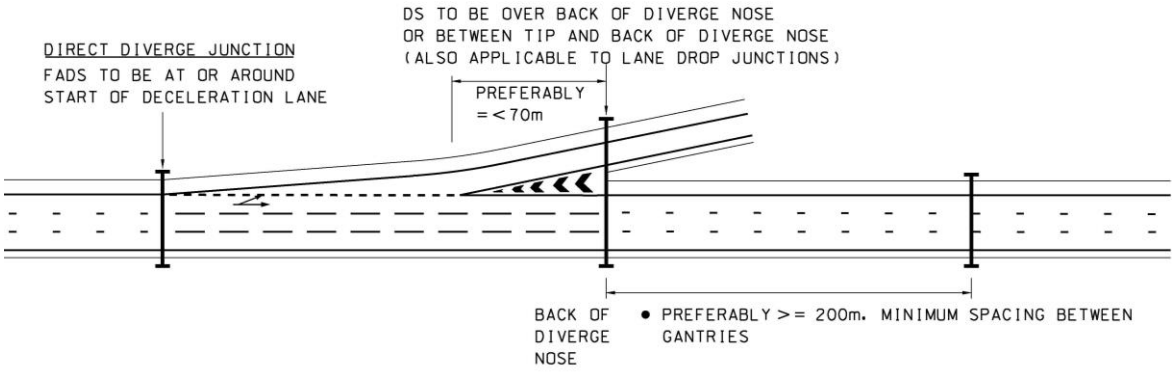
3.2.4.9 For parallel diverge with long double auxiliary lanes where drivers are required to get into appropriate lanes shortly after the exit, an additional FADS (in gantry or roadside format as appropriate) may be warranted if the distance between the FADS and DS is greater than 500m. See Diagram 3.2.4.1 (ii).

3.2.4.10 At compact grade-separated junctions, gantry DS is generally inappropriate due to short deceleration lane and sharp turn. A roadside flag-type sign is preferred. See Diagram 3.2.4.1 (iii).

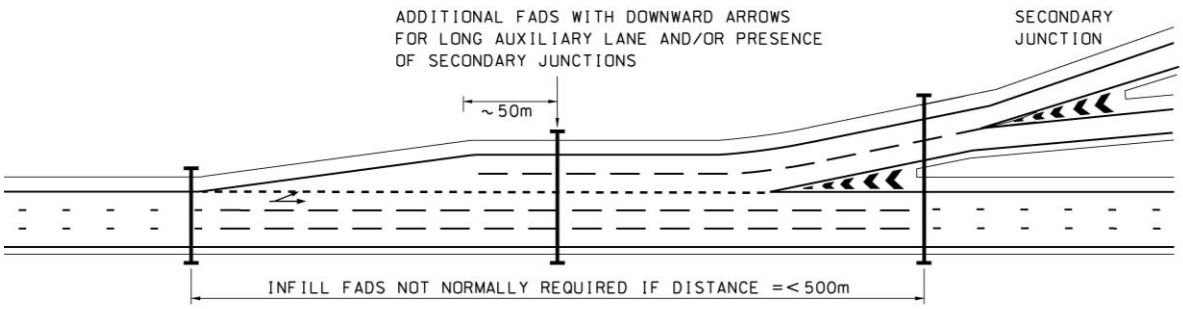
3.2.4.11 For further information as to the use and format of the various sign types, see Chapter 3.3.

DIAGRAM 3.2.4.1: SIGN POSITIONING RELATIVE TO JUNCTION FEATURES

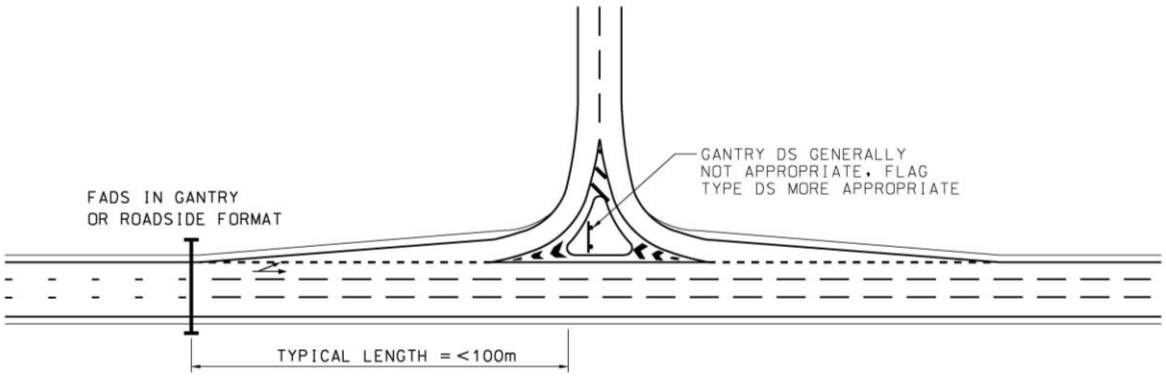
(i) AROUND A JUNCTION



(ii) START OF PARALLEL LANE



(iii) COMPACT JUNCTION



3.2.5 Sign Size and Visibility

3.2.5.1 Adopting flexibility in selecting types and locations of directional signs are good signing practice. Gantry and cantilever overhead signs could provide a better visibility and avoid the obscuring of signs particularly on Expressways, Trunk Roads and in congested urban areas and hence should be used whenever appropriate and possible. Great care should also be taken in selecting sign location as detailed in the following paragraphs and those of Section 3.2.6. Table 3.2.5.1 indicates the appropriate x-heights and minimum clear visibility distances for the various sign types according to their use. Actual sign design and format details are provided in Chapter 3.5.

3.2.5.2 Although Table 3.2.5.1 does indicate in certain difficult cases that smaller x-heights as shown in brackets may be used, it is preferable that the larger x-height is retained wherever possible and therefore, use of intermediate x-height, generally to the nearest 5mm, between the recommended figure and the smaller figure in bracket may also be used. Where an intermediate x-height is used, the minimum clear visibility distance may be interpolated if necessary. In fact, before agreeing to the smaller x-height, consideration should first be given to other alternatives such as whether the message can be abbreviated, or arranged on more lines or use of subsidiary direction sign.

3.2.5.3 In general, the same x-height should apply to all elements of a sign assembly. However, in some instances, space limitations may be more critical in one area of a sign as compared with another area of the same sign. In such situations, as a last resort, it is permissible to use more than one x-height. If the full recommended x-height cannot be accommodated throughout, a smaller x-height may be used on the more critical area of the sign and the full x-height figure for the remainder of the sign. The smaller x-height used should never be less than the bracketed figure.

3.2.5.4 It is also very important that the minimum clear visibility of the sign as given in Table 3.2.5.1 is achieved. To erect a sign which is partially or even fully obscured by some object serves no useful purpose and apart from failing to give the information to a driver at the time that it is required, is a waste of financial resources. Designers should strive to attain visibility distance greater than the minimum requirement wherever feasible and practical.

3.2.5.5 The clear visibility distances given in Table 3.2.5.1 should be measured from an eye height of 1.05m and 2.0m above the centre line of each lane to all parts of the sign. The 2.0m eye height has been incorporated to include drivers of heavy vehicles.

3.2.5.6 A sign will not be readable at close distance due to excessive angle between the normal viewing direction and the sign. This is known as the cut-off angle which is taken as 10 degrees in the horizontal direction (roadside sign) and vertical direction (gantry sign). Consideration of cut-off angle is also important for determining the appropriate x-height for roadside direction signs on a wide carriageway.

3.2.5.7 On multi-lane carriageways with grade-separated junctions, gantry signs should be used where possible in preference to roadside signs, particularly where there is a high proportion of high-sided vehicles using the nearside lane, e.g. buses, container trucks etc., which could seriously obscure the view of roadside signs to vehicles in other lanes. If a gantry sign is not feasible, then where possible consideration should be given to duplicating the roadside sign on the offside.

3.2.5.8 Planting, of any type must not be allowed to interfere with the visibility of directional signs and therefore any landscaping within the visibility splay of these signs should not contain any shrubs, bushes or trees which will grow to height greater than 500mm above the carriageway level. Diagram 3.2.5.2 illustrates the visibility zone for directional signs of the side mounted type.

3.2.5.9 It is necessary to ensure that street furniture or parking and loading/unloading activities, lighting equipments or other ceiling-mounted features insides enclosed noise barriers or tunnels do not interfere with the visibility of directional signs.

3.2.5.10 In the case of street furniture, it may be necessary to relocate this to ensure that it does not interfere with the visibility or adjust the position of the sign, or both.

Table 3.2.5.1
Appropriate x-heights and Clear Visibility Distances for Directional Signs

	Design Speed (km/h)	Typical Road Type	Advance Information Sign/Advance Direction Sign				Final Advance Direction Sign				Direction Sign				Route Confirmatory Sign	
			Gantry		Side Mounted		Gantry		Side Mounted		Gantry		Side Mounted			
			"x" ht (mm)	Min Clear Visibility (m)	"x" ht (mm)	Min Clear Visibility (m)	"x" ht (mm)	Min Clear Visibility (m)	"x" ht (mm)	Min Clear Visibility (m)	"x" ht (mm)	Min Clear Visibility (m)	"x" ht (mm)	Min Clear Visibility (m)	"x" ht (mm)	Min Clear Visibility (m)
(i)	80 or greater	Expressway	250 (225)	180	250 (225)	180	250 (225)	180	250 (225)	180	250 (225)	135	250 (200)	135	250 (200)	135
(ii)	70-80	Trunk Road	250 (200)	150 (135)	250 (200)	150 (135)	250 (200)	150 (135)	250 (200)	150 (135)	250 (200)	135 (100)	200 (150)	135 (100)	200 (150)	100
(iii)	50-70	Primary/ District Distributor Road and Rural Road	200 (150)	135 (100)	200 (150)	135 (100)	200 (150)	135 (100)	200 (150)	135 (100)	200 (150)	100	200 (100)	100	-	-
(iv)	50 or less	Others	200 (100)	75	100\ (75)	75	-	-	-	-	200 (100)	50	75 (50)	50	-	-

Notes

a) The x-height to be used is mainly determined by the design speed with reference to road type as appropriate. If design speed is not available for existing road, the imposed speed limit or the 85th percentile speed of light vehicles, whichever is higher, shall be used.

b) The figure without bracket means the desirable x-height to be adopted in normal circumstances. A larger x-height may be used if this is considered beneficial.

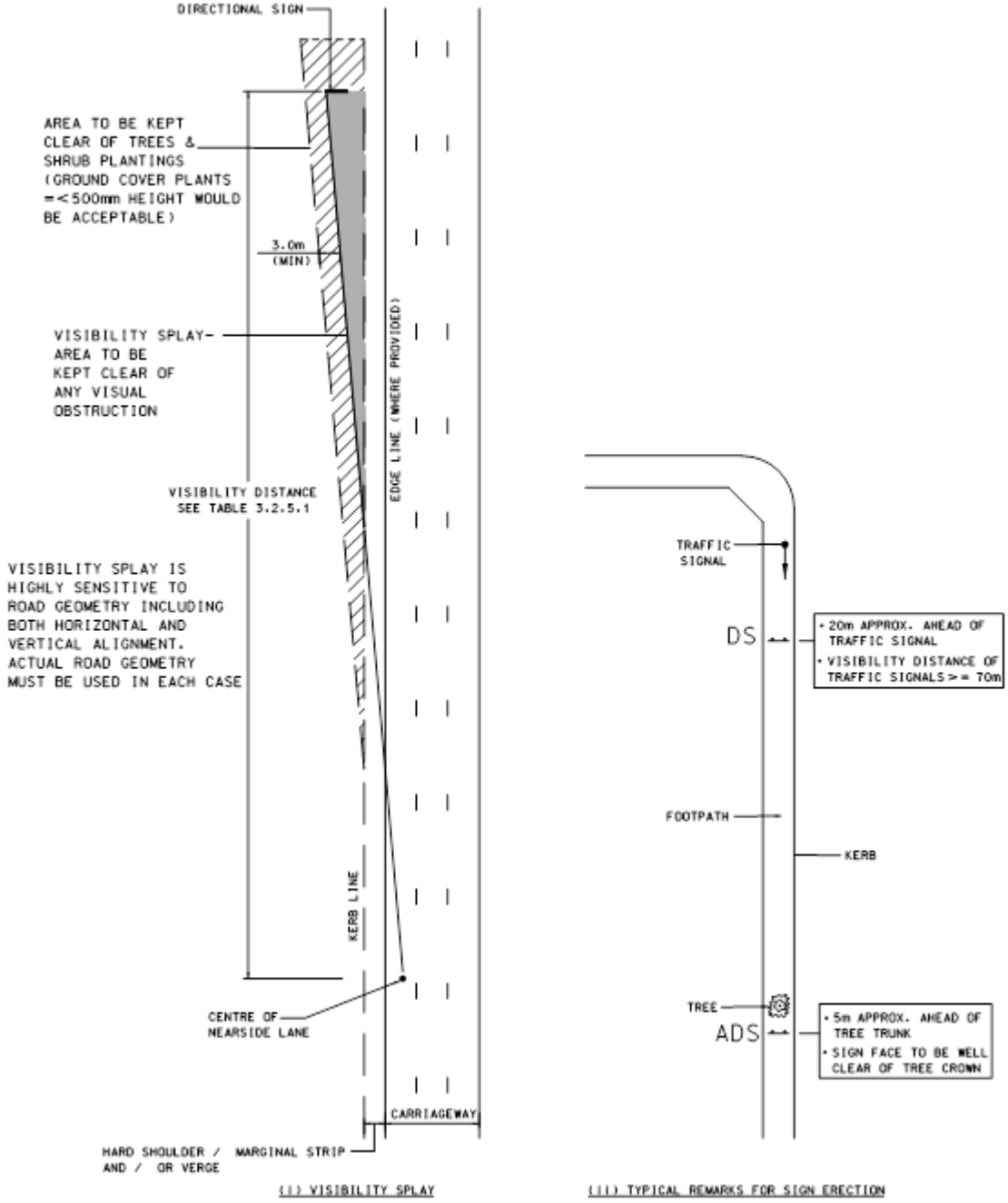
c) The figure in brackets means the alternative smaller x-height that may be used for the whole/part of the sign face due to severe space constraints or suiting actual site conditions. See further details in paragraphs 3.2.5.2 and 3.2.5.3 above.

d) For (iii), FADS may be provided on roads with design speed over 60 km/h.

e) In the case of new expressways, the minimum x-height to be used should be 250mm.

f) x-height of 150mm is generally more appropriate for urban/rural roads with higher approach speed or on the approach to major junctions, and 100mm is more appropriate for congested urban environment, urban/rural roads with lower approach speed or on the approach to minor junctions.

DIAGRAM 3.2.5.1 : VISIBILITY SPLAY FOR ROADSIDE DIRECTIONAL SIGNS



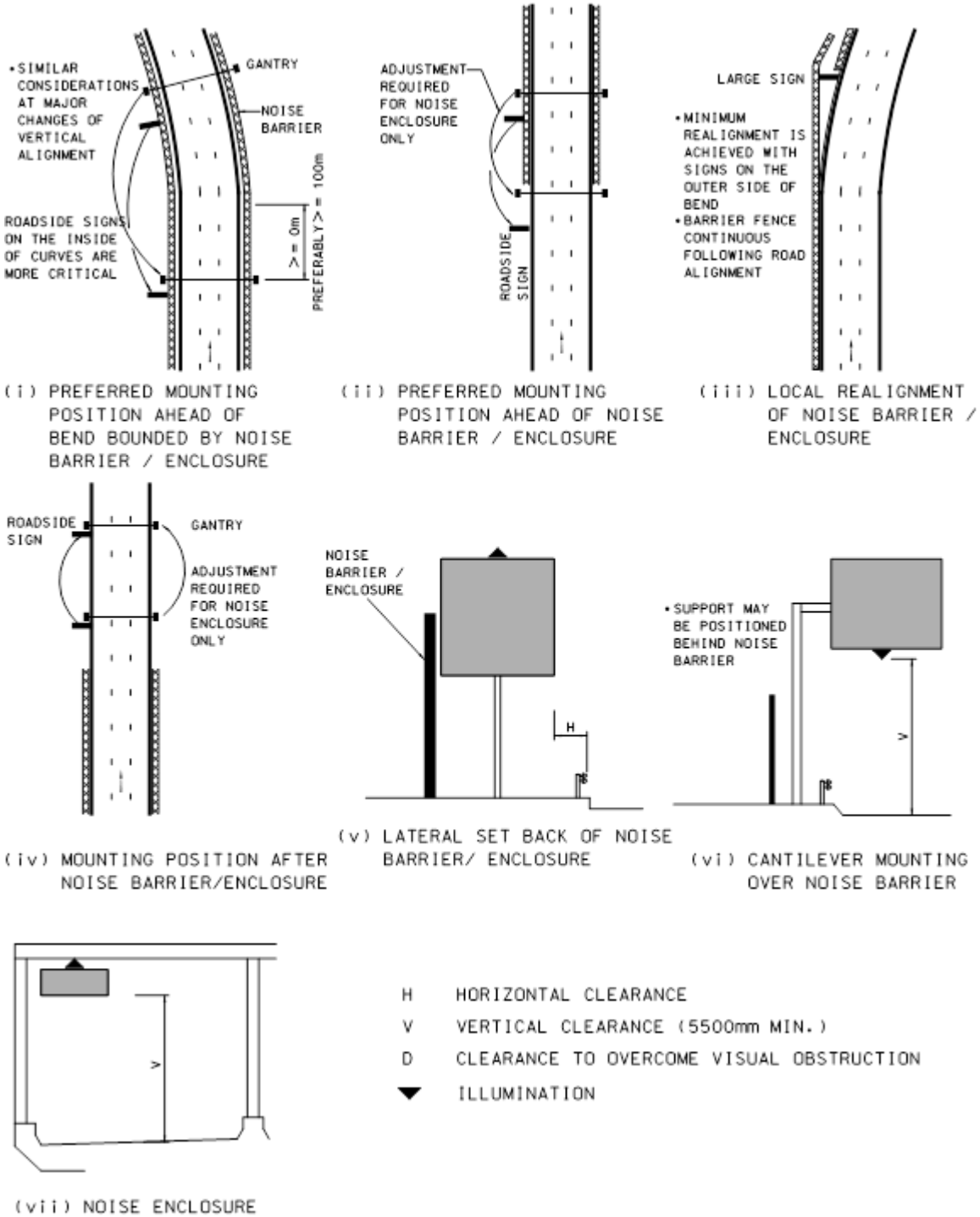
NOTE: THE HATCHED AREA VISIBILITY SPLAY AS WELL AS THE ADJOINING VERGE SHOULD BE KEPT CLEAR OF PLANTING AND OBSTRUCTIONS THAT WILL INTERFERE WITH THE VISIBILITY OF DIRECTIONAL SIGN. ON LOWER HIERARCHICAL ROADS, DIRECTIONAL SIGNS MAY BE LOCATED ON THE VERGE/FOOTWAY AND THE SPLAY SHOULD BE ADJUSTED ACCORDINGLY.

3.2.5.11 Roadside parking and loading/unloading activities, parking for private cars may interfere with the clear visibility distances, and where necessary, stopping restriction may be imposed to prevent this if the sign location cannot be adjusted within the tolerances given in paragraph 3.2.4.7.

3.2.5.12 Bus stops can be a particular cause of interference with directional signs. When a bus is waiting at the stop the sign cannot be seen, and therefore, the bus stop must either be relocated such that it does not interfere with the signs, or if the stop cannot be moved, a gantry sign must be erected in place of the roadside sign. See paragraph 3.4.3.4 for further guidance as to when the position of the bus stop should be adjusted or, more generally, when the ADS should be re-positioned.

3.2.5.13 For gantry signs, for any reason closer sign spacing than that indicated in Section 3.2.4 is used or there is an intervening overbridge, it must be checked particularly in a sag curve situation that a gantry sign or overbridge does not obscure the following gantry sign; if it does, then the position of the signs must be adjusted to ensure the clear visibility is achieved. In this latter respect, investigations should be made to see in the case of the overbridge whether the sign can conveniently be mounted on this.

DIAGRAM 3.2.5.2 : SIGNS POSITIONING CRITERIA FOR NOISE BARRIERS, NOISE ENCLOSURES AND SIMILAR FEATURES



3.2.5.14 Continuous vertical features such as noise barriers, walls and fences are potential sources of visual problems. Roadside signs are particularly susceptible due to their lateral width. If erected over a continuous vertical feature, they must be raised well above the top of the feature. The problem can be substantially aggravated by an inner curve and crest curve. Gantry signs are also prone to visibility problems if such features are present on the inner side of a curve. The problem is relieved to some extent if there is a hard shoulder or a wide verge. Typical situations are noise barriers on the nearside verge of a left hand bend or the median of a right-hand bend. Diagram 3.2.5.2 illustrates some typical problems and solutions and designers should look into the signing issues at an early planning stage.

3.2.5.15 Precautionary measures should be taken to prevent visual obstruction due to presence of large diameter pole structures such as traffic light signals, high masts for CCTV cameras or road lighting within visibility splay. Slender poles such as lighting columns might be acceptable, but any roadside sign is still preferably positioned ahead of these features.

3.2.5.16 Major crest curves will also affect the visibility of signs and therefore directional signs should be positioned over or ahead of a crest. For roadside signs, attention should be given to any upstream abutment walls and bridge piers which could act as visual obstructions.

3.2.5.17 The orientation of the sign relative to the view of oncoming motorists will also effect the visibility of the sign and the advice given in Section 2.2.4 of Chapter 2, in respect of warning signs and regulatory signs, is equally applicable to directional signs, and should be followed.

3.2.5.18 As advised in Volume 2 that siting junctions on curves has to be avoided. Similarly, directional signs should not be erected on curves. They should preferably be kept away from a curve within at least 100m before and 200m after it. Due care exercised for any directional sign that has to be erected on curve, Designer has to ensure that the required visibility is available to all parts of the sign from all traffic lanes. A particular problem can occur with gantry signs when they are mounted in these locations that because of the curved approach particular destination panels may appear to be over the wrong lane thus giving misleading information. Investigations must be made prior to the erection of a gantry sign in these locations that the information displayed will not be misleading, and in this respect off-setting the arrows from the centre of the destination panels and careful orientation of the sign may help alleviate this problem.

3.2.5.19 To ensure that the effectiveness of signs is not eroded, it is strongly recommended that regular checks of the following shall be considered: -

(i) Sign clutter/obscuring of one sign by another sign;

(ii) Any obstruction to signs caused by planting/foliage within the visibility splay;

(iii) Age/cleanliness/illumination of signs;

(iv) Effect of presence of bus stops/shelters and parked vehicles on sign obscurement; and

(v) Traffic mix to review whether the presence of high-sided vehicles is obscuring roadside signs.

3.2.6 Horizontal and Vertical Clearance of Directional Signs

3.2.6.1 All directional signs including any supports should be provided with the required horizontal clearance which is measured from the kerb or the edge of the carriageway, or the back of hard shoulder or verge where vehicles may use in emergency to the nearest edge of any physical component of the sign assembly in accordance with Section 3.5.2 of Chapter 3, Volume 2, and the advice given in the Structures Design Manual for Highways and Railways. For gantries and overhead cantilevers, the horizontal clearance would generally be measured up to the nearest edge of the sign support itself. For roadside signs, this is generally measured up to the nearest edge of the sign face.

3.2.6.2 On Expressways and Trunk Roads where a 3m verge or similar is provided, directional signs should be erected at least 600mm beyond these areas, preferably, but always such that 2.5m unobstructed verge width is maintained. On elevated structures where the 3m verge is not provided, the necessary horizontal clearance to the sign or any of its supports should be measured from the rear of the marginal strip.

3.2.6.3 The support structure of directional signs could constitute a hazard to vehicle occupants when hit by an errant vehicle. Collapse of a structure may result in further damage or casualties. As such, it is pertinent that sign structures are designed with adequate consideration of road safety. In general, all major sign structures should be guarded by appropriate barrier fences. Such barrier fences are preferably part of the roadside safety design for the highway. Isolated barrier fence for the sign structure is not the most desirable solution. If isolated fence cannot be avoided, design should be made reference to the Guidelines for Design of End-details of Thrie-beam Barrier Fence (HQ/GN/10) and the Supplementary Guidelines for Design of End-details of W-beam and Concrete Profile Barrier published by the Highways Department. Requirements of providing barrier fences shall refer to Volume 2 Chapter 3.9.3.

3.2.6.4 On roads with high traffic speeds, a crash cushion is often required at the back of a diverge nose to shield off potentially hazardous objects. If major support structures such as the supports for gantries, large flag type signs or any illumination fixtures for roadside signs that are erected at the back of nose and could be hit by an errant vehicle, a crash cushion is generally indispensable.

3.2.6.5 Because of the size that some directional signs can be, early consideration in the design of the road and particularly in respect of any land resumption required must be given to sign design so that in the ultimate scheme, sufficient width for signs to be erected has been provided. This is particularly relevant in respect of roadside signs, but even gantry signs because of the size of their supports together with the necessary protection can require additional land over the above that of the normal highway boundary.

3.2.6.6 In urban areas, there are greater difficulties in locating signs because of the presence of existing street furniture, canopies, congested underground utilities or illegal advertisement sign boards. Even so, any directional sign erected must be provided with adequate horizontal clearance and if necessary some adjustment of the sign location, or relocation of street furniture or both, may be required.

3.2.6.7 In respect of the vertical clearance between any verge or footway and the base of the sign, this should be, as for other signs, in accordance with Section 2.2.3 of Chapter 2. That is when over a footway, a clearance of 2300mm should be provided but to suit particular circumstances this may be reduced to 2000mm and when over a verge to which pedestrians do not have access, between 900mm and 1500mm depending on the particular circumstances. Along Expressways and other roads where pedestrians are prohibited, all nearside roadside signs should have a standard mounting height of 1000mm above the immediate surface. This should also be maintained for signs on the central reserve as far as possible, however in the case where there is a concrete profile barrier, or similar, any sign should be erected such that the lowermost part of the sign is 500mm above the top of the concrete profile barrier. All the above vertical clearances are minimum only and signs need not be erected at the minimum mounting height. A higher mounting height should be considered if this is necessary to improve visibility and avoid sign obscurement.

3.2.6.8 Attention is also drawn to Section 2.2.3 of Chapter 2 in the matter of the location of the supports when a directional sign is situated over a footway. The supports should be located such that minimum interference with pedestrians and in particular wheelchair users is achieved, which may require that a wider support structure than is actually necessary for the sign itself will need to be used, or using a single post with the sign mounted in an offset position or a cantilever mounting.

3.2.6.9 In respect of gantry signs over carriageways, vertical clearances should be as given in Table 3.5.1.1 of Chapter 3, Volume 2.

3.2.6.10 It should be noted that for gantry signs, the clearance is to the underside of the lowermost part of the gantry, which is generally the lighting unit. However if lane signals, as in tunnel areas, are also to be provided then these may project below the lighting unit, and proper allowance must be made for this.

3.2.7 Materials, Colours and Illumination

3.2.7.1 The materials, colours and lighting referred to throughout this Section are those specified in the BS EN 12899-1:2007, “Fixed, vertical road traffic signs – Part 1: Fixed signs”.

Materials

3.2.7.2 All permanent and temporary directional signs including those for cyclists and pedestrians must be reflectorised (except for any part of the sign coloured black) using Class RA2 material in accordance with the BS EN 12899-1: 2007. It should be noted that hand-painted signs, even if reflectorised, must not be used.

Colours

3.2.7.3 Directional signs have four background colours and their colour formats are summarised in Table 3.2.7.1.

Table 3.2.7.1

Colour Formats

	Background Colour of Directional Sign			
	Green	**Blue**	**White**	**Yellow**
Messages	White	White	Black	Generally black legends and borders. See Section 3.6.6
Border	White	White	Black	
Route Shield	Yellow background, black numerals		Not used	
Symbols	See Section 3.5.7			

Note: The colour of the sign face sheet material or finish shall comply with BS EN 12899-1:2007, Tables 2 & 16.

3.2.7.4 Background colour of green, blue and white shall be used for permanent directional signs according to the following principles: -

(i) Green - signing all destinations including local destinations, if any, on Expressways and the special roads in paragraph 3.2.7.8. See further paragraphs 3.2.7.5 to 3.2.7.7.

(ii) Blue - signing region, sub-region, district and sub-district destinations on non-expressways.

(iii) White - signing local destinations on non-expressways. See paragraphs 3.2.7.9 to 3.2.7.12.

3.2.7.5 For non-Expressway roads, except the special roads described in paragraph 3.2.7.8, the background colour of directional signs is blue in general. However, at the junction immediately preceding an expressway, those destinations to be accessed via the expressway should be shown on a green panel on the otherwise blue background. This applies, where applicable, to the AIS, ADS, FADS and DS on each approach to this junction. Examples of this sign face layout are shown in Diagrams 3.5.7.12 and 3.5.7.13.

3.2.7.6 At the entrance to an Expressway, if the DS lies within or in close vicinity to the start of the expressway, the sign shall wholly be in green colour.

3.2.7.7 The effect of using green colour for expressways on the symbols to be included on directional Signs is covered in Section 3.5.7. Essentially, where a symbol appears within a green sign or a green panel, area of the symbol which were displayed upstream and in blue will now be green in colour.

3.2.7.8 The roads within control areas such as the Tsing Ma Control Area, Tsing Sha Control Area and Route 3 (Country Park Section) were constructed to expressway standards but are not designated as expressways. The green background colour and the other details described in the previous paragraphs are applied to these special roads. It is recommended that other such special roads to be built in the future should also be treated similarly.

Local Destination Direction Signs

3.2.7.9 Black on white signs/panels are used for local destinations to facilitate motorists in finding their way around a local area. For overhead gantry, map type, stack type or lane destination blue signs which are usually for ADS and FADS before a junction (but sometimes for DS at junction), local destinations should be incorporated into the blue signs and shown on white panels below the corresponding regional/district destinations, if any (see examples in Diagram 3.2.7.1).

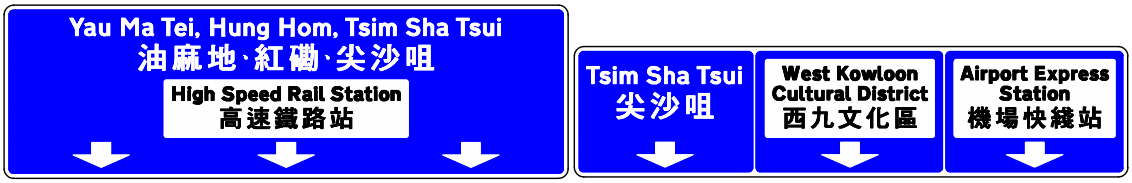
3.2.7.10 If the above blue sign has space constraint in accommodating the local destinations or there are altogether too many destinations, an alternative is to install a separate local destination direction sign wholly in white background colour (see examples in Diagram 3.2.7.2). In positioning the white local sign, reference could be made to the guidelines for use of subsidiary direction signs (SDS) for at-grade junctions in Section 3.3.10. Regional/district destinations, however, should not be incorporated into local destination direction signs.

3.2.7.11 For flag type blue signs (usually for DS at junction), local destinations should be shown on separate flag type white sign and be put below all the blue signs. The adjoining flag type blue and white signs should be pointing in the same direction if there is such a choice (see examples in Diagrams 3.2.7.2 and 3.2.7.3). The local destinations should not be put in a white panel within the corresponding flag type blue sign.

3.2.7.12 All local destinations, if any, shown on direction signs within expressway should be displayed in white on green background, that is same as other regional/district destinations.

DIAGRAM 3.2.7.1: EXAMPLES OF INCORPORATING WHITE PANELS ON BLUE SIGNS

(i) OVERHEAD GANTRY SIGN



(ii) MAP TYPE SIGN



(iii) STACK TYPE SIGNS



(iv) LANE DESTINATION SIGNS



NOTES: THE DESTINATIONS SHOWN ABOVE AND IN THE FOLLOWING SECTION BELOW ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARY THOSE TO BE USED ON ANY PARTICULAR DIRECTIONAL SIGN.

DIAGRAM 3.2.7.2 : EXAMPLES OF PROVISION OF SEPARATE WHITE LOCAL DESTINATION SIGNS

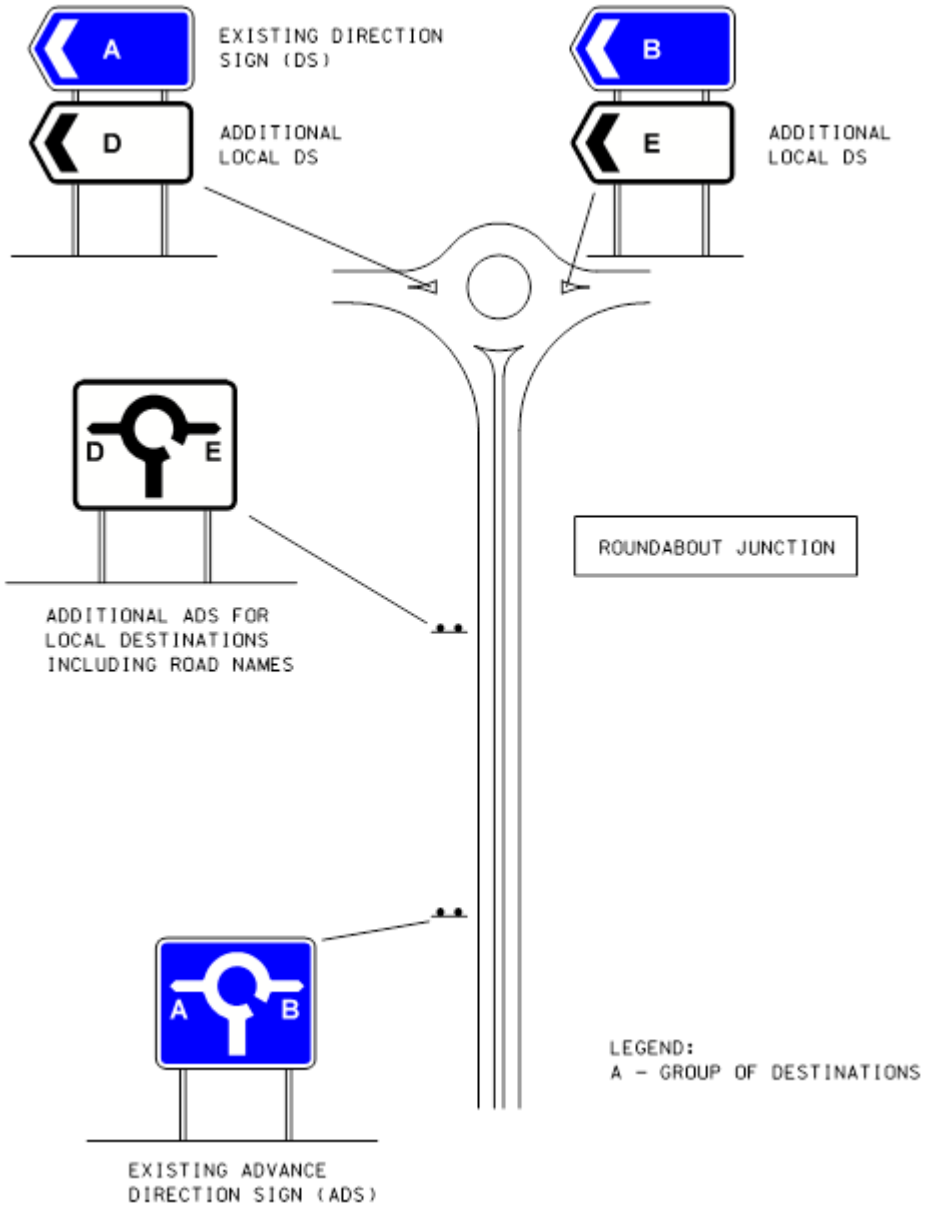


DIAGRAM 3.2.7.3 : EXAMPLES OF PLACING SEPARATE FLAG TYPE WHITE LOCAL DESTINATION SIGNS



Illumination

3.2.7.13 All overhead signs including gantry signs, overhead cantilever signs and bridge-mounted signs, as well as all roadside AIS, ADS and FADS on Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads must be directly illuminated by their own source of illumination. Illumination is advisable for roadside DS located at the start of turn. For directional signs on District Distributor Roads, the relevant Chief Traffic Engineers/Region of TD in consultation with HyD shall determine the appropriate illumination provision.

3.2.7.14 Illumination for roadside DS at the back of turn is generally not required as such signs are located at positions which favour direct illumination by the headlight of traffic. In addition, protruded lighting fixtures at these locations may have safety implications in a crash.

3.2.7.15 Inside tunnels, noise enclosures or other enclosed environment, all directional signs must be illuminated by their own light source on a 24-hour basis unless the mean sign luminance during daytime is proven to be sufficient.

3.2.7.16 For location of gantries, the Lighting Division of HyD has special requirements for their longitudinal clearance with lighting columns. The preferred gantry position is at the mid-point between two lighting columns but may be reduced to about 14m from a lighting column where the columns are spaced at 40m intervals. Positioning of gantries should be coordinated with highway lighting design at an early stage.

3.2.7.17 The external lighting for gantry and directional signs should adopt the illuminance concept as described in BS EN 12899-1 and shall be designed in accordance with the Public Lighting Design Manual issued by HyD.

Sign Support Colour

3.2.7.18 All posts, supports, backing boards, lighting units or other fixture forming part of a directional sign other than the actual sign face itself should be coloured grey to BS5252F:1976, Code 18B19. A galvanised finish is also acceptable provided that this accords with hot dipped galvanizing to BS EN ISO 1461:1999. Further details on finishing are given in the Standard Drawings and Structures Standard Drawings published by HyD.

3.2.7.19 Where a gantry sign is fixed to an overbridge, only those parts actually forming the sign, and not the overbridge itself, need to conform to paragraph 3.2.7.18.

3.3 Sign Type Formats

3.3.1 General

3.3.1.1 The purpose of this Section is to provide advice on the format of various sign types. Detailed design of the various signs is dealt with in Section 3.5.

3.3.1.2 Sign types referred to in this Section are as follows: -

(i) Advance Information Signs, see Section 3.3.2

(ii) Advance Direction Signs, see Section 3.3.3

(iii) Final Advance Direction Signs, see Section 3.3.4

(iv) Direction Signs, see Section 3.3.5

(v) Route Confirmatory Signs, see Section 3.3.6

(vi) Special Direction Signs, see Section 3.3.7

(vii) Pedestrian Direction Signs, see Section 3.3.8

(viii) Cyclist Direction Signs, see Section 3.3.9

(ix) Subsidiary Direction Signs, see Section 3.3.10

(x) Chainage Markers, see Section 3.3.11

3.3.1.3 Use of symbols such as route shield, tunnel symbol, airport symbol, etc., on directional signs are given in Section 3.5.7.

3.3.1.4 Attention is drawn to paragraph 3.5.1.5 in respect of the arrangements of destinations on any direction sign.

3.3.2 Advance Information Signs (AIS)

3.3.2.1 AIS should be provided on Expressways or Trunk Roads according to the criteria given in paragraph 3.2.4.2. If provided, AIS should normally follow the same design, format and mounting of the ADS, except that the distance warning indication will be different. The inclined arrow may however be omitted if this will cause confusion, for example when the AIS is located close to the DS of the preceding junction. Where necessary, it is permissible to display only the principal exit destinations on the AIS whereas additional exit destinations if any are shown on the following ADS, FADS and DS.

3.3.3 Advance Direction Signs (ADS)

3.3.3.1 Two types of mounting are used for ADS, i.e. side mounted or gantry signs.

3.3.3.2 Whilst a mixed system of gantry and roadside signs may be used in the series of ADS, FADS and DS, it is preferable to keep to either gantry or roadside signs in any such series. Certainly, once a gantry has been used as an ADS, all the other signs in that series should also be gantry signs. Additionally, all the directional signs on Expressways should be of gantry type other than in extenuating circumstances.

Direct Diverge Junctions

3.3.3.3 On Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads with design speed 70 km/h or above, the basic format for the ADS in advance of a junction having a deceleration lane should be in accordance with Diagram 3.3.3.1 to show the exit destinations only. That is, the forward direction should not normally be shown and the sign should incorporate the "500m" distance warning as indicated. The same signs shown in Diagram 3.3.3.1 should be used as the ADS in advance of a combined on and off slip road (see Diagram 3.4.2.6).

Lane Drop Junctions

3.3.3.4 Along the roads in paragraph 3.3.3.3 above, junction designs incorporating "lane drops" should be avoided wherever possible. However, where these are provided, ADS to indicate the "lane drop" should be in accordance with Diagram 3.3.3.2.

3.3.3.5 For "lane drop" situations, the aim should be as far as possible to always use a gantry ADS, as such an arrangement gives a far clearer indication to drivers approaching the junction. On the sign as indicated in Diagram 3.3.3.2 (i), only the direction of the lane that is to be "dropped" is shown together with the "500m" distance warning.

3.3.3.6 If for any reason a roadside ADS has to be used for a "lane drop" situation along the above roads, then it should follow the format shown in Diagram 3.3.3.2 (ii). For further design details of the sign face, see Section 3.5.5.

DIAGRAM 3.3.3.1 : ADVANCE DIRECTION SIGNS FOR EXPRESSWAYS, TRUNK ROADS, PRIMARY DISTRIBUTOR ROADS AND RURAL ROADS

(i) ROADSIDE



(ii) GANTRY



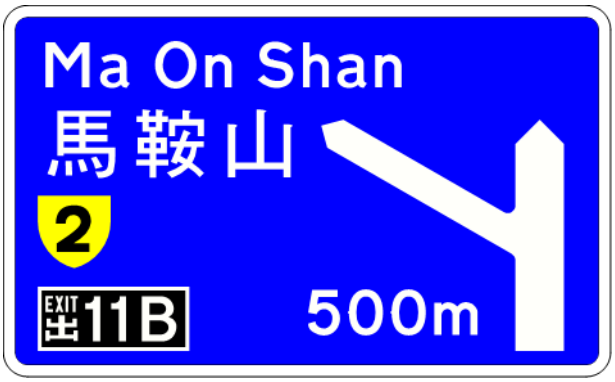
DIAGRAM 3.3.3.2 : ADVANCE DIRECTION SIGNS FOR "LANE DROPS" ON EXPRESSWAYS, TRUNK ROADS, PRIMARY DISTRIBUTOR ROADS AND RURAL ROADS

(i) GANTRY



(ii) ROADSIDE





Closely Spaced (Successive) Junctions

3.3.3.7 in urban areas, it does sometimes occur particularly that the gantry ADS of one junction needs to be located at or about the same location as the DS of the preceding junction, as a result of the proximity of the two junctions. In these situations to avoid any confusion, or the fact of one sign obscuring the other, the two signs should be combined as shown in Diagram 3.3.3.3.

3.3.3.8 In situation where the combined DS and ADS is located approximately 500m, in accordance with paragraph 3.2.4.1, in advance of the junction (i.e. the distance before the FADS) which the ADS of the combined sign refers to, then the "500m" distance warning should also be included on the sign display as shown in Diagram 3.3.3.3 (i). However, if the combined sign is located 350-450m in advance of the junction, then the distance warning should be adjusted to show "400m". Moreover, if the combined sign is located less than 250m in advance of the junction, then the distance warning should be omitted from the sign display, as shown in Diagram 3.3.3.3 (ii).

3.3.3.9 Combined DS and ADS should always be used where the ADS would need to be erected in advance of the DS of the preceding junction, and when the DS of the preceding junction would reduce the visibility of the ADS at its downstream, to less than that shown in Table 3.2.5.1.

3.3.3.10 If, where it is decided in accordance with paragraph 3.3.3.9 that a combined DS and ADS is needed and the junction downstream is of the "lane drop" type, then the signing should be in accordance with Diagram 3.3.3.4 adopting the same principles as in paragraph 3.3.3.8 for showing the distance warning. Details of the signing arrangement of DS and ADS are given in paragraph 3.4.2.21.

3.3.3.11 Roadside directional signs should not be used on Expressways. They are also not generally recommended for use on Trunk Roads, Primary Distributor Roads or Rural Roads with design speed 70 km/h or above, but if they are used and the situation arises where the ADS of a junction if located correctly would need to be erected in advance of the DS for the preceding junction, the ADS should be relocated after the DS in its vicinity, but such that one does not obscure or interfere with the other. The matter of whether the distance warning should appear on the ADS or not will depend on the distance to the junction in accordance with paragraph 3.3.3.8.

3.3.3.12 If an AIS is provided at or about the same location as the DS for the preceding junction, combined DS and AIS (instead of ADS) should be used by applying the same principles as in paragraphs 3.3.3.7 to 3.3.3.11 above.

3.3.3.13 Combined FADS and ADS must never be used.

DIAGRAM 3.3.3.3 : COMBINED DIRECTION AND ADVANCE DIRECTION SIGNS AT TAPER DIVERGE SITUATIONS

(i)(a) LOCATIONS WHERE THE SIGN WILL BE APPROXIMATELY 500M BEFORE THE FINAL ADVANCE DIRECTION SIGN IN ACCORDANCE WITH PARAGRAPH 3.3.3.8



(b) WHEN EXIT IS PARALLEL TO MAINLINE



(ii)(a) LOCATIONS WHERE THE SIGN IS LESS THAN 250M IN ACCORDANCE WITH PARAGRAPH 3.3.3.8



(b) WHEN EXIT IS PARALLEL TO MAINLINE



NOTES

1 THE DIRECTION SIGN FOR THE SLIP ROAD WHICH WOULD BE TO THE LEFT OF THE ABOVE SIGNS IS FOR CONVENIENCE NOT SHOWN.

2 THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARY THOSE TO BE USED ON ANY PARTICULAR DIRECTIONAL SIGN.

DIAGRAM 3.3.3.4 : COMBINED DIRECTION AND ADVANCE DIRECTION SIGNS AT "LANE DROP" SITUATIONS

(i) LOCATIONS WHERE THE SIGN WILL BE APPROXIMATELY 500M BEFORE THE FINAL ADVANCE DIRECTION SIGN IN ACCORDANCE WITH PARAGRAPH 3.3.3.8



(ii) LOCATIONS WHERE THE SIGN IS LESS THAN 250M IN ACCORDANCE WITH PARAGRAPH 3.3.3.8



NOTES

1 IN DIAGRAM (ii), THE DISTANCE WARNING IS OMITTED WHERE THE SIGN IS LESS THAN 250m BEFORE THE FINAL ADVANCE DIRECTION SIGN IN ACCORDANCE WITH PARAGRAPH 3.3.3.8.

2 THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

3 THE SIGNS IN GREEN BACKGROUND ARE FOR USE ON EXPRESSWAYS; ON NON-EXPRESSWAYS, BLUE BACKGROUND SHOULD BE USED.

4 THE DIVIDING LINE SHOULD BE IN LINE WITH THE CORRESPONDING LANE MARKING.

5 ALL DOWNWARD POINTING ARROWS MUST BE POSITIONED OVER THE CENTRE OF THE CORRESPONDING TRAFFIC LANE.

6 THE DOWNWARD POINTING ARROW OF THE "LANE DROP" PANEL SHOULD ALSO BE POSITIONED OVER THE CENTRELINE OF THE SIGN PANEL IF THE SIGN WIDTH IS WITHIN THE TRAFFIC LANE. SEE PARAGRAPH 3.5.6.8 IF THE SIGN IS REQUIRED TO BE EXTENDED OVER THE ADJACENT MARGINAL STRIP.

Diverging Junctions

3.3.3.14 Where a carriageway diverges to form two separate carriageways of equal status, as may occur at the intersection of two expressways, the ADS should be of the form shown in Diagram 3.3.3.5 (i) and should incorporate the destinations of each of the carriageway including the "500m" warning, as illustrated, on both parts of the sign. If the divided carriageways have route numbers, then the appropriate numbers of each route should be included in the sign, as illustrated, even though the carriageway over which the sign is erected forms part of only one of those routes.

3.3.3.15 In certain circumstances, it may be that at "500m" in advance of the diverge, the carriageway is only 3 lanes wide, in these circumstances the signing as shown in Diagram 3.3.3.5 (ii) should be adopted, with the sign being transposed if the single lane is the outer lane. However, it should be stressed that this sign should only be used when the carriageway diverges into two carriageways of equal status, and is not appropriate for a "lane drop" on the approach to a slip road which joins a road of a lesser status. For this latter situation, the signs in Diagram 3.3.3.4 must be used.

DIAGRAM 3.3.3.5 : ADVANCE DIRECTION SIGN WHERE CARRIAGEWAYS DIVERGE

(i) FOUR-LANE APPROACH : DIVERGING INTO TWO CARRIAGEWAYS OF EQUAL STATUS



(ii) THREE-LANE APPROACH : DIVERGING INTO TWO CARRIAGEWAYS OF EQUAL STATUS



NOTE : NOTES FOR DIAGRAM 3.3.3.4 WILL ALSO APPLY WHERE APPROPRIATE. THE DIVIDING LINE OF THE ABOVE SIGNS SHOULD BE IN LINE WITH THE DIVERGING ROAD MARKINGS 1143 IN BETWEEN THE TWO CARRIAGEWAYS.

Other Roads

3.3.3.16 On lower hierarchical roads (i.e. those roads other than Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads with design speed 70 km/h or above), the ADS will serve both its purpose and that of the FADS, as only one sign located in accordance with Table 3.2.4.2 will be used.

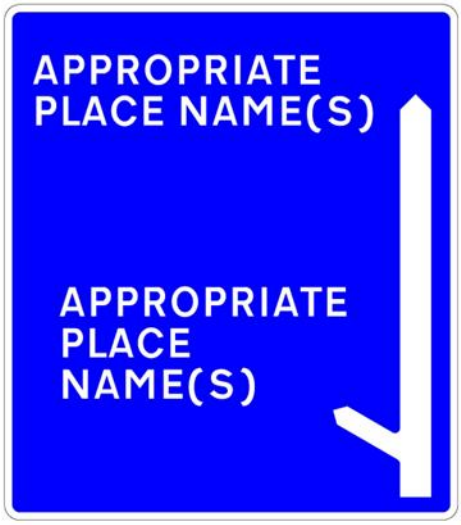
3.3.3.17 Where possible ADS on the lower hierarchical roads should be of map type, showing as far as this is possible the actual layout of the junction ahead. Examples of these are shown in Diagrams 3.3.3.6 to 3.3.3.8.

3.3.3.18 Diagram 3.3.3.6 illustrates some typical map type ADS for use on lower hierarchical roads, although they will, notwithstanding paragraph 3.3.3.14, also be appropriate for exit slip roads of higher hierarchical roads. On each arm of the junction should be indicated the appropriate place name. If no destinations are indicated in a particular direction, a stub replaces the full route arm. Where the junction provides direct access to an expressway, the destination accessed via the expressway should be shown on a green panel as indicated in Diagram 3.3.3.7 (ii).

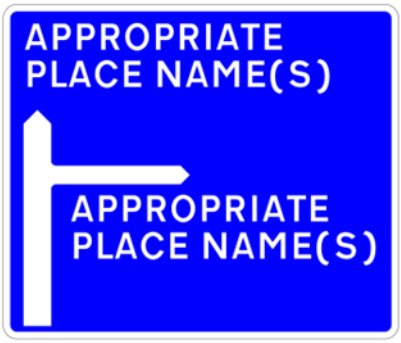
3.3.3.19 At a four-way at-grade junction with a dual carriageway road, the appropriate ADS will be as shown in Diagram 3.3.3.6 (iii). However, for signing a right-turn at a junction along a dual carriageway road with a wide median, the ADS should be in accordance with Diagram 3.3.3.6 (vi)(a) with the side arm having a perpendicular double stem across it to alert motorists that they have to traverse another carriageway of the dual carriageway road to complete the turning manoeuvre. This symbol is not used for the majority of normal dual carriageways. Diagram 3.3.3.6 (vi)(b) illustrates the appropriate ADS for use on side road approach to the junction with wide medium.

DIAGRAM 3.3.3.6 : ADVANCE DIRECTION SIGNS ON ROADS OTHER THAN EXPRESSWAYS, TRUNK ROADS, PRIMARY DISTRIBUTOR ROADS AND RURAL ROADS

(i) SIGN IN ADVANCE OF TAPER DIVERGE JUNCTION



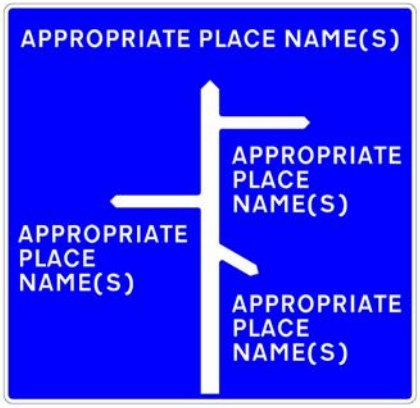
(ii) SIGN IN ADVANCE OF RIGHT-HAND JUNCTION (REVERSED FOR LEFT-HAND)



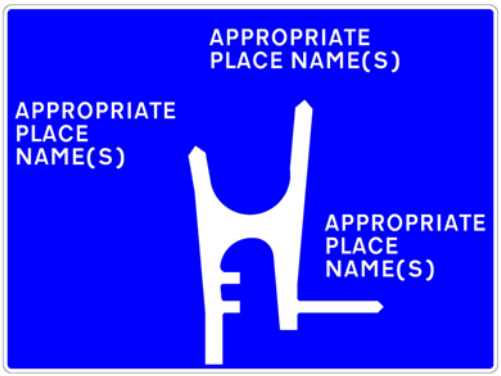
(iii) SIGN IN ADVANCE OF CROSS-ROAD



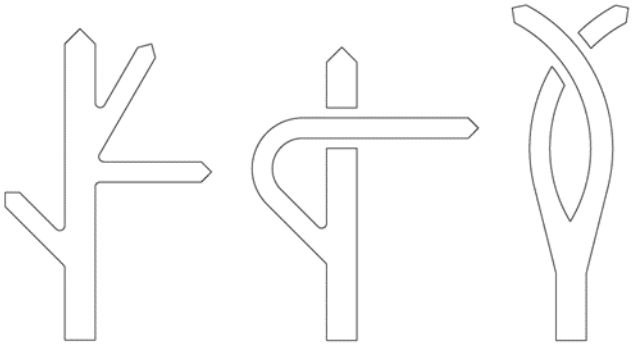
(iv) SIGN IN ADVANCE OF COMPLEX JUNCTION



(v) SIGN IN ADVANCE OF COMPLEX JUNCTION ILLUSTRATING ROUTE
TO BE TAKEN THROUGH THE JUNCTION TO REACH A PARTICULAR DESTINATION

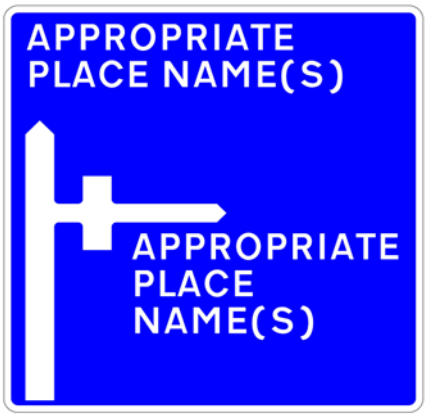


EXAMPLES OF OTHER ROUTE SYMBOLS

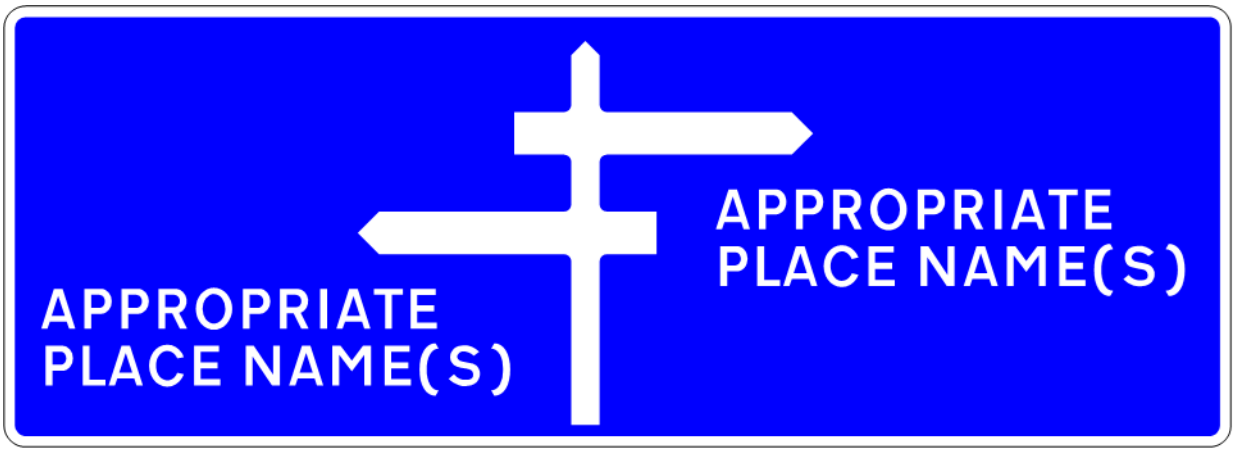


(vi) SIGN IN ADVANCE OF SIDE ROAD JUNCTION ALONG A DUAL CARRIAGEWAY ROAD WITH WIDE MEDIUM (SHORT STUB INDICATING OTHER CARRIAGEWAY)

(a) ON MAIN ROAD APPROACH



(b) ON SIDE ROAD APPROACH



3.3.3.20 Diagram 3.3.3.7 illustrates some appropriate ADS on the approach to a roundabout. The sign should as near as possible represent the layout of the roundabout, with for example a four-way approach being indicated as in (i) with an appropriate place name being indicated on each exit. However, where a very minor road connects to the roundabout, a place name need not be included, but a stub indicating that road must be shown.

3.3.3.21 Where the exits are not perpendicular to the roundabout, this should be indicated as shown in Diagram 3.3.3.7 (ii) or similar. Also shown in (ii) is the appropriate sign when the start of an Expressway begins at the roundabout. In these circumstances, the appropriate place name along the Expressway should be accompanied by an expressway symbol (white on green).

3.3.3.22 On the slip road leaving a dual carriageway road through a grade-separated roundabout junction, the ADS should be as in Diagram 3.3.3.7 (iii)(a), with only the appropriate place names for the alternative routes being indicated. However, the on and off slip roads on the opposite side of the roundabout should both be indicated by short stubs as illustrated. Diagram 3.3.3.7 (iii)(b) illustrates the sign for use on at-grade approach to the roundabout.

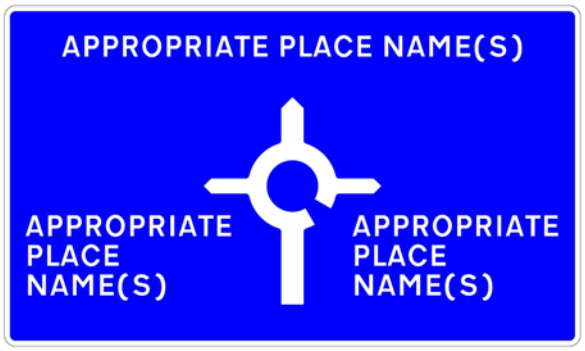
3.3.3.23 Where at a junction approach traffic lanes diverge, the ADS should take the form of that shown in Diagram 3.3.3.8 (i). If two or more lanes lead to the same destination, a horizontal line may be added below the destinations where necessary as shown on the right of the same diagram if confusion will likely arise. See paragraph 3.5.6.14.

3.3.3.24 Along some routes, there may be a prohibition or restriction affecting some or all traffic, and Diagrams 3.3.3.8 (ii) and (iii) indicate ADS incorporating traffic signs. Although both (ii) and (iii) show restrictions affecting the straight ahead route, traffic signs can equally be used to indicate a restriction along the side route. If as shown in (iii) there is a height restriction, or a prohibition affecting only certain types of vehicles, the other stem may show the same place name as that on the stem showing the restriction or prohibition, in order to clearly show that an alternative route to avoid the restriction is available. Other place names may also be shown on the sign.

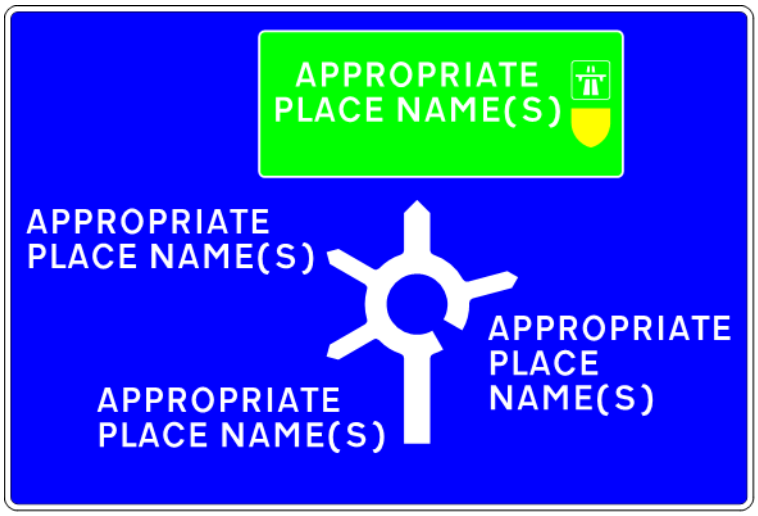
3.3.3.25 As stated in paragraph 3.3.3.16, ADS on lower hierarchical roads should as far as possible be of map type. However, in some urban areas, difficulties may be experienced, because of physical limitations caused by adjacent buildings, in accommodating a map type ADS. If even when using the lower x-height in Table 3.2.5.1, there is still not sufficient space to accommodate the sign or the use of this lower x-height is not considered appropriate and the sign cannot be re-sited, then a stack type sign as indicated in Diagram 3.3.3.8 (iv) should be used. For design details of stack type signs, see paragraphs 3.5.5.22 – 3.5.5.28.

DIAGRAM 3.3.3.7 : ADVANCE DIRECTION SIGNS AT ROUNDABOUTS

(i) SIGN IN ADVANCE OF ROUNDABOUT

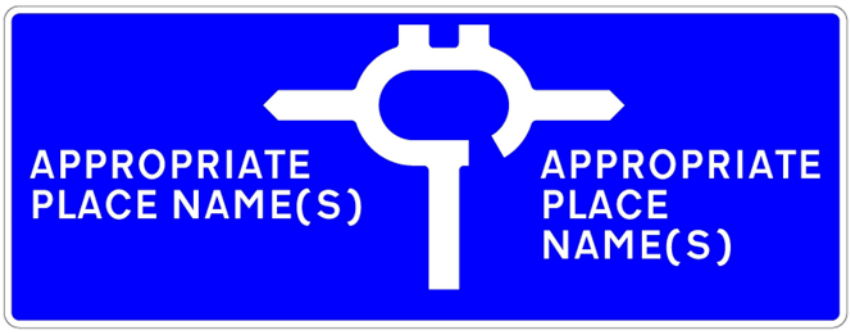


(ii) SIGN IN ADVANCE OF ROUNDABOUT WITH AN EXIT LEADING TO EXPRESSWAY (SEE ALSO DIAGRAM 3.5.7.12)



(iii) SIGN FOR USE AT A GRADE SEPARATED ROUNDABOUT JUNCTION

(a) ON SLIP ROAD APPROACH



(b) ON AT-GRADE APPROACH

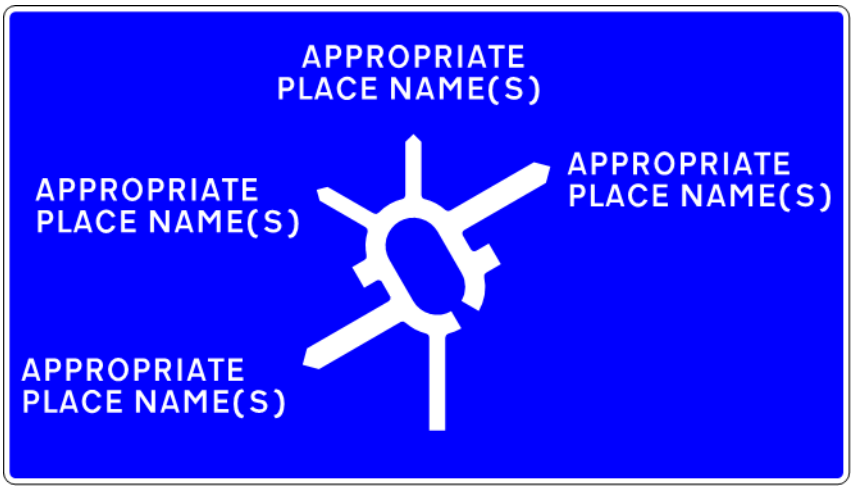
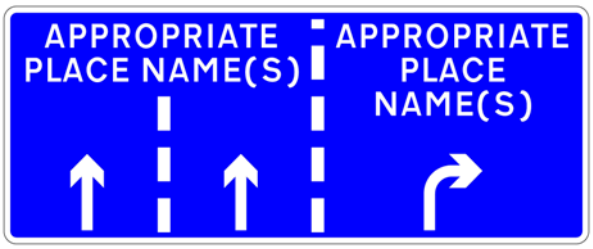
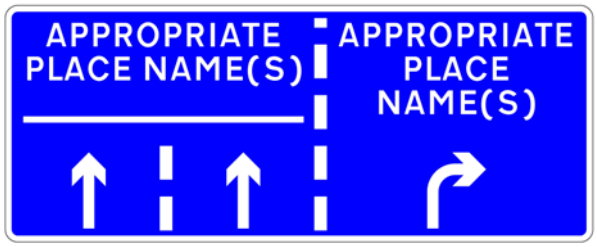


DIAGRAM 3.3.3.8 : OTHER ADVANCE DIRECTION SIGNS

(i) SIGN INDICATING THE CORRECT LANE TO BE IN AT JUNCTION APPROACH FOR THE PLACES SHOWN





NOTE : FOR TWO OR MORE LANES, A WHITE HORIZONTAL LINE MAY BE ADDED BELOW THE DESTINATIONS WHERE NECESSARY IF CONFUSION IS LIKELY CAUSED (SEE PARA. 3.5.6.14)



NOTE : THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

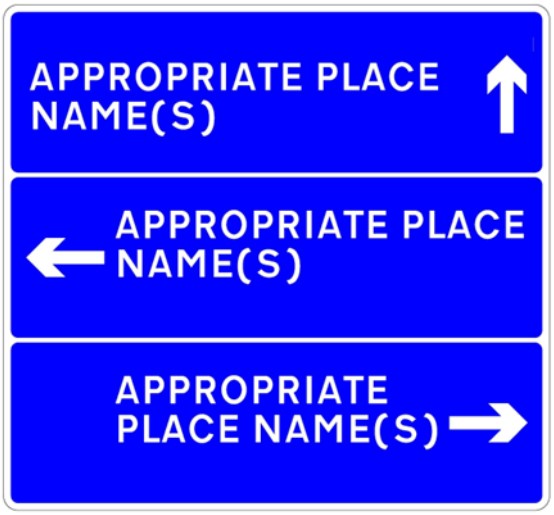
(ii) SIGN INCORPORATING A TRAFFIC SIGN TO INDICATE A RESTRICTION AHEAD



(iii) SIGN INDICATING RESTRICTED HEADROOM OR SIMILAR HAZARD AHEAD AND ALTERNATIVE ROUTE TO AVOID THIS



(iv) STACK TYPE SIGN



3.3.3.26 For lower hierarchical roads, gantry signs will generally not be appropriate. However, where they are considered necessary as perhaps on the approach to a signal controlled junction on a one-way street where the lanes diverge, the format should follow that given for the FADS given in Section 3.3.4, with the x-heights conforming with Table 3.2.5.1. If gantry signs are required on roads of lower than District Distributor Road or Rural Road status, the x-height used should not be less than 100mm.

3.3.3.27 In urban areas, it is often necessary for traffic management and road safety reasons to introduce turning prohibitions at junctions. However, the introduction of such prohibitions can necessitate the need to introduce “G” turns or similar and advice on this is given in Chapter 2 of Volume 6. To provide information as to the route to be followed for drivers to reach the street or place because of the turning prohibition, Local ADS as illustrated in Diagram 3.3.3.9 should be used.

3.3.3.28 Local ADS of the type shown in Diagram 3.3.3.9 may not be able to be erected in advance of the junction in accordance with the distances given in Table 3.2.4.3 because of the circumstances of the diversion or that the close spacing of junctions often prevents this. Therefore discretion will be needed to be exercised as to the most appropriate position to locate the sign, which should not be closer than 50m to the junction where the turn has to be made.

3.3.3.29 The information shown on a Local ADS in accordance with Diagram 3.3.3.9 should be kept as simple as possible commensurate with a driver being able to understand the route to be followed. As shown in Diagram 3.3.3.9, names of intermediate streets should if possible not be included on the sign, as the x-height that can usually be accommodated is not normally sufficiently large enough to make it fully legible at the required distance, also their inclusion can make the sign confusing. However, where it is considered necessary to include street names, no more than two different names in addition to the name of the street or place to which the sign refers should be used.

3.3.3.30 Advice on the detailed design of the sign faces of the ADS in this Section is given in Section 3.5.

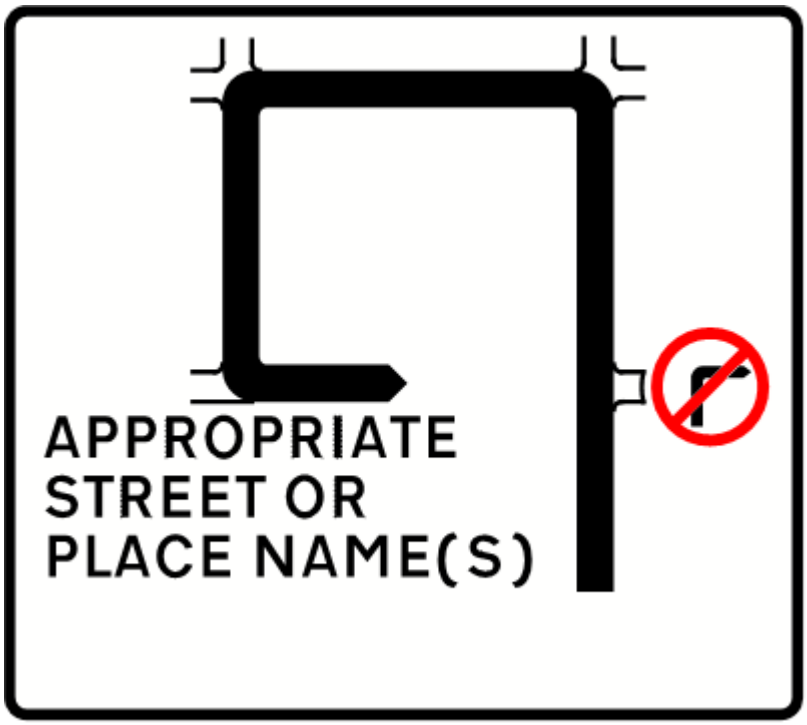
3.3.3.31 As shown in some Diagrams, a number of the ADS will need, as well as the place names, to incorporate route shields indicating appropriate route numbers, further advice on this is given in Section 3.5.7.

DIAGRAM 3.3.3.9 : LOCAL ADVANCE DIRECTION SIGNS FOR ROUTES TO FOLLOW WHERE TURNING PROHIBITIONS OCCUR

(i) SIGN TO INDICATE ROUTE TO AVOID TURNING PROHIBITION



(ii) SIGN TO INDICATE ROUTE TO BE TAKEN BECAUSE OF TURNING PROHIBITION



3.3.4 Final Advance Direction Signs (FADS)

3.3.4.1 FADS are only appropriate when used with a series of signs consisting of an AIS (if provided), an ADS, a FADS and a DS, and therefore their use will only arise in conjunction with Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads with design speed 70 km/h or above.

3.3.4.2 As with ADS, for FADS at the start of a deceleration lane, there are two mounting types, namely gantry or roadside. However, if the ADS is a gantry sign, the FADS must always be gantry sign also. But, if the ADS is a roadside sign, the FADS does not have to be the same if it considered that a gantry sign would be more appropriate.

3.3.4.3 Appropriate formats for FADS at a deceleration lane are illustrated in Diagram 3.3.4.1.

3.3.4.4 As shown in Diagram 3.3.4.1 (i), the gantry mounted sign at the start of a deceleration lane must have the destination of the slip road mounted above the destinations of the main lanes, and should incorporate an oblique upward pointing arrow indicating the direction of the slip road. Situations can occur with slip road is on the right-hand side and for these circumstances the slip road destination sign should be mounted to the right of the gantry assembly. Where these latter circumstances occur, a roadside FADS should generally be avoided if this is at all possible.

3.3.4.5 The roadside FADS at a deceleration lane is illustrated in Diagram 3.3.4.1 (ii). The stem indicating the slip road direction must always be vertically inclined and never perpendicular to the main stem. Both the main line and slip road destinations must be indicated.

3.3.4.6 For “lane drop” situations, the FADS must be of the gantry type. Continuous sign face may not adequately alert drivers to get in lane and therefore splitting of sign face should be adopted wherever possible as shown in Diagram 3.3.4.2. Side mounted FADS are not suitable where lane(s) are dropped.

3.3.4.7 For the situation where the carriageway diverges into two carriageways of equal status, a gantry sign must be used, as shown in Diagram 3.3.4.3. Similarly, splitting of sign face to alert drivers to get in lane should be considered. If the divergent carriageways have different route numbers, then the respective route numbers should be indicated on the FADS.

3.3.4.8 For advice on the actual sign face construction details, Section 3.5 should be consulted.

DIAGRAM 3.3.4.1 : FINAL ADVANCE DIRECTION SIGNS AT DECELERATION LANES

(i) GANTRY MOUNTED SIGN



(ii) SIDE MOUNTED SIGN



GENERAL NOTE : THE DESTINATIONS SHOWN ON DIAGRAMS 3.3.4.1 TO 3.3.4.2 ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

DIAGRAM 3.3.4.2 : GANTRY FINAL ADVANCE DIRECTION SIGN AT "LANE DROP"



NOTE : THE WHITE HORIZONTAL LINE BELOW THE DESTINATIONS MAY BE ADDED WHERE NECESSARY TO AVOID CONFUSION LIKELY CAUSED.

DIAGRAM 3.3.4.3 : FINAL ADVANCE DIRECTION SIGN WHERE CARRIAGEWAYS DIVERGE

(i) FOUR-LANE APPROACH : DIVERGING INTO TWO 2-LANE CARRIAGEWAYS



(ii) THREE-LANE APPROACH : DIVERGING INTO TWO 2-LANE CARRIAGEWAYS



NOTE : THE DIVIDING LINE OF THE ABOVE SIGNS SHOULD BE IN LINE WITH THE DIVERGING ROAD MARKINGS 1143 IN BETWEEN THE TWO CARRIAGEWAYS.

3.3.5 Direction Signs (DS)

3.3.5.1 A DS is the final sign in the series of AIS (if provided), ADS, FADS (if provided) and DS, confirming the destinations that can be reached if the side road is followed. It can also be used on its own on lower hierarchical roads to indicate at a junction the side road destinations.

3.3.5.2 As with the other signs, two mounting types of DS may be used according to the particular circumstances, namely gantry or roadside.

3.3.5.3 Gantry DS will only normally be appropriate for Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads, and even then should only be used if the FADS, or both the FADS and the ADS are of this type. Gantry DS are generally not appropriate if the preceding signs in the series of signs are side mounted.

3.3.5.4 Gantry DS when used on Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads, should not only indicate the destination of the slip road but should also extend across the main line carriageway to indicate the appropriate destinations for this as shown in Diagram 3.3.5.1.

3.3.5.5 As indicated in Diagram 3.3.5.1 (i), the gantry DS for the slip road will not form a continuation of the DS for the main line, and quite often they will need to be erected on different but adjacent gantries.

3.3.5.6 The format of a gantry DS, on higher hierarchical roads, whether the slip road has been designated as a “lane drop”, or has a deceleration lane access, will be exactly the same.

3.3.5.7 Where a carriageway diverges to form two separate carriageways of equal status, the DS format will be as shown in Diagram 3.3.5.1 (ii) and will be a repeat of the FADS.

3.3.5.8 On Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads where roadside ADS and FADS have been used, the DS must be of the Flag Type as shown in Diagram 3.3.5.2 and not a rectangular sign.

3.3.5.9 In respect of lower hierarchical roads, the type of DS to be used will need to suit the particular circumstances of the junction having regard to the particular circumstances such as space available for erecting the sign, and the actual junction arrangement.

3.3.5.10 On lower hierarchical roads, preference should be given to using flag type DS as shown in Diagram 3.3.5.2. However, where the particular circumstances do not suit the use of this type of sign, rectangular signs may be used of which various formats are illustrated in Diagram 3.3.5.3.

3.3.5.11 Advice on the sign face design details for DS is given in Section 3.5, and further information on their use in Section 3.4.

DIAGRAM 3.3.5.1 : GANTRY DIRECTION SIGNS

(i) GANTRY DIRECTION SIGN FOR SLIP ROAD AND MAIN LINE CARRIAGEWAY



NOTE : THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

(ii) GANTRY DIRECTION SIGNS FOR DIVERGING CARRIAGEWAYS OF EQUAL STATUS

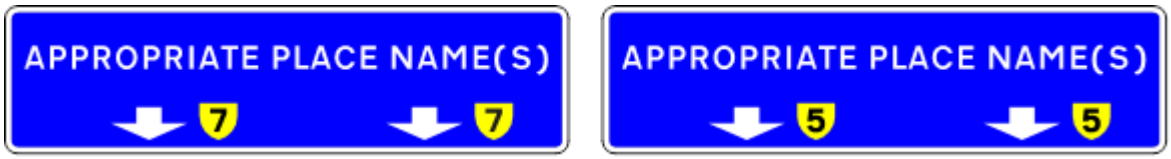
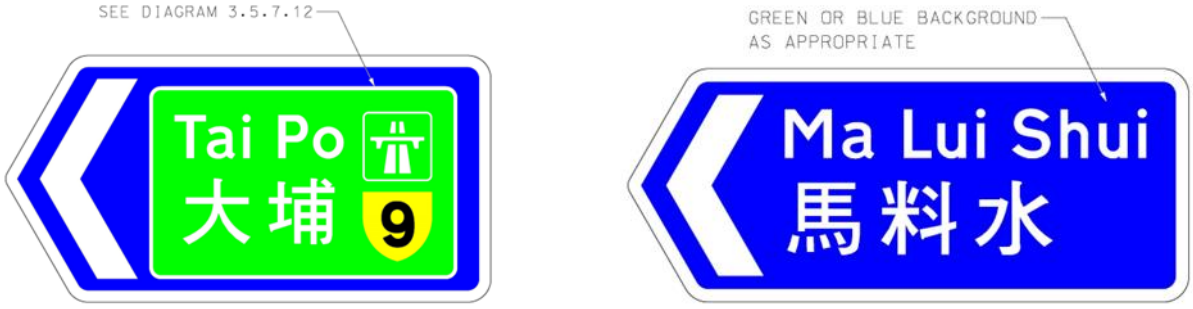
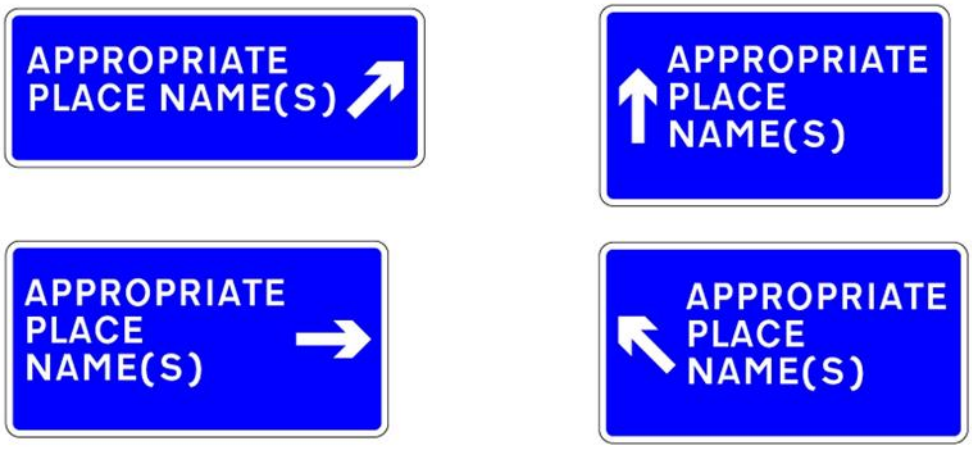


DIAGRAM 3.3.5.2 : FLAG TYPE DIRECTION SIGNS



NOTE : THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

.DIAGRAM 3.3.5.3 : RECTANGULAR DIRECTION SIGNS



3.3.6 Route Confirmatory Signs (RCS)

3.3.6.1 Throughout the Strategic Road Network (SRN) (see Chapter 2 of Volume 10), RCS should be erected on the nearside after major interchanges/junctions, where considered appropriate. The signs are usually to be located at about 100m downstream of a merge to confirm the route ahead (see Chapter 2 of Volume 3, paragraph 2.6.2.6). The distance may be further increased where necessary such as for reasons of visibility or site constraints.

3.3.6.2 Where RCS are used, they should normally be in accordance with the format shown in Diagram 3.3.6.1. For non-expressways, the sign plate consists of a single route shield on a blue background. For expressways should be green background.

3.3.6.3 In Hong Kong, the length of strategic route and the distance between interchanges/junctions are generally not very long, it is therefore considered not essential to include on the RCS destination place names as well as the distances to these places. Those route information may be removed when opportunities arise.

3.3.6.4 For design details of RCS, see Section 3.5.5.

DIAGRAM 3.3.6.1 : ROUTE CONFIRMATORY SIGNS

(i) ROUTE CONFIRMATION ON EXPRESSWAY



(ii) ROUTE CONFIRMATION ON NON-EXPRESSWAY



3.3.7 Special Direction Signs

3.3.7.1 Special Direction Signs may be used to indicate the direction to particular facilities such as the airport, hospitals with 24-hour accident and emergency services, car parks, MTR/railway stations or service areas.

3.3.7.2 Wherever possible, Special Direction Signs should be incorporated within normal directional signs. However, on some occasions, directional signs are not available and therefore Special Direction Signs will need to be mounted alone in the forms indicated in Diagrams 3.3.7.1 and 3.3.7.2.

3.3.7.3 Normally Special Direction Signs will only be erected in the immediate vicinity of the facility, but if necessary as in the case of the airport, consideration may be given to directing traffic from farther away. The location in advance of the facility where signing will be required to commence will depend on the particular circumstances.

3.3.7.4 As illustrated in Diagram 3.3.7.1, Special Direction Signs may be used to direct vehicles to nearby off-street parking facilities. It is also acceptable to qualify the signs as in Traffic Sign 656, by indicating the parking is for a certain type of vehicles. However, any written messages should be kept to the minimum in order not to complicate the sign, in fact as far as this is possible it is preferable to limit the sign content to symbols only.

3.3.7.5 In addition to the facilities indicated in Diagram 3.3.7.1, it may also be appropriate to indicate the direction to MTR and railway stations and hospitals as illustrated in Diagram 3.3.7.2.

3.3.7.6 With regard to MTR and railway stations, Special Direction Signs for vehicular traffic may be appropriate where there are suitable facilities for vehicles to park or at least stop to pick up and set down passengers.

3.3.7.7 With regard to hospitals, Special Direction Signs should normally only be provided for those hospitals with 24-hour accident and emergency services.

3.3.7.8 Direction signs for petrol filling stations should not generally be erected other than in association with directing drivers to service areas along Expressways. Where for some reasons such as concealed access it is considered necessary to erect a direction sign for a petrol filling station, the symbol to be used to indicate the facility should be the petrol pump symbol, being the same as that used to indicate the facilities at a service area as illustrated in Diagram 3.3.7.3. However, the name of the filling station or the petrol company must not be included on the sign.

3.3.7.9 Design details of the symbols used for the above Special Direction Signs, including further advice on their usage, are given in Section 3.5.7.

DIAGRAM 3.3.7.1 : STANDARD SPECIAL DIRECTION SIGNS



TS 628



TS 629



TS 630



TS 632



TS 633



TS 634

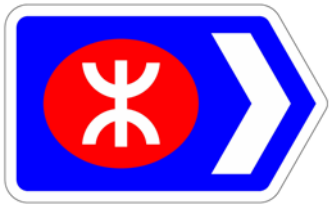


TS 656

NOTE : SEE ALSO SECTION 3.5.7

DIAGRAM 3.3.7.2 : OTHER SPECIAL DIRECTION SIGN

MTR / RAILWAY STATION SIGN



(i) HOSPITAL WITH ACCIDENT AND EMERGENCY SERVICES SIGN



NOTE : SEE ALSO SECTION 3.5.7

DIAGRAM 3.3.7.3 : SERVICE AREA DIRECTION SIGNS







NOTE : SEE ALSO SECTION 3.5.7

3.3.8 Pedestrian Direction Signs (PDS)

3.3.8.1 PDS, as the name implies are used to direct pedestrians to particular places of interest, or to facilities for pedestrian use, or in some instances to particular roads.

3.3.8.2 Normally PDS will be located in the immediate vicinity of the place or facility, but on some occasions it may be appropriate to direct pedestrians from farther away. In general, pedestrian routes for signing should take into account accessibility, safety, security, comfort and popularity.

3.3.8.3 Provision of PDS should:-

i) take into account people from major public transport facilities;

ii) be provided for essential features only to avoid excessive signing;

iii) be considered to be provided at points where uncertainty may arise due to a choice of alternative directions;

iv) be erected within 500m from the destination being considered;

v) take account of the need of signing continuity along a pedestrian routing; and

vi) ensure consistency in application and avoid differential treatment of signing across different regions and districts.

3.3.8.4 PDS should be erected either along routes from a majors traffic generator, e.g. public transport facilities, to a qualified feature or be erected along routes within a sign catchment area. The route should start at a point within the catchment area and end at the qualified feature. The size of the sign catchment area depends on the nature of the qualified feature.

3.3.8.5 PDS may also be used to indicate routes for the disabled, by the incorporation of the international disabled symbol in a standard Pedestrian Direction Sign, or by the erection of a sign or signs specifically for the disabled. Further information on such signing is contained in Chapter 8 of Volume 6.

3.3.8.6 Pedestrian Direction Signs should normally be of the flag type, and examples of standard pedestrian direction flag type signs are shown in Diagram 3.3.8.1.

3.3.8.7 On some occasions, it may be more appropriate to use rectangular signs to indicate pedestrian routes, and some examples of standard pedestrian direction rectangular signs are shown in Diagram 3.3.8.2.

3.3.8.8 Normally with rectangular PDS, the arrow indicating the direction to be followed should for ahead and left movements be positioned on the left of the sign, and for right movements on the right of the sign. However, as indicated in Diagram 3.3.8.2, this does not have to be strictly observed and if it is more descriptive of the actual situation to have a straight ahead or downward pointing arrow on the right of the sign, then this is quite acceptable.

3.3.8.9 The pedestrian symbol should be incorporated on all PDS, as it ensures that pedestrians are aware that the sign is intended for them and not motorists.

DIAGRAM 3.3.8.1 : STANDARD PEDESTRIAN DIRECTION FLAG TYPE SIGNS

(i) TS 636 DIRECTION TO FOOTBRIDGE



(ii) TS 639 DIRECTION TO MTR



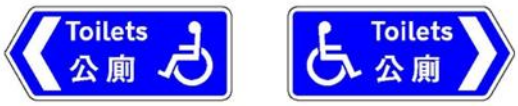
(iii) TS 649 DIRECTION TO SUBWAY



(iv) TS 651 DIRECTION TO PUBLIC TOILETS



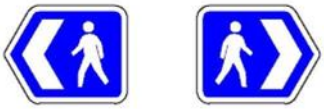
(v) TS 653 DIRECTION TO PUBLIC TOILETS WITH FACILITIES FOR THE DISABLED



(vi) TS 659 DIRECTION TO TRAM STOP



(vii) TS 660 PEDESTRIAN ROUTE



(viii) TS 691 DIRECTION TO FERRY



DIAGRAM 3.3.8.2 : PEDESTRIAN DIRECTION RECTANGULAR SIGNS

(i) TS 637 DIRECTION TO FOOTBRIDGE



(ii) TS 644 DIRECTION TO SUBWAY



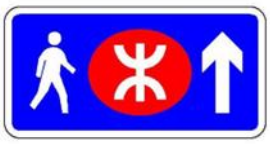
(iii) TS 645 DIRECTION TO SUBWAY



(iv) TS 640 DIRECTION TO MTR



(v) TS 641 DIRECTION TO MTR



(vi) TS 642 DIRECTION TO MTR

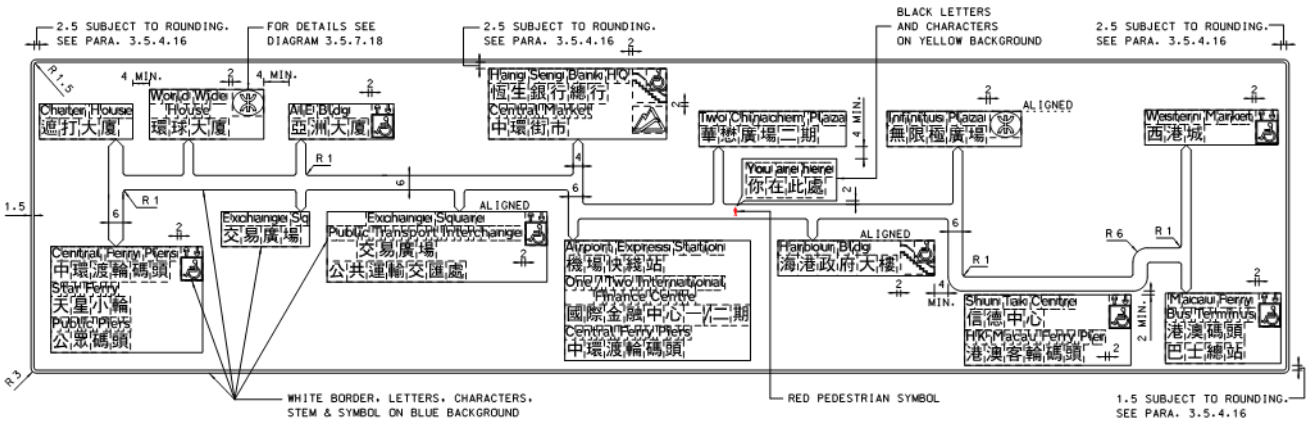


3.3.8.10 Before agreeing to erect any PDS, whether it is a standard sign or a special "one-off" sign, it should be determined that the sign is absolutely necessary. Whilst in an ideal situation it would be appropriate to indicate all places of particular interest, or all facilities provided for pedestrians, it has to be remembered that within most urban areas there are a number of traffic signs already present. To erect further signs may therefore only have a detrimental effect by detracting from the street scene or causing additional obstruction to pedestrian movements because of the difficulty of finding a convenient location to erect the sign. Signs at junctions may also interfere with sightlines of both pedestrian and vehicular traffic, and the erection of signs at these locations should therefore be particularly avoided. Footbridges which are self-evident from a distance should not require directional signs to be erected. However, where a footbridge connects to a building and access to that footbridge is only via the building, then a sign indicating this should be provided, unless the route to be followed is obvious. It also may be appropriate to erect a sign that indicates the route to a particular destination is via a footbridge or subway.

3.3.8.11 On complex footbridge/subway systems connecting several different pedestrian walkways, flag type direction signs should be erected at all junctions of the system and stack type direction signs showing the direction to be taken to reach key destinations should also be provided at regular intervals. In addition, to aid pedestrians in negotiating complicated walkway systems, location maps should be provided within 20m of walkway junctions. Maps should be erected with their horizontal centerline approximately 1500mm above the deck level of the walkway. This may be varied to suit individual circumstances but should, if possible, not be higher where the walkway system is suitable for wheelchair users. With regard to destination names, it is advisable to show only those names which are necessary to provide adequate information in order to achieve clarity and limit the size of the location maps. Symbols for supplementary pedestrian facilities such as lifts for disabled persons should however be included. Where there is an obvious recognisable symbol for the destination (e.g. MTR), this should also be included on the map. An example of a location map is illustrated in Diagram 3.3.8.3.

3.3.8.12 Design details for Pedestrian Direction Signs including those for disabled persons are given in Section 3.5.7.

DIAGRAM 3.3.8.3 : LOCATION MAP ON COMPLEX FOOTBRIDGE / WALKWAY SYSTEM



NOTES

1. DIMENSIONS IN STROKE WIDTHS
2. UNLESS OTHERWISE STATED, ALL x-HEIGHT FOR LETTERS AND CHARACTERS = 15MM

3.3.9 Cyclist Direction Signs

3.3.9.1 Cyclist Direction Signs incorporate a "cycle" symbol and are of flag type signs or rectangular signs. The signs are generally used to indicate the direction to cycle routes or tracks, or used along the cycle routes or tracks (normally incorporating place names) to advise cyclists of destinations on or along the route being travelled. Design details for cyclist direction signs are given in Section 3.5.7. Provision requirements and signing methodology can be found in Chapter 6 of this Volume.

3.3.10 Subsidiary Direction Signs (SDS)

3.3.10.1 SDS may be used for both permanent and temporary signing on the approach to at-grade and grade-separated junctions with the sign assemblies separated from the main signing sequence. The principal objective is to spread out excessive information displays on a single sign assembly. Normally, SDS should be provided as separate roadside signs and may take one of the following formats: -

(i) destinations and slanting arrow

(ii) worded message in the format
For XXX
follow YYY
where YYY is a destination displayed on the main direction sign

e.g.



3.3.10.2 Format (i) may be used in situations where the amount of information is exceeding the sign size available, and is subject to continuity of destination display on downstream junctions. If it is difficult to maintain continuity of the destination display, format (ii) is appropriate.

3.3.10.3 Diagram 3.3.10.1 shows the use of SDS for grade-separated junctions in that the SDS is provided on roadside about 200 – 300m ahead of ADS and FADS.

3.3.10.4 For at-grade-junctions, SDS if adopted should be provided at least 50m (or 150m for design speed of 70/80 km/h) after the ADS. Designers should take into account possible visual obstruction due to the upstream sign as well as the complexity of sign contents in locating the normal ADS and the SDS.

3.3.10.5 For roundabouts, SDS will normally be another map type sign. For other at-grade junctions, the SDS may be in the same sign format as the normal ADS, but the use of stack type format is always appropriate. Diagram 3.3.10.2 provides guidance for the provision of subsidiary signs for at-grade junctions.

3.3.10.6 Both the normal ADS and subsidiary ADS may contain a mixture of regional/district destinations and local destinations. The colour format of subsidiary signs shall accord with the design rules for normal direction signs. See Section 3.2.7.

DIAGRAM 3.3.10.1 : USE OF SUBSIDIARY DIRECTION SIGNS FOR GRADE-SEPARATED JUNCTIONS

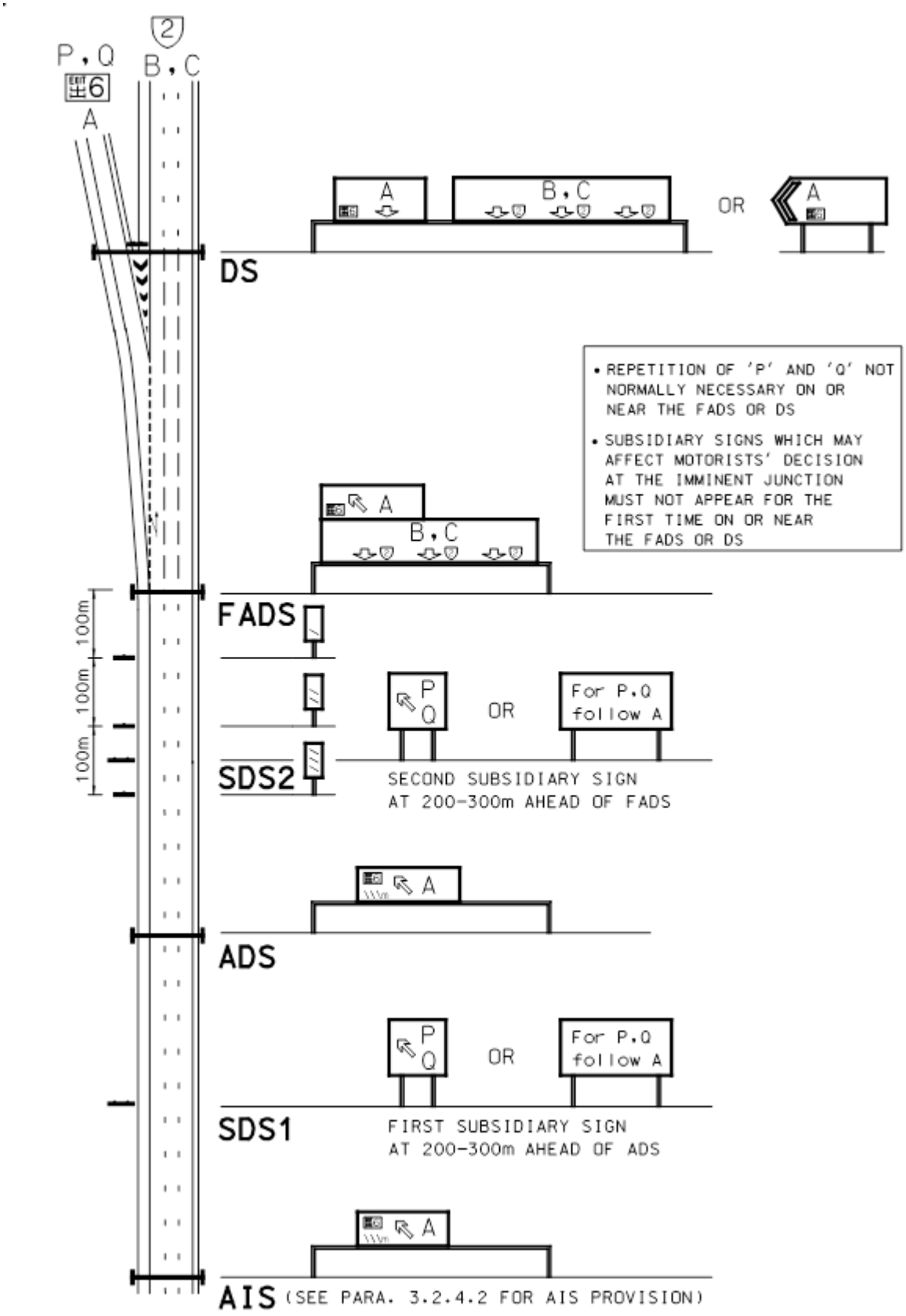
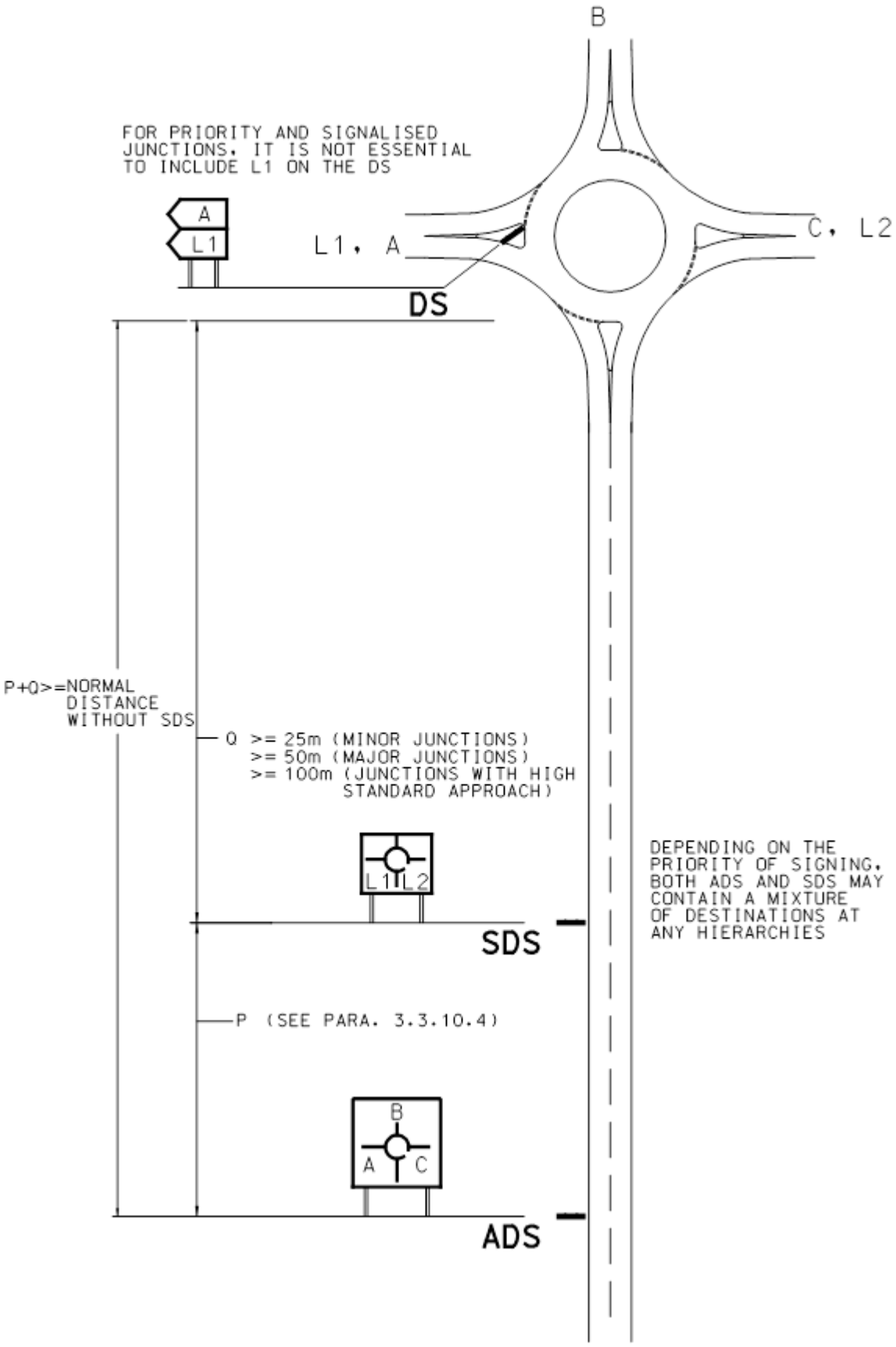


DIAGRAM 3.3.10.2 : USE OF SUBSIDIARY DIRECTION SIGNS FOR AT-GRADE JUNCTIONS



3.3.11 Chainage Markers

3.3.11.1 Roads within the Strategic Road Network (SRN) are major traffic corridors which are usually of Expressway or Trunk Road standards. The designation of specific locations on these roads by reference to adjacent property or local names is either inappropriate or vague, and a more accurate method of fixing location is necessary in case of carrying out maintenance works, reporting a traffic accident to police or seeking assistance during an emergency.

3.3.11.2 To assist motorist to identify their positions along the route, a standard chainage marker or its sign face should consist of a route number, travelling direction and a set of figure denoting the chainage along the routes. A typical sign face layout of chainage marker is shown in Diagram 3.3.11.1.

3.3.11.3 Each SRN must be provided with its own individual unified chainage, which should start at zero at the beginning of the route (starting point should be from ‘E’ or ‘S’) and be accurately marked in kilometres along the length of the route. Determination of the zero point for each route should be made in consultation with the Transport Department. Intermediate points at 100m intervals should also be marked on both sides of the carriageway. However, for some SRN sections in urban or built-up area (e.g. Routes 1, 5 and 7) where location would be easily referenced to adjacent property or local names, the need of chainage marker should be determined by the respective Chief Traffic Engineer.

3.3.11.4 Survey reference markers for the unified chainage should be established in the central reservation at kilometre intervals. These can be used for re-establishing the 100m marks should they become lost for any reason.

3.3.11.5 Chainage markers should follow the colour format as stipulated in Sections 3.2.7.3 and 3.2.7.4 of this Chapter. The main chainage marker signs (chainage number in whole km) with an x-height of 175mm shall be erected facing traffic at 1 km intervals whilst the supplementary chainage marker signs (those in between main marker signs) with an x-height of 90mm shall be erected parallel to traffic at 100m intervals.

3.3.11.6 The main chainage marker signs erected facing traffic should be mounted on a free standing post, 900mm to 1500mm high measured from carriageway level, and set at the back of the hard shoulder or marginal strip with adequate horizontal clearance (see Section 3.2.6 of Chapter 3, Volume 3), whilst the supplementary chainage marker signs erected parallel to traffic should be mounted on barrier fences or bridge parapets at the roadside or central reservation as appropriate along Expressway/strategic routes (see the mounting details in Diagram 3.3.11.1).

3.3.11.7 For further design details of chainage markers, see relevant Traffic Signs Standard Drawings.

DIAGRAM 3.3.11.1 : CHAINAGE MARKER

(Chainage markers for Route 1 are used below for illustration)

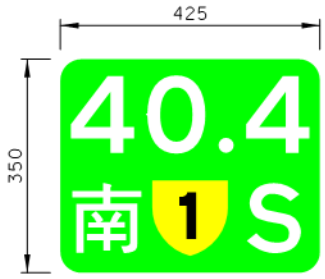
SIGN FACE OF CHAINAGE MARKER



AT 1km INTERVAL
(FACING TRAFFIC)

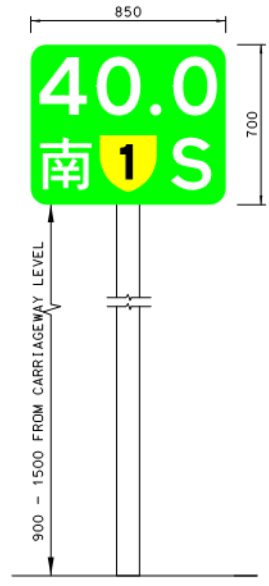
NOTES:

(1) ALL DIMENSIONS ARE IN MILLIMETRES
(2) COLOURS:
(a) MAIN SIGN:-
WHITE NUMERALS, LETTER & CHARACTER ON GREEN BACKGROUND FOR EXPRESSWAY (BLUE BACKGROUND SHOULD BE USED FOR NON-EXPRESSWAY)
(b) ROUTE SHIELD:-
BLACK NUMERAL ON YELLOW BACKGROUND

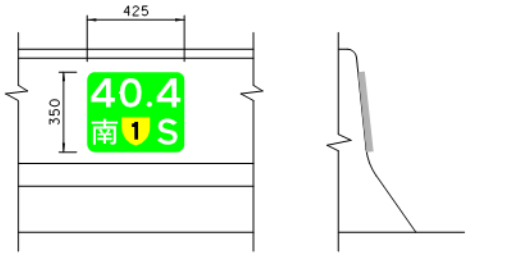


AT 100m INTERVAL
(PARALLEL TO TRAFFIC)

MOUNTING METHODS OF CHAINAGE MARKER

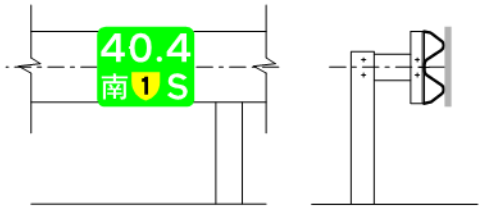


AT 1km INTERVAL
(FACING TRAFFIC)



ELEVATION TYPICAL SECTION

CONCRETE PROFILE BARRIER



ELEVATION TYPICAL SECTION

BEAM BARRIER

AT 100m INTERVAL (PARALLEL TO TRAFFIC)

3.4 Signing Arrangements

3.4.1 General

3.4.1.1 The purpose of this Section is to provide information on the actual use of the various sign types referred to in Section 3.3, together with such other informatory signs which may be required to be used in conjunction with directional signs.

3.4.1.2 Whilst a number of different signing arrangements are described, it is possible that situations will arise which are not covered by this Section. Although in these situations it may be necessary to adopt slightly different signing arrangements, the basic principles outlined in this Section should as far as possible be followed.

3.4.1.3 Advice on signing arrangement for Temporary Direction Signs is separately given in Section 3.6.

3.4.1.4 In making reference to the diagrams contained in this Section, the following should be noted: -

(i) Road markings should tally with the design and arrangement of directional signs and are indicated in the diagrams of this Section for consistency. For detailed road marking requirements, reference should be made to Chapter 5, Volume 3.

(ii) The alternative gantry and roadside signing layouts are indicated in the diagrams where appropriate and applicable.

(iii) Reference should be made to paragraph 3.2.4.2 for provision of Advance Information Sign which may not be indicated on the diagrams in this Chapter.

(iv) Adequate vertical and horizontal clearances should be provided for all signs, see Section 3.2.6 of this Chapter and also Table 3.5.1.1 and Table 3.5.2.1, Chapter 3, Volume 2 respectively.

(v) Clear visibility distances to all directional signs should be provided in accordance with Table 3.2.5.1 of this Chapter.

3.4.2 Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads with design speed 70km/h or above

Taper diverge junctions

3.4.2.1 The basic signing arrangement for directional signs on these higher hierarchical roads should be where there is a standard deceleration lane (taper diverge), in accordance with Diagram 3.4.2.1. Where possible, countdown markers (TS605, 606 and 607) should always be erected to indicate the final 300m to the start of the deceleration lane. However, in situation where junctions are in proximity to one another, traffic sign 605 may be omitted if this cannot be conveniently located.

3.4.2.2 Although it should be avoided wherever possible, for some junction layouts it may be necessary to locate the slip road on the offside. In these situations, it is preferable because of the non-standard layout that gantry signing as shown in Diagram 3.4.2.2 is used and should always be used where there are three or more lanes on the approach. However, where the approach carriageway consists of only two lanes as shown in Diagram 3.4.2.3, side mounted directional signs may be used.

3.4.2.3 For offside slip roads, the bars on the countdown markers should be reversed in the form of traffic signs 608, 609 and 610 as shown in Diagrams 3.4.2.2 and 3.4.2.3.

3.4.2.4 On Expressways, gantry signs should be used. On non-expressway carriageways having four or more lanes, gantry signs should also be used as drivers of vehicles in the extreme offside lane may have difficulty in reading roadside signs. On non-expressway carriageways having three lanes, gantry signs may be preferable where the proportion of large vehicles is greater than 20% and traffic flows are relatively high, and will be required where there is insufficient space to accommodate roadside directional signs, presence of visibility obstructions which cannot be overcome, or technical reasons including elevated roads, lack of lateral space, etc.

3.4.2.5 The arrangement for gantry Directional Signs in advance of a standard deceleration lane should be as shown in Diagram 3.4.2.1.

3.4.2.6 As mentioned in Section 3.3.3, it is preferable to keep to either gantry or roadside signs in any such series. With respect to the signing in Diagram 3.4.2.1, if it has been decided to use gantry mountings for the FADS, then unless there are extenuating circumstances the ADS should also be of the gantry type. Alternatively, if it is considered that the ADS must be a roadside sign, it does not follow that the FADS has to be the same if a gantry sign is more appropriate. However, where the FADS is a gantry or roadside sign, the DS should normally have the same mounting as this, but see also paragraph 3.4.2.19.

3.4.2.7 Some junctions may have extended parallel diverging lanes which will result in a great separation between the FADS and the DS. If such separation exceeds 500m, an additional FADS may be desirable over the parallel auxiliary lane section about midway between the normal FADS and the DS (see Diagram 3.2.4.1 (ii)). In order to provide a greater emphasis of such deceleration splays, the complete parallel lanes should be delineated by diverge marking RM1121 or RM1143 as appropriate.

3.4.2.8 AIS, if provided, should normally use the same type of mounting for the ADS.

DIAGRAM 3.4.2.1 : SIGNING ARRANGEMENT FOR TAPER DIVERGE JUNCTION

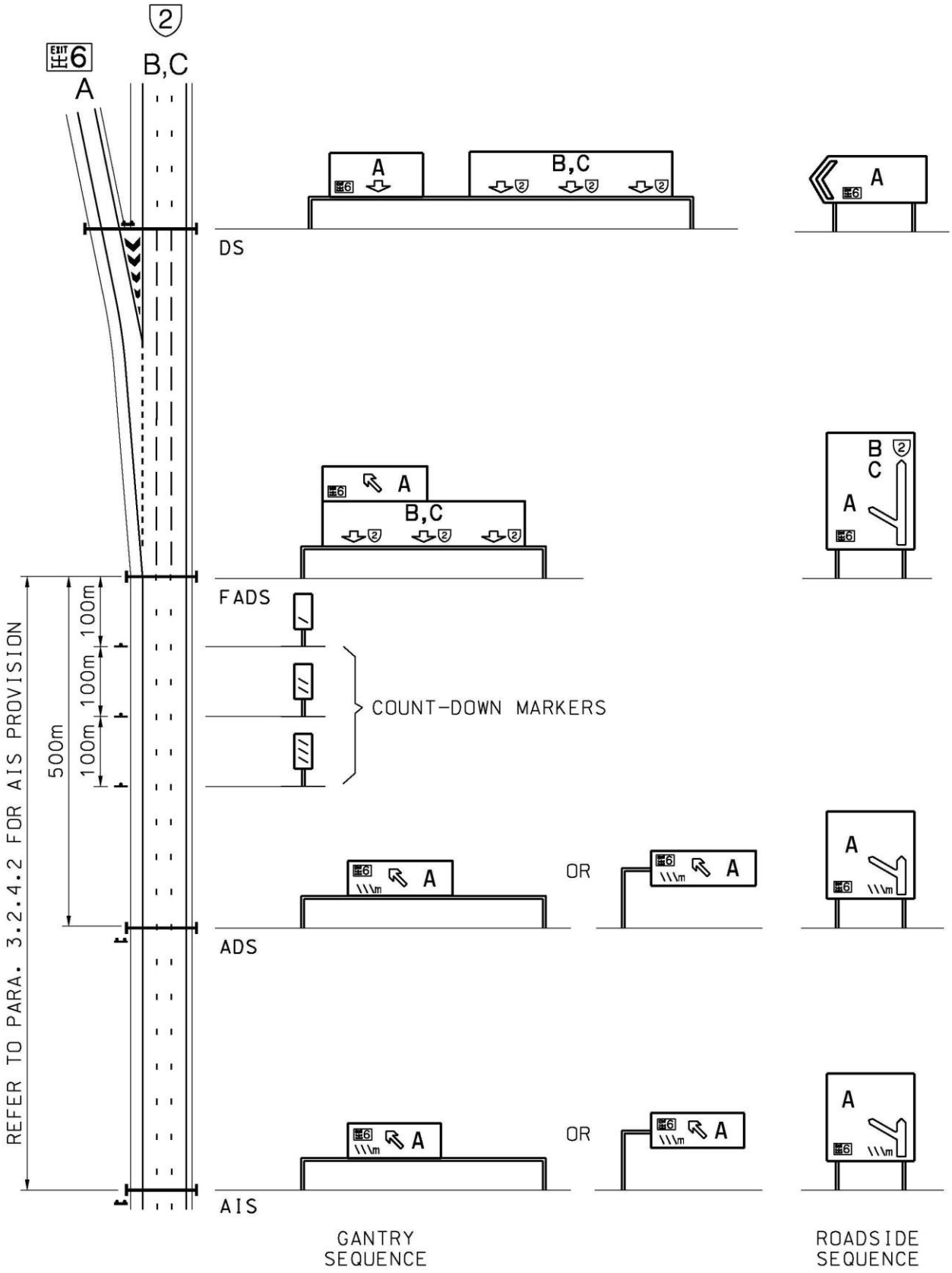


DIAGRAM 3.4.2.2 : GANTRY SIGNING ARRANGEMENT FOR OFFSIDE SLIP ROAD

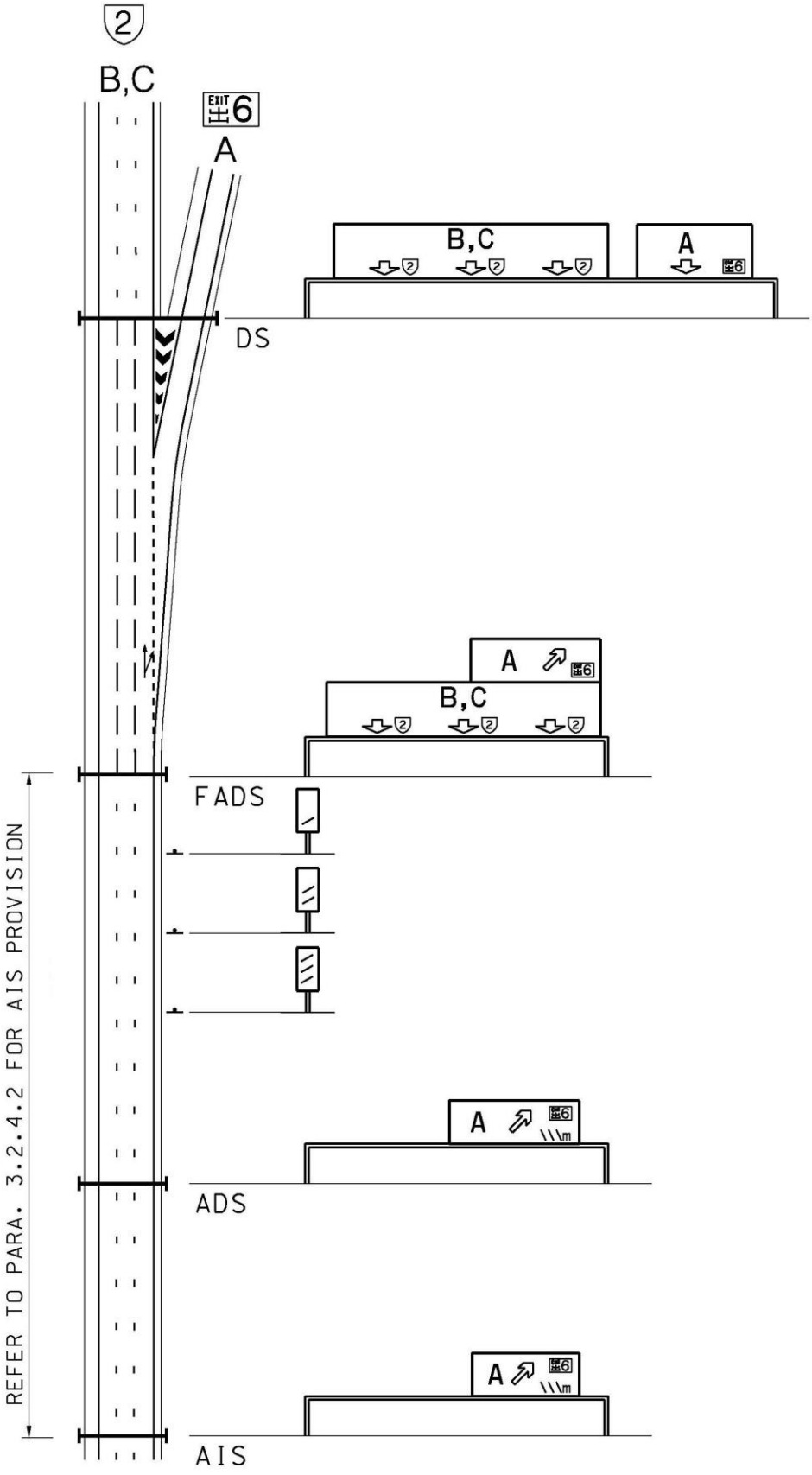
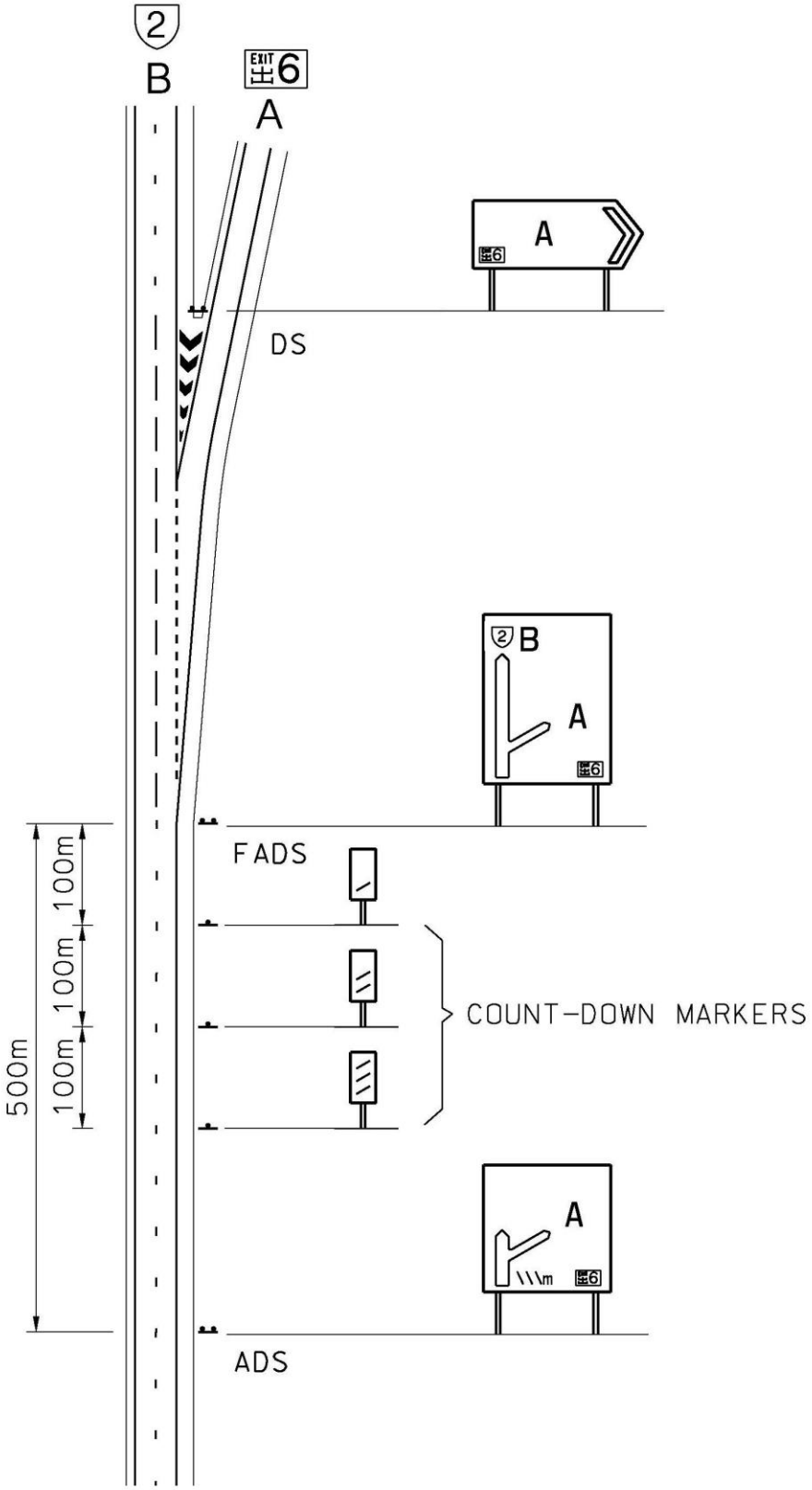


DIAGRAM 3.4.2.3 : ROADSIDE SIGNING ARRANGEMENT FOR OFFSIDE SLIP ROAD (DUAL 2-LANE CARRIAGEWAY)



NOTE : ADVANCE INFORMATION SIGN NOT SHOWN, SEE PARAGRAPH 3.2.4.2 FOR ITS PROVISION

"Lane drop" junctions

3.4.2.9 Where the slip road to a junction (particularly mainline carriageway having three or more lanes) takes the form of a "lane drop", gantry signs should be adopted as these give far clearer directions to motorists as to the appropriate lane to be in for the particular destinations required.

3.4.2.10 Diagram 3.4.2.4 (i) shows the standard layout of directional signs for junctions with a single "lane drop" slip road on the nearside. The DS is positioned at the back of nose. The FADS is positioned about 200m to 300m upstream of the DS with the slip road sign face splitting from the mainline sign face in order to alert exit traffic to get in lane . The ADS is positioned about 500m ahead of the FADS. It should be noted that road marking 1143 is used between the FADS and the DS as the lane marking separating the slip road from the main line traffic lane. The marking may be extended further upstream, up to the ADS where necessary.

3.4.2.11 When the diverge flow is high and the junction adopts a 2-lane exit slip road with a "lane drop" followed by a taper diverge, the standard layout of directional signs should refer to Diagram 3.4.2.4 (ii). It should be noted that the FADS should be positioned about 200m upstream of the start of the ghost island marking.

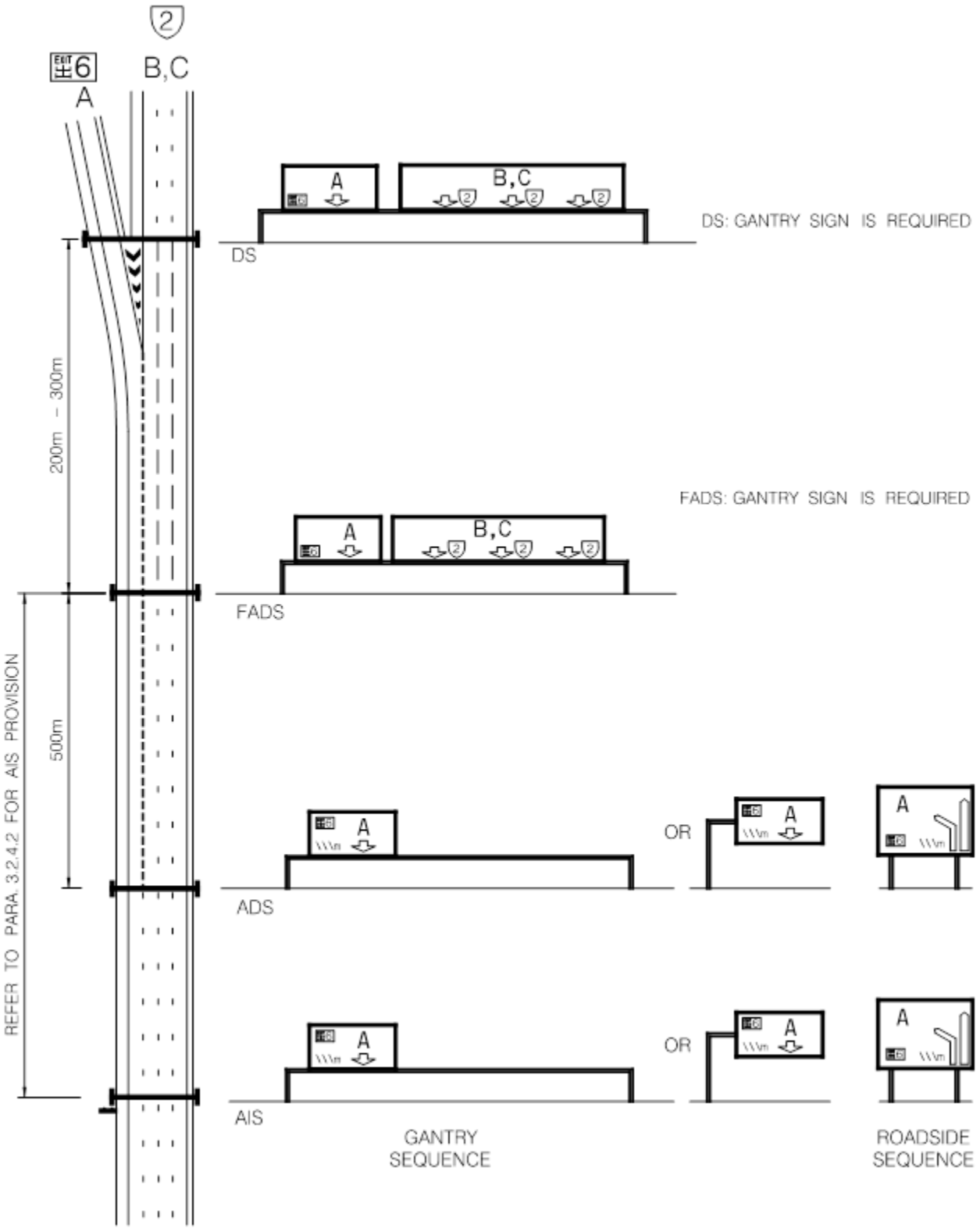
3.4.2.12 If for any reason an offside single "lane drop" slip road has to be utilised, then the directional signing will be the reverse of that for the nearside single "lane drop" and this is illustrated in Diagram 3.4.2.5.

3.4.2.13 Whilst roadside AIS and ADS can be used on the approach to "lane drop" slip road junctions, it is preferable that they are not, as they give a far less clear indication of the lane arrangement, and if there are frequent high-sided vehicles on the nearside lane, these can obscure the view of other traffic to the signs. However, if such directional signs are used, they should follow the arrangement shown in Diagram 3.4.2.4. For "lane drop" occurring on the offside, roadside signing must not be used.

3.4.2.14 If for any reason two lanes of a carriageway are to be dropped, similar directional signing in accordance with paragraphs 3.4.2.10 to 3.4.2.13, or 3.4.2.15 to 3.4.2.18 may be used as appropriate for the situation.

DIAGRAM 3.4.2.4 : GANTRY DIRECTION SIGNS FOR "LANE DROP"

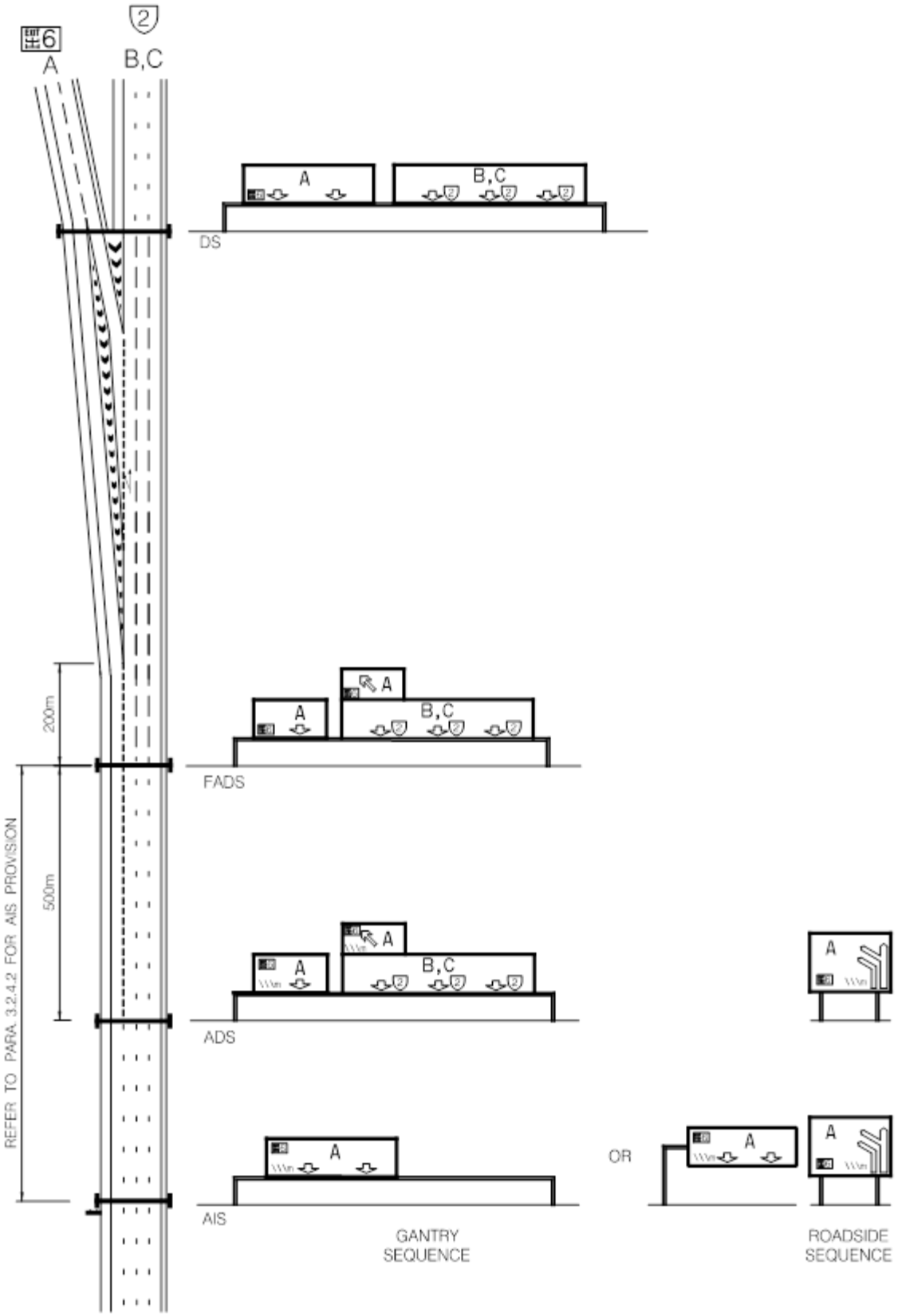
(i) SINGLE "LANE DROP" EXIT



NOTES

1. ROADSIDE ADVANCE INFORMATION SIGN AND ADVANCE DIRECTION SIGN ARE NOT PREFERABLE. FINAL ADVANCE DIRECTION SIGN AND DIRECTION SIGN SHALL BE IN GANTRY FORMAT
2. RM 1143 DELINEATING THE "LANE DROP" MAY BE EXTENDED FROM FINAL ADVANCE DIRECTION SIGN FURTHER AS NECESSARY (COULD BE UP TO ADVANCE DIRECTION SIGN AS SHOWN)

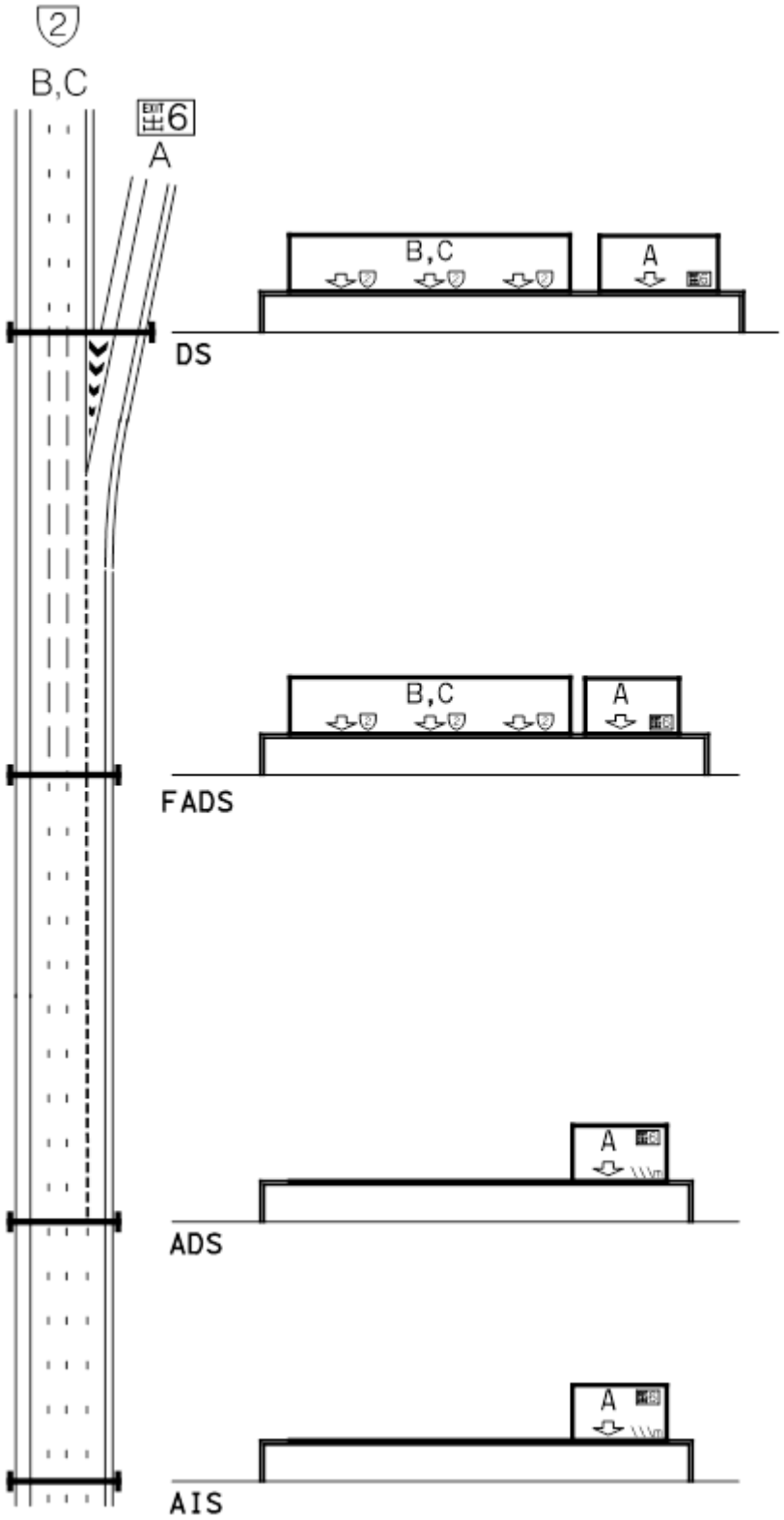
(ii) SINGLE "LANE DROP" FOLLOWED BY A TAPER DIVERGE EXIT



NOTES

1. ROADSIDE ADVANCE INFORMATION SIGN AND ADVANCE DIRECTION SIGN ARE NOT PREFERABLE. FINAL ADVANCE DIRECTION SIGN AND DIRECTION SIGN SHALL BE IN GANTRY FORMAT
2. RM 1143 DELINEATING THE "LANE DROP" MAY BE EXTENDED FROM FINAL ADVANCE DIRECTION SIGN FURTHER AS NECESSARY (COULD BE UP TO ADVANCE DIRECTION SIGN AS SHOWN)

DIAGRAM 3.4.2.5 : GANTRY DIRECTION SIGNS FOR OFFSIDE "LANE DROP"



NOTE : RM 1143 DELINEATING THE "LANE DROP" MAY BE EXTENDED FROM FINAL ADVANCE DIRECTION SIGN FURTHER AS NECESSARY (COULD BE UP TO ADVANCE DIRECTION SIGN AS SHOWN)

Junctions with common weaving section

3.4.2.15 Because of land constraints in Hong Kong, the situation can arise where a lane gain on-slip road is in proximity to the "lane drop" off-slip road and a common auxiliary lane is formed between the two, serving as a combined merging and diverging lane. Signing schemes for weaving sections should be designed with objectives that both mainline traffic and merging traffic are encouraged to get into the appropriate lane at an early stage and traffic already in the appropriate lane is encouraged to stay in their lane. In any case, the length of the weaving section must be taken into account for designing the signage position.

Short Weaving Section

3.4.2.16 Diagrams 3.4.2.6 (i) and (ii) illustrate the signing arrangements for short single and double auxiliary lanes respectively. The AIS (if provided) and ADS have the sign format for a taper diverge junction. The AIS and ADS incorporating an inclined arrow and a distance indicator give route information ahead and remind exit traffic to change lanes to the left further ahead. Within the weaving section, the FADS is in "lane drop" format with a downward arrow over the auxiliary lane. The auxiliary lane is delineated by road marking RM 1143.

Long Weaving Section

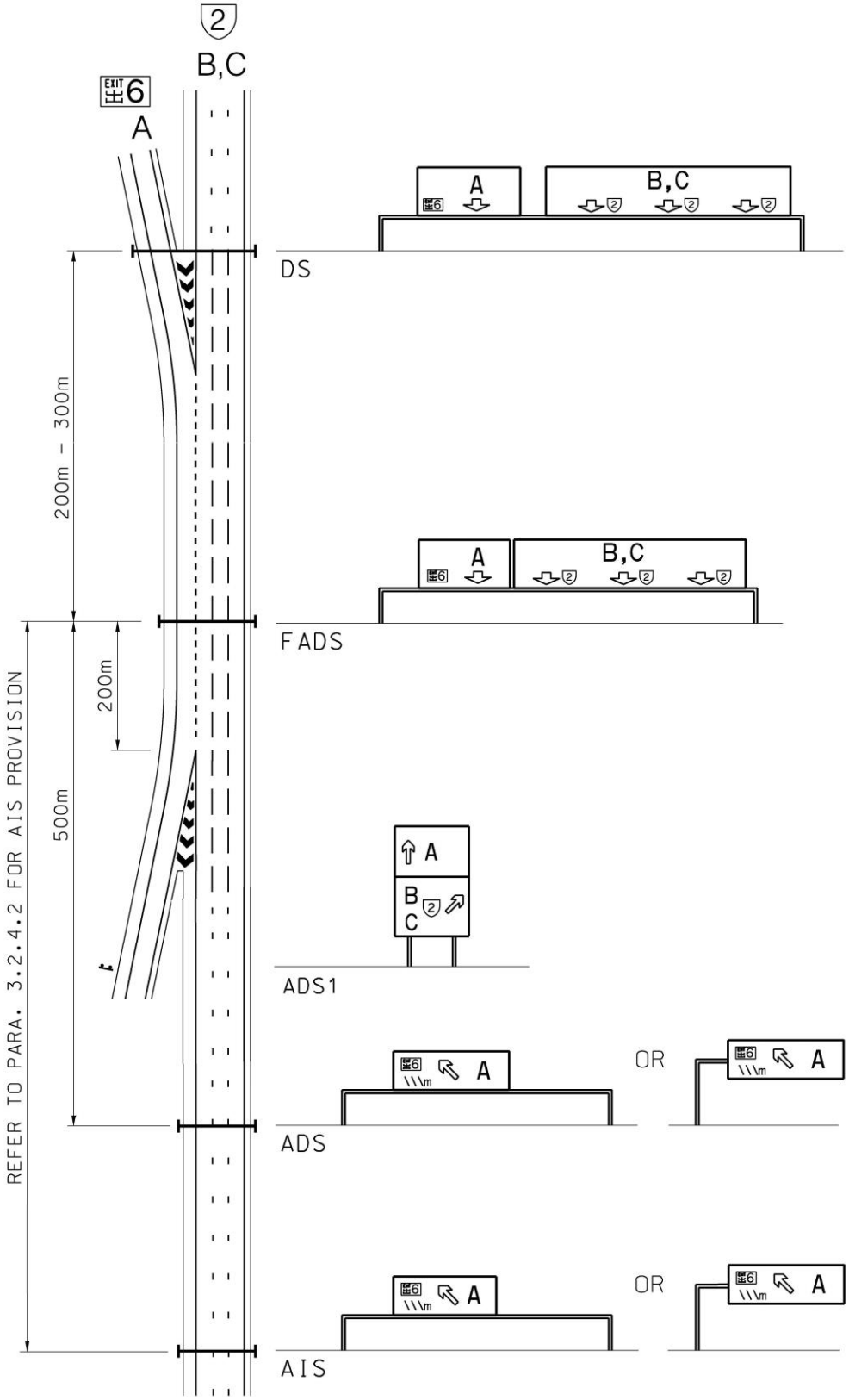
3.4.2.17 Diagrams 3.4.2.7 and 3.4.2.8 illustrate the signing arrangements for a long auxiliary lane where the ADS falls within it and an offside auxiliary lane respectively.

Asymmetrical Weaving Section

3.4.2.18 Diagrams 3.4.2.9 (i) and (ii) give two examples of signing arrangements for asymmetrical weaving sections where there is a net increase or decrease in mainline traffic lanes.

DIAGRAM 3.4.2.6 : DIRECTIONAL SIGNING IN ADVANCE OF SHORT AUXILIARY LANE

(i) SINGLE AUXILIARY LANE



(ii) DOUBLE AUXILIARY LANES

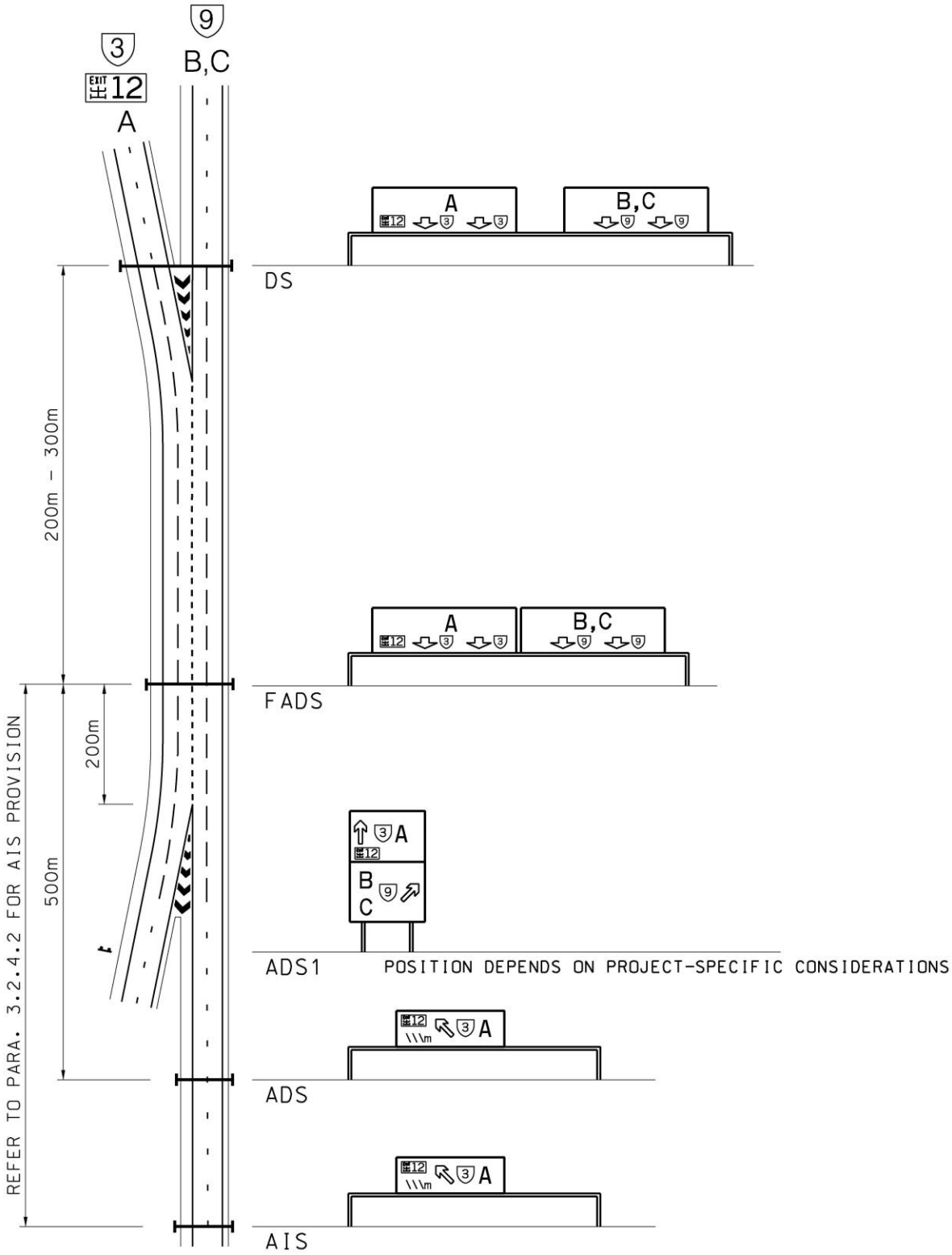


DIAGRAM 3.4.2.7 : DIRECTIONAL SIGNING IN ADVANCE OF LONG AUXILIARY LANE

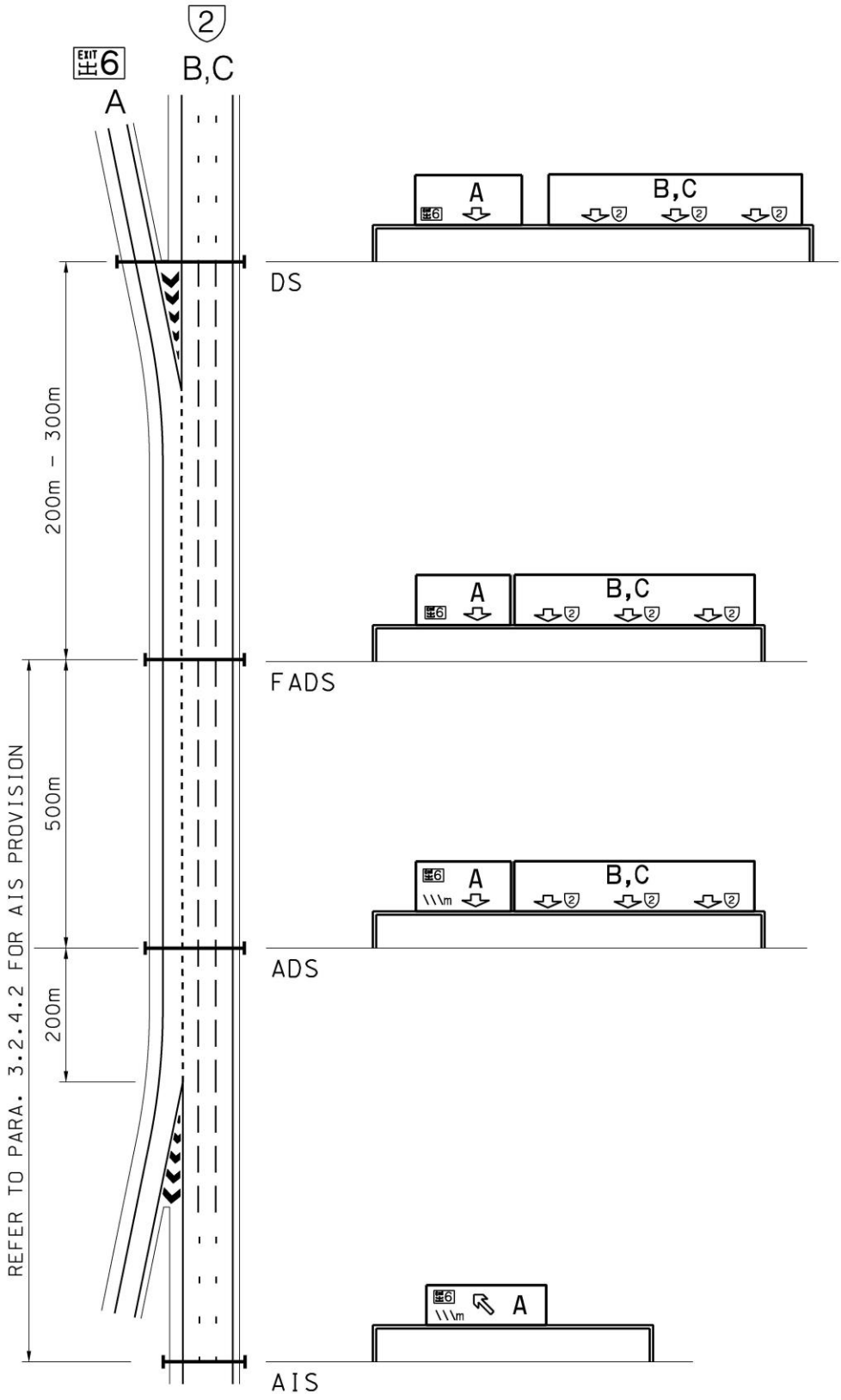


DIAGRAM 3.4.2.8: DIRECTIONAL SIGNING SCHEME FOR OFFSIDE AUXILIARY LANE

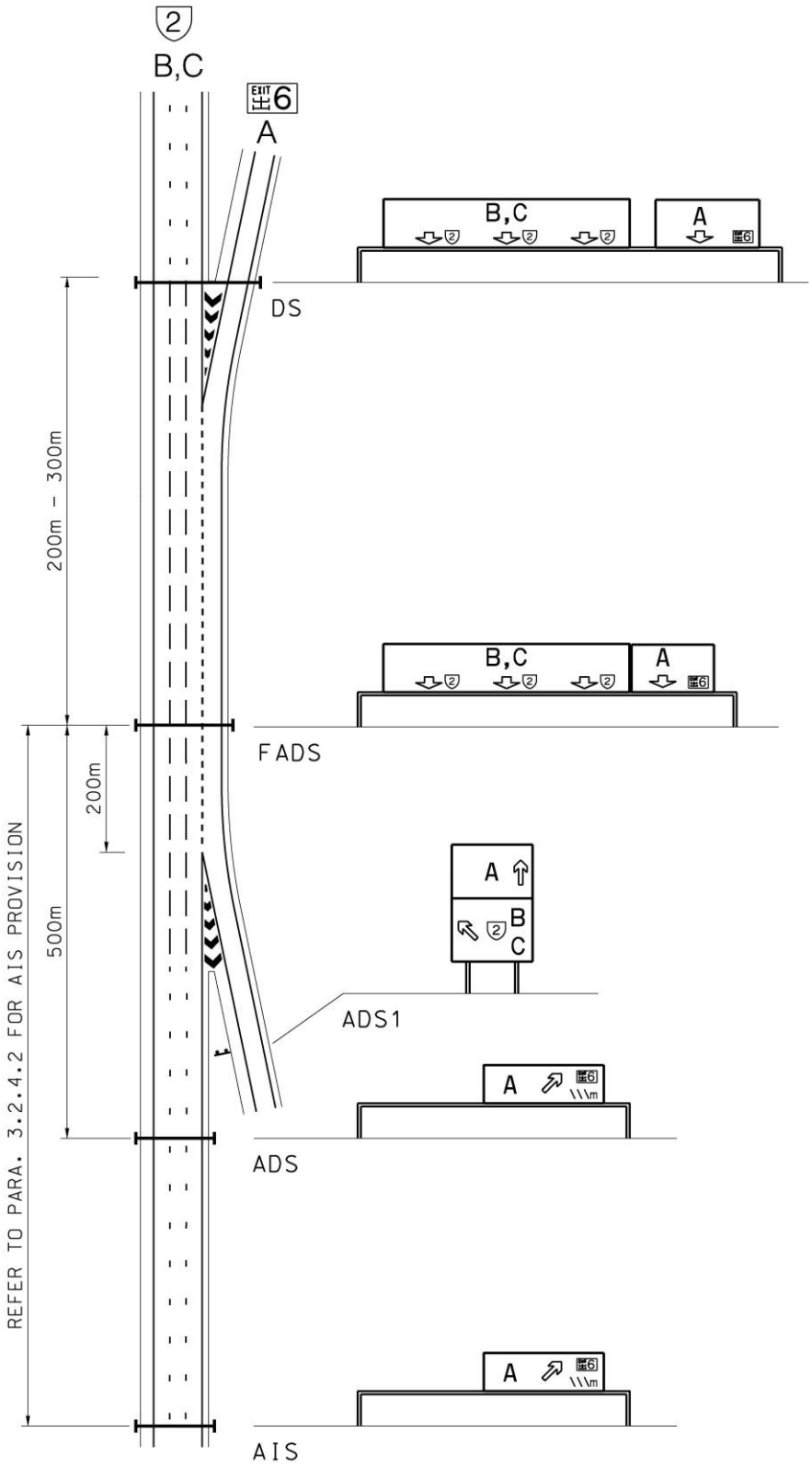
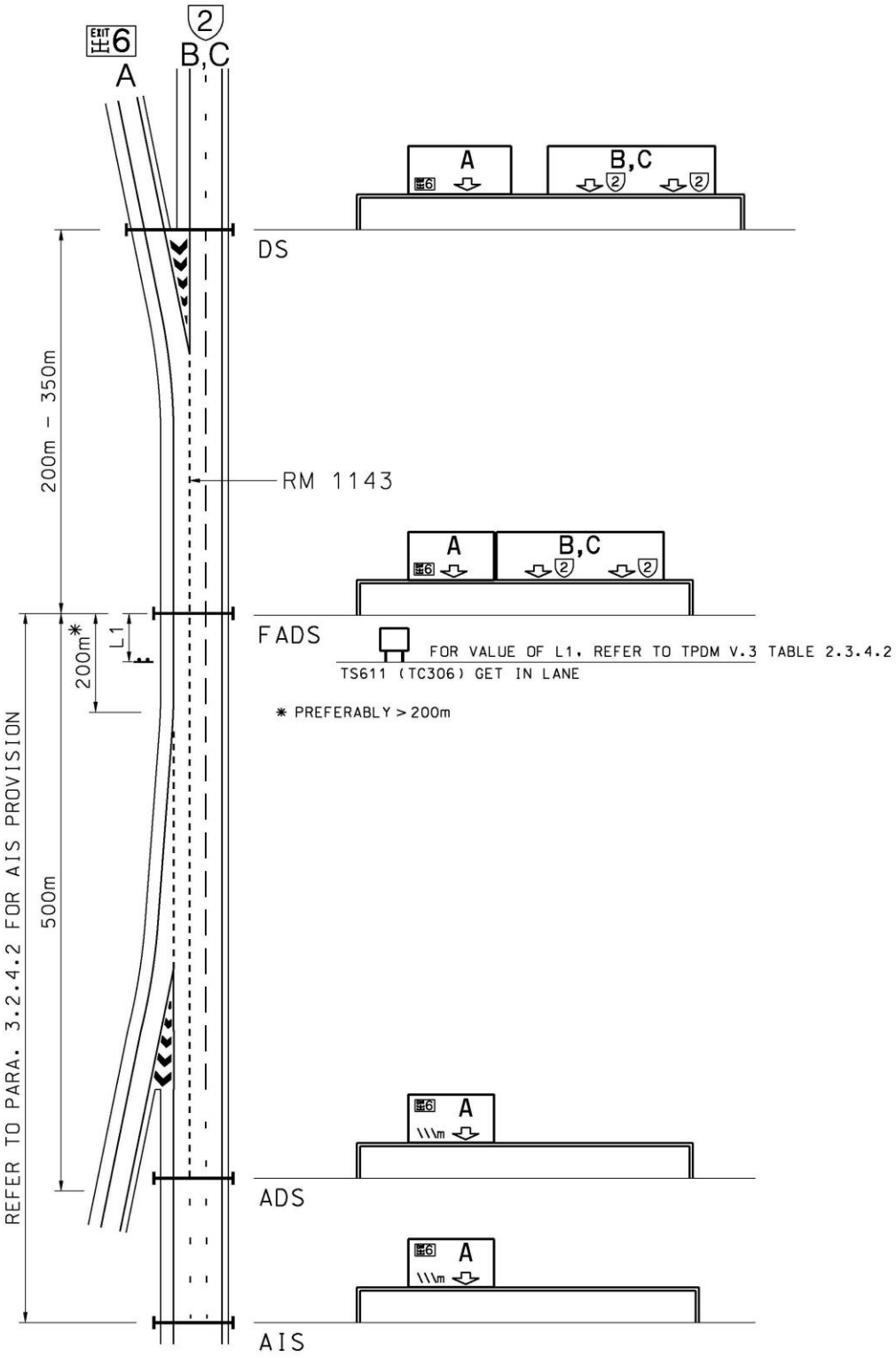


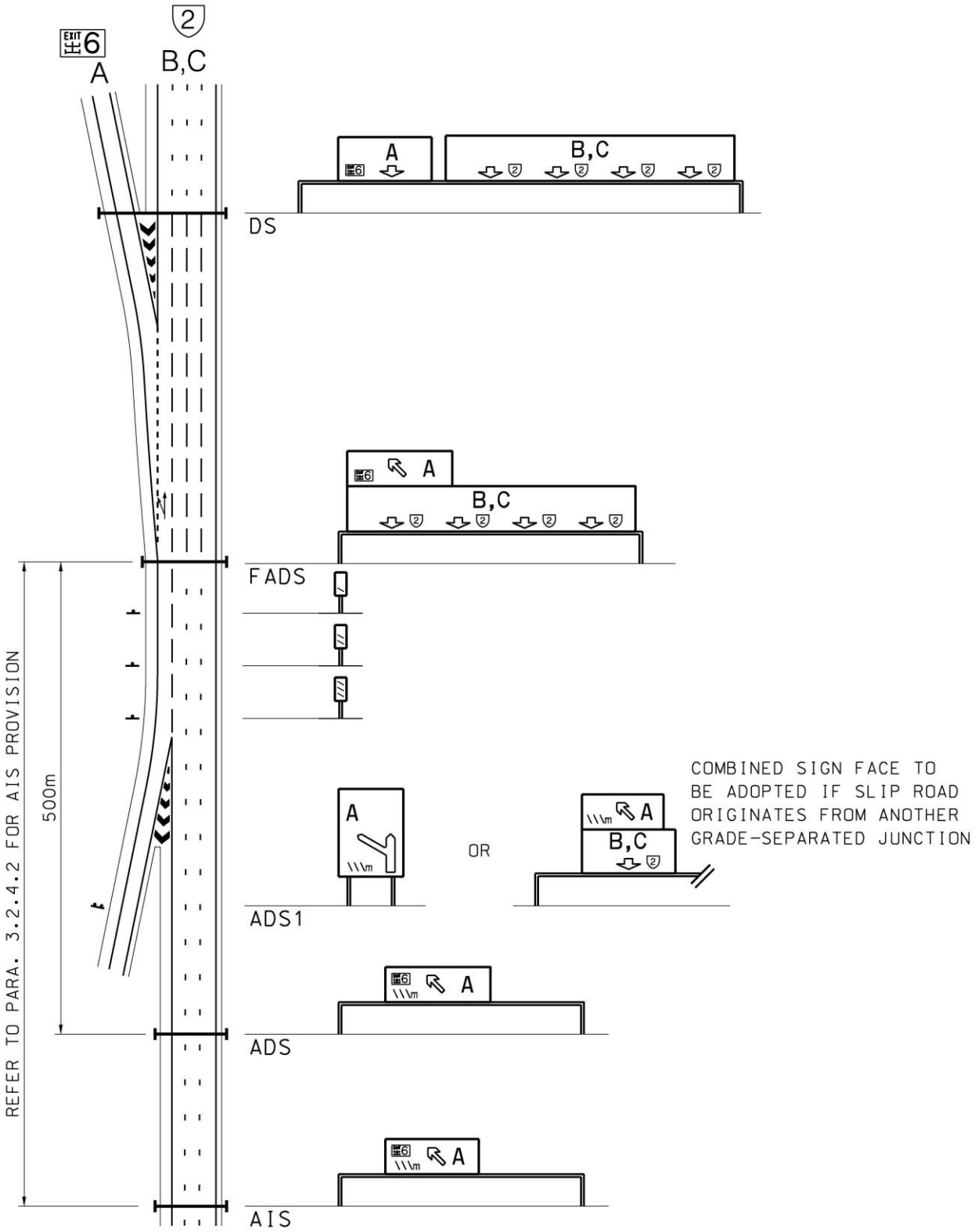
DIAGRAM 3.4.2.9 : DIRECTIONAL SIGNING FOR ASYMMETRICAL WEAVING SECTIONS

(i) EXAMPLE 1



NOTE : WHERE NECESSARY, ADVANCE WARNING OF DESTINATIONS AHEAD SHOULD BE GIVEN TO SLIP ROAD TRAFFIC TO ENABLE THEIR SELECTION OF CORRECT LANE IN TIME AFTER MERGING

(ii) EXAMPLE 2

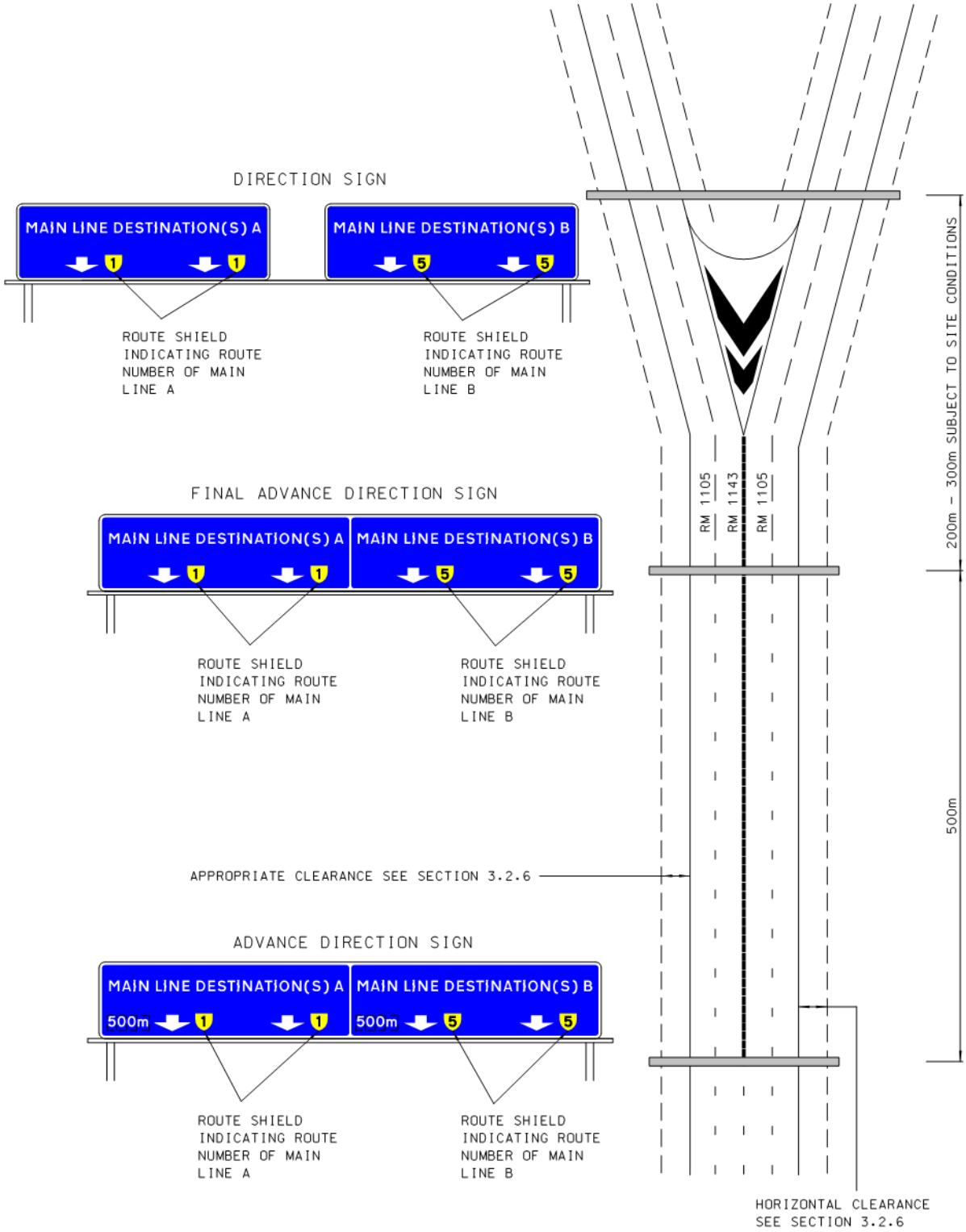

EXIT 6
A
2
B,C
DS
FADS
ADS1
ADS
AIS
OR
COMBINED SIGN FACE TO BE ADOPTED IF SLIP ROAD ORIGINATES FROM ANOTHER GRADE-SEPARATED JUNCTION
500m
REFER TO PARA. 3.2.4.2 FOR AIS PROVISION

Diverge of junction into two carriageways of equal status

3.4.2.19 Diagram 3.4.2.10 illustrates the directional signing for a carriageway diverging into two carriageways of equal status. Normally such an arrangement will be for a carriageway having four or more lanes diverging into two carriageways each having at least two lanes. However, at complex interchanges between carriageways of equal status, for a number of different reasons, single lane link roads often may serve as connections between the two carriageways. These link roads should not be treated as slip roads as they are in fact the main carriageways, and therefore the directional signing should be in accordance with Diagram 3.4.2.10 and not Diagram 3.4.2.5.

3.4.2.20 In the situation that a carriageway diverges into two carriageways of equal status, a roadside sign must not be used for the directional signs, but may be used if this is considered necessary for the ADS and the FADS as shown in Diagram 3.4.2.11. However, the justifications or advantages of using roadside rather than gantry signs in these circumstances should be clearly established.

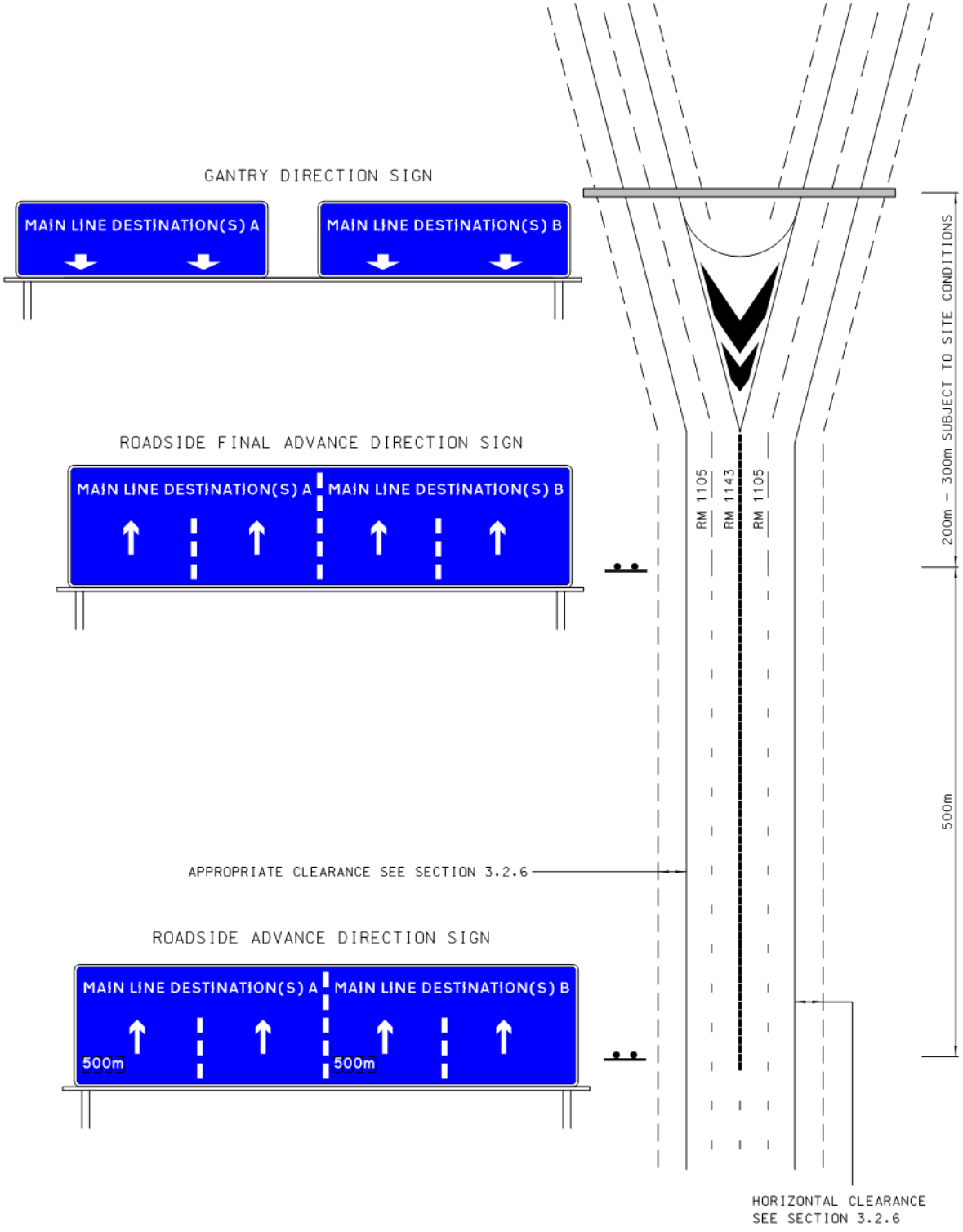
DIAGRAM 3.4.2.10 : DIRECTIONAL SIGNING WHERE A CARRIAGEWAY DIVERGES INTO TWO CARRIAGEWAYS OF EQUAL STATUS



NOTES

1. SEE PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. LANE DESTINATION ROAD MARKINGS MAY BE ADDED WHERE NECESSARY

DIAGRAM 3.4.2.11 : COMBINED DIRECTIONAL SIGNING WHERE A CARRIAGEWAY DIVERGES INTO TWO CARRIAGEWAYS OF EQUAL STATUS



NOTES

1. SEE PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. LANE DESTINATION ROAD MARKINGS MAY BE ADDED WHERE NECESSARY

Closely spaced (successive) junctions

3.4.2.21 Previous paragraphs have described the standard arrangements for directional signing at and in advance of grade separated interchanges. However, quite often because of the proximity of adjacent junctions, standard signing arrangements are not possible and some modification of these is required. The following paragraphs 3.4.2.22 to 3.4.2.25 provide advice on directional signing arrangements for closely spaced junctions.

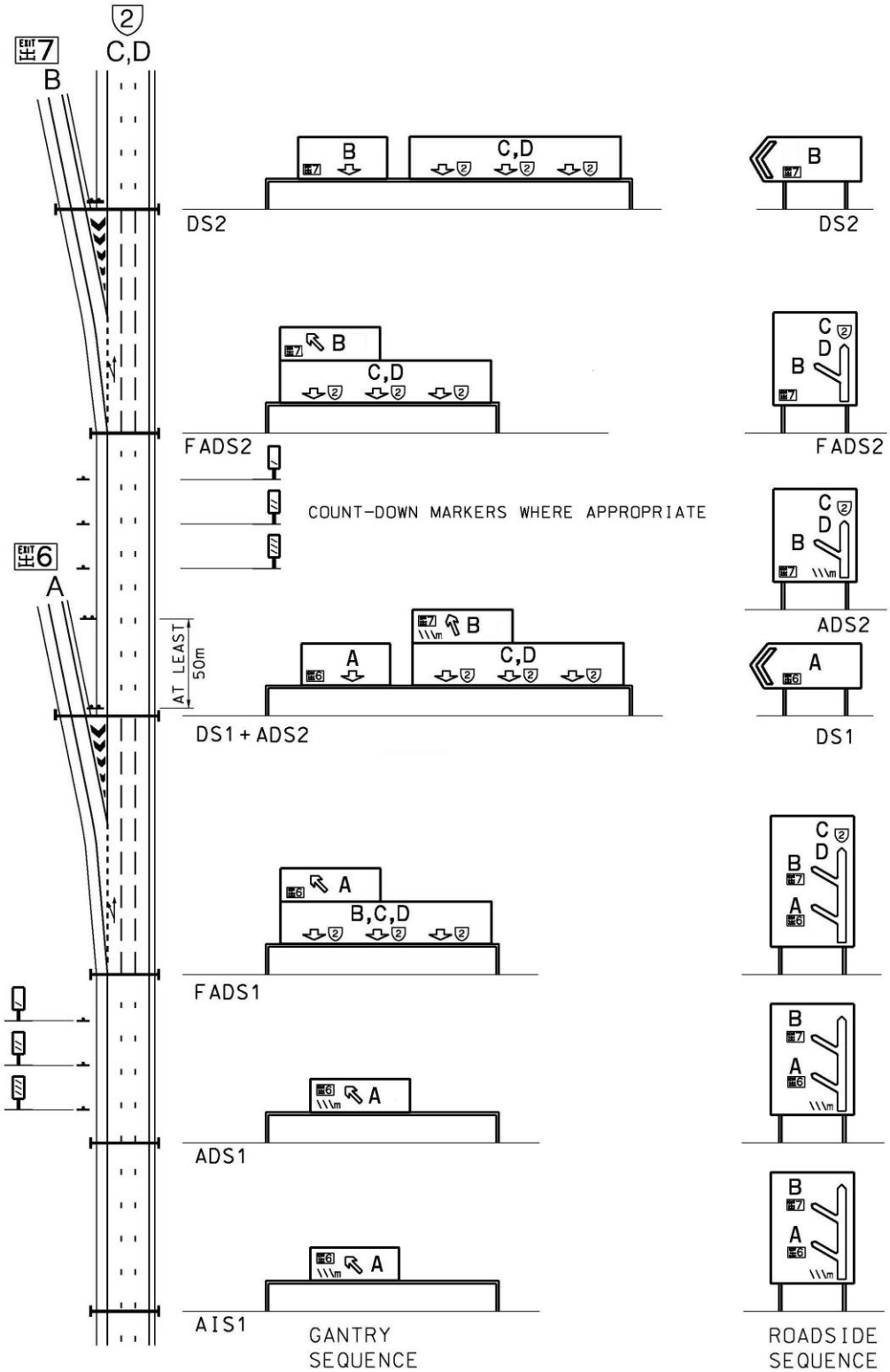
3.4.2.22 Closely spaced junctions refer to those where the normal signing sequence for one junction overlaps with that for the other. The most common situation occurring in respect of the signing for closely spaced junctions is where the DS of one junction needs to be combined with the AIS or ADS of the following junction. The combined signing arrangement for normal slip road diverging lane should be as shown in Diagram 3.4.2.12. It should be noted that the inclined arrow for ADS2 should be at 22.5 degrees in order not to confuse exit traffic intending to leave at the next junction. In some situations, the use of roadside map-type signs may show the successive junctions more clearly.

3.4.2.23 As mentioned in paragraph 3.2.4.8, it is not advisable to have close spacing of gantry or overhead signs for visibility and economic reasons. If appropriate, the combined signing arrangement may also apply to those cases where the distance from the normal position of the AIS (if provided) or ADS of a junction to the DS of the preceding junction is less than the minimum spacing between gantries.

3.4.2.24 Where for two closely spaced junctions the slip road to the downstream or upstream junction is formed from a “lane drop”, the combined signing arrangement should be as shown in Diagram 3.4.2.13 (i) or (ii) respectively.

3.4.2.25 Where two taper diverge junctions occur very close together, that is considerably less than 425m, it may be appropriate to sign both junctions as if they formed one junction. For these circumstances, roadside map type signs can be more descriptive and Diagram 3.4.2.14 indicates directional signing appropriate for this situation.

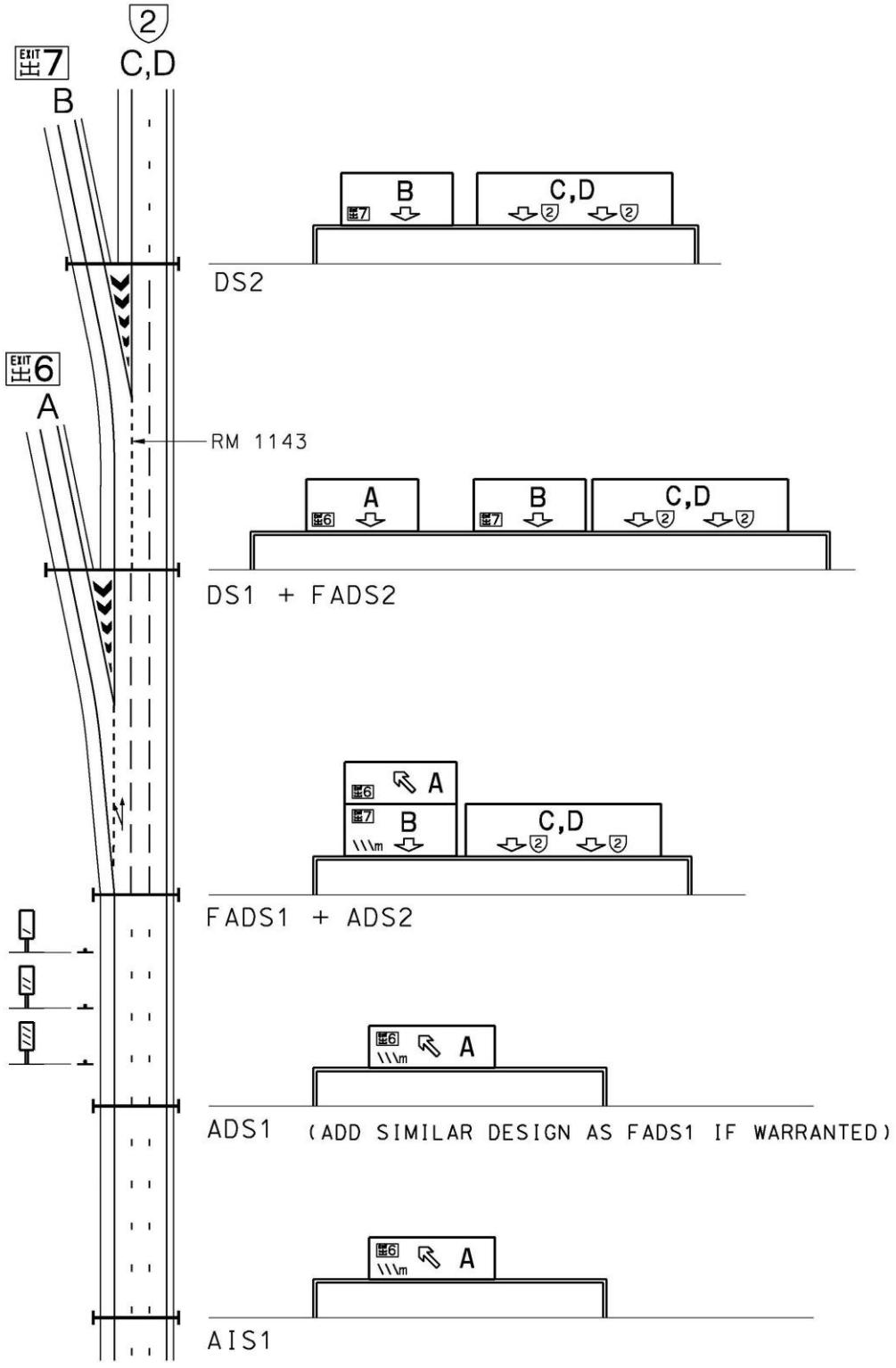
DIAGRAM 3.4.2.12 : COMBINED DIRECTIONAL SIGNING FOR TAPER DIVERGE JUNCTIONS



NOTES

1. REFER TO PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. THE INCLINED ARROW FOR ADS2 SHOULD BE AT 22.5 DEGREES
3. FOR ROADSIDE AIS1 AND ADS1, DISTANCE INDICATION FOR EXIT B MAY BE ADDED WHERE APPROPRIATE

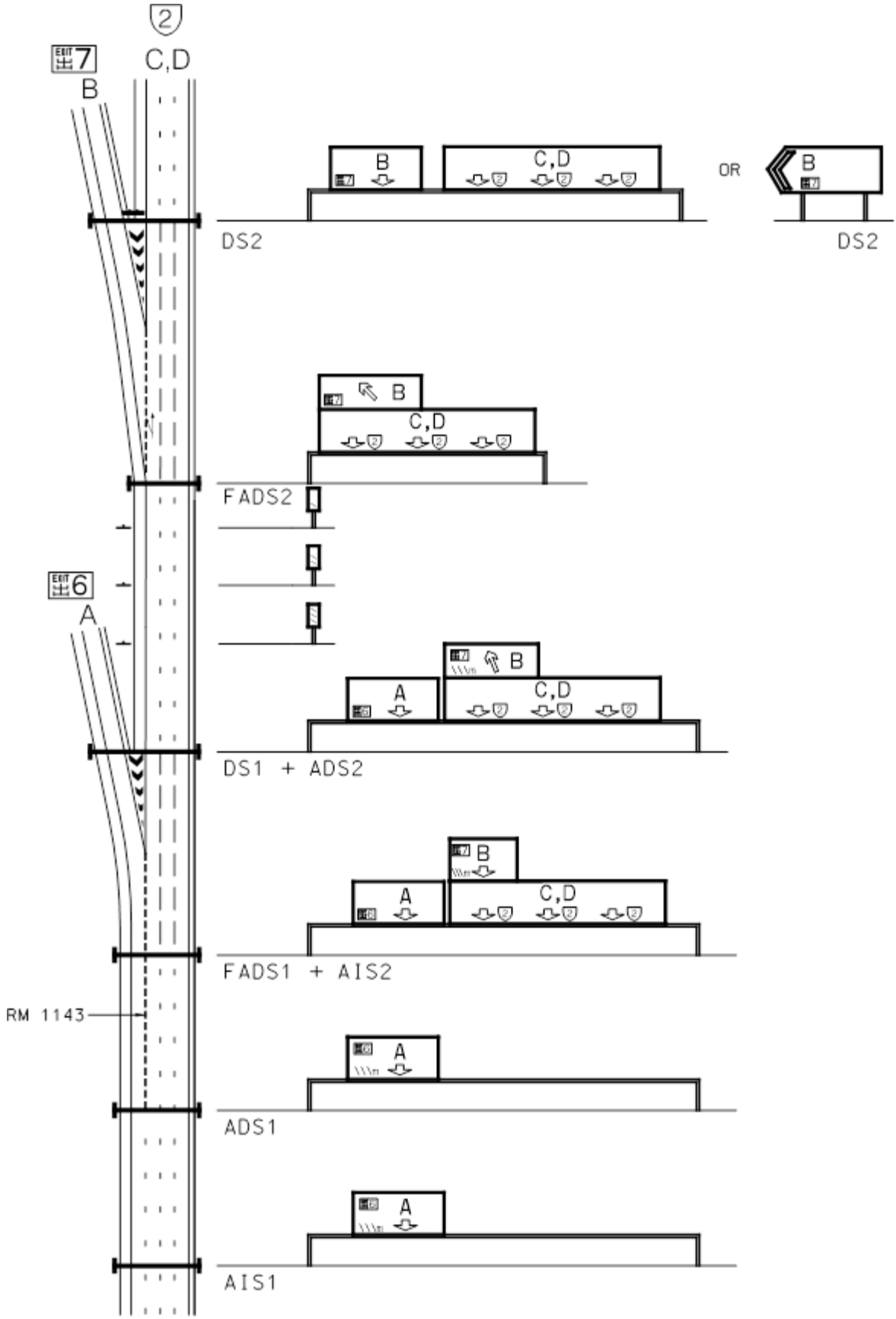
DIAGRAM 3.4.2.13 : COMBINED DIRECTIONAL SIGNING FOR "LANE DROP" AND TAPER DIVERGE JUNCTIONS(i) TAPER EXIT FOLLOWED BY A "LANE DROP" EXIT



NOTES

1. REFER TO PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. RM 1143 DELINEATING THE "LANE DROP" MAY BE EXTENDED UP TO FADS1/ADS2 AS NECESSARY

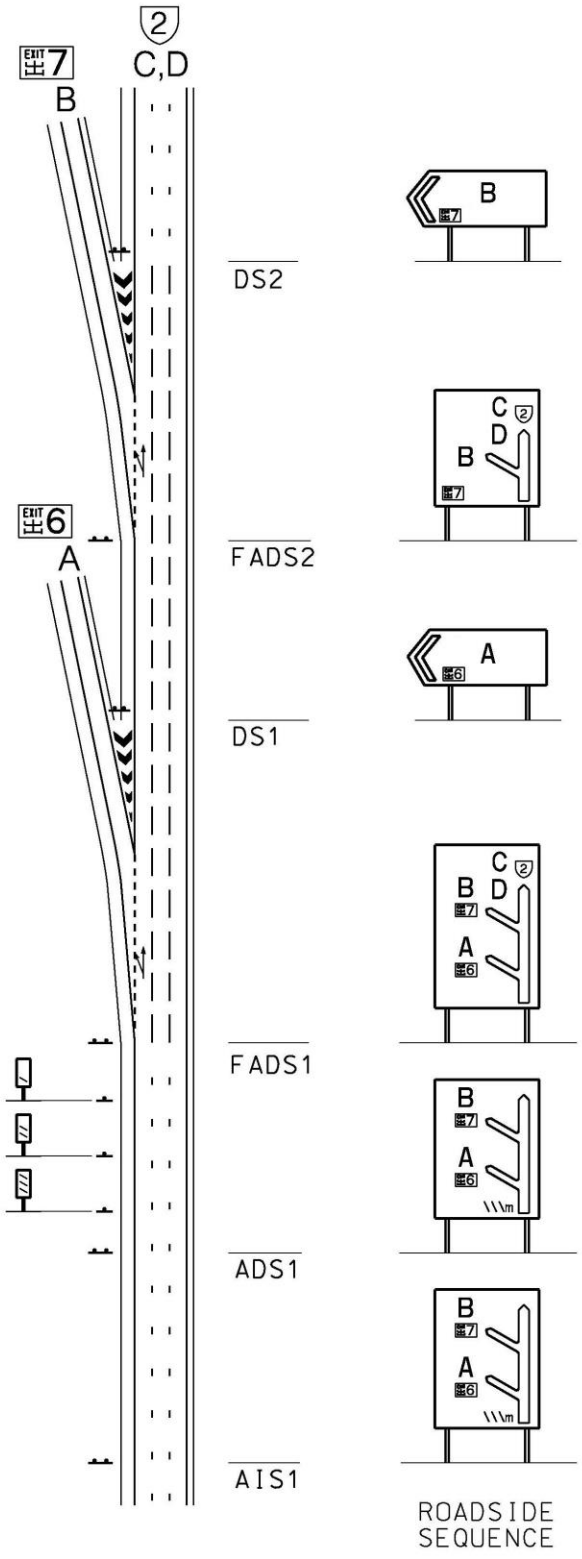
(ii) "LANE DROP" EXIT FOLLOWED BY A TAPER EXIT



NOTES

1. REFER TO PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. RM1143 DELINEATING THE "LANE DROP" MAY BE EXTENDED FROM FADS1 UP TO ADS1 AS SHOWN
3. THE INCLINED ARROW FOR ADS2 SHOULD BE AT 22.5 DEGREES TO VERTICAL

DIAGRAM 3.4.2.14 : DIRECTIONAL SIGNING FOR TWO JUNCTIONS VERY CLOSE TOGETHER



NOTES

1. REFER TO PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. FOR ROADSIDE AIS1 AND ADS1, DISTANCE INDICATION FOR EXIT B MAY BE ADDED WHERE APPROPRIATE

Junction with weaving restrictions

3.4.2.26 For the purpose of traffic management or road safety, it is sometimes necessary to restrict weaving movements by using double white lines system (road markings 1001, 1002 or 1003) to confine vehicles into a particular lane or lanes or to prevent them being driven into a particular lane. As any weaving restriction may necessitate traffic to get into the proper traffic lane early in order to avoid last minute lane changing before exit. For this reason, it is essential that adequate directional signing ahead of the weaving restriction is given as to the correct lane to be in. In this respect, Diagrams 3.4.2.15 – 3.4.2.17 illustrate the signing arrangements for some common cases of weaving restrictions where the following techniques may be employed as necessary and appropriate: -

(i) addition of AIS

(ii) addition of mainline sign plate to the ADS

(iii) use of traffic sign 611 (TC 306) "get in lane" which should be placed in pairs ahead of AIS/ADS/FADS (for distance L1 and the required clear visibility distance, see Table 2.3.4.2, Section 2.3, Chapter 2, Volume 3)

(iv) extension of road markings 1121/1143

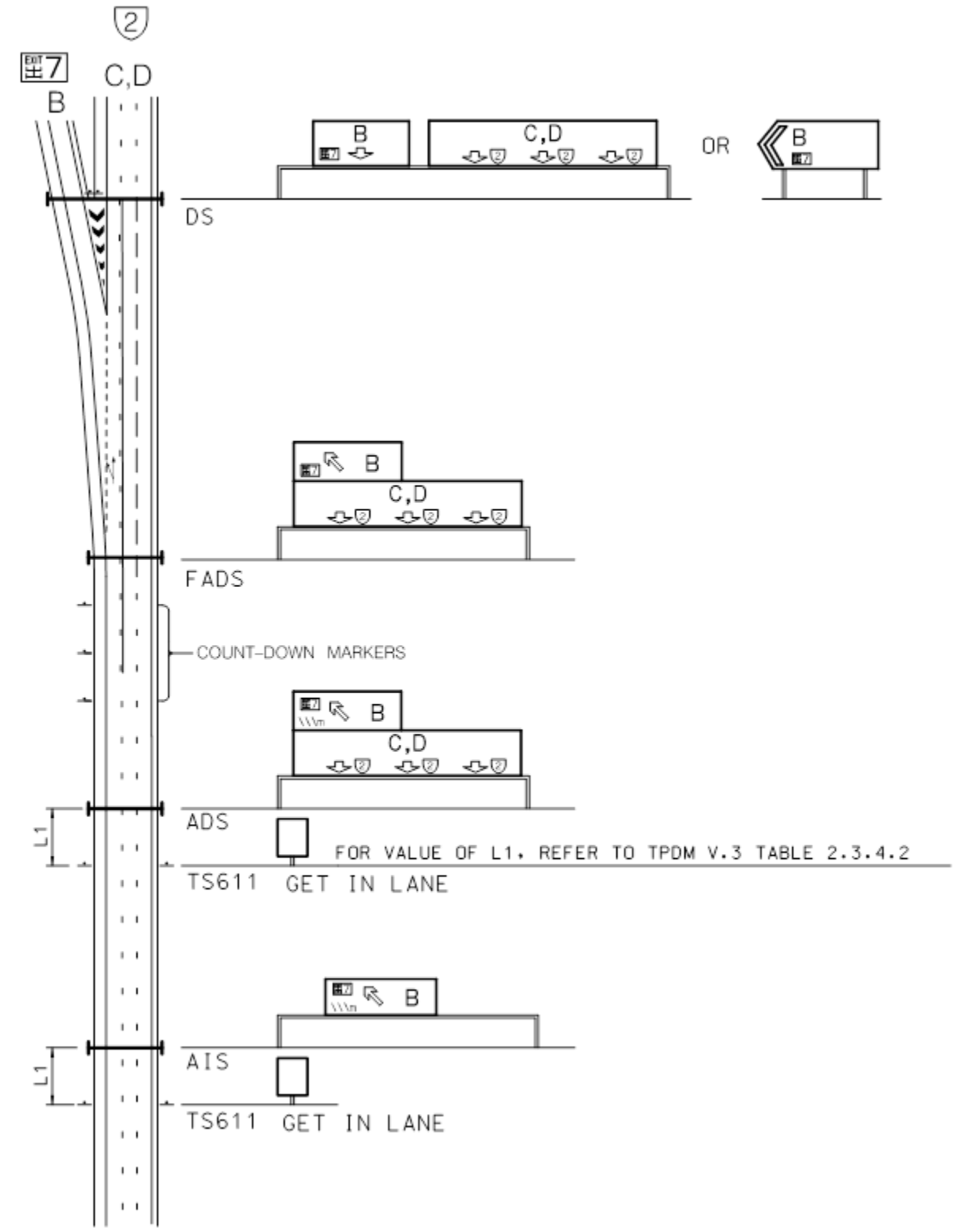
(v) addition of lane destination road markings (see Section 5.8.3, Chapter 5, Volume 3)

3.4.2.27 In respect of Diagram 3.4.2.15, it illustrates the minimum signing for a taper diverge junction when the double white lines system is introduced before the FADS but up to 100m after the ADS. For a 3-lane carriageway, adequate advice should be given at least 500m ahead of the restriction so as to allow sufficient distance for drivers to get into the correct lane. As such, an AIS (use a roadside sign if a gantry sign is not feasible) and traffic signs 611 are required to be added as shown to alert drivers of the need to select lane early. Traffic sign 611 is preferably erected on both the nearside and offside to ensure that the warning is fully conspicuous to all drivers and must not interfere with the visibility splay of any following roadside direction sign. In addition, lane destination road markings may be provided to further assist drivers in lane selection. However, in the case of a taper diverge junction, lane destination road markings should be used with caution to avoid confusion as a "lane drop" junction.

3.4.2.28 Diagram 3.4.2.16 indicates the types of similar signing required for the above restriction at a "lane drop" junction. Lane destination road markings may be advisable in advance of the restriction where appropriate.

3.4.2.29 Diagrams 3.4.2.17 (i) and (ii) indicate the signing required when weaving is restricted after the FADS at a taper diverge junction and a "lane drop" junction respectively.

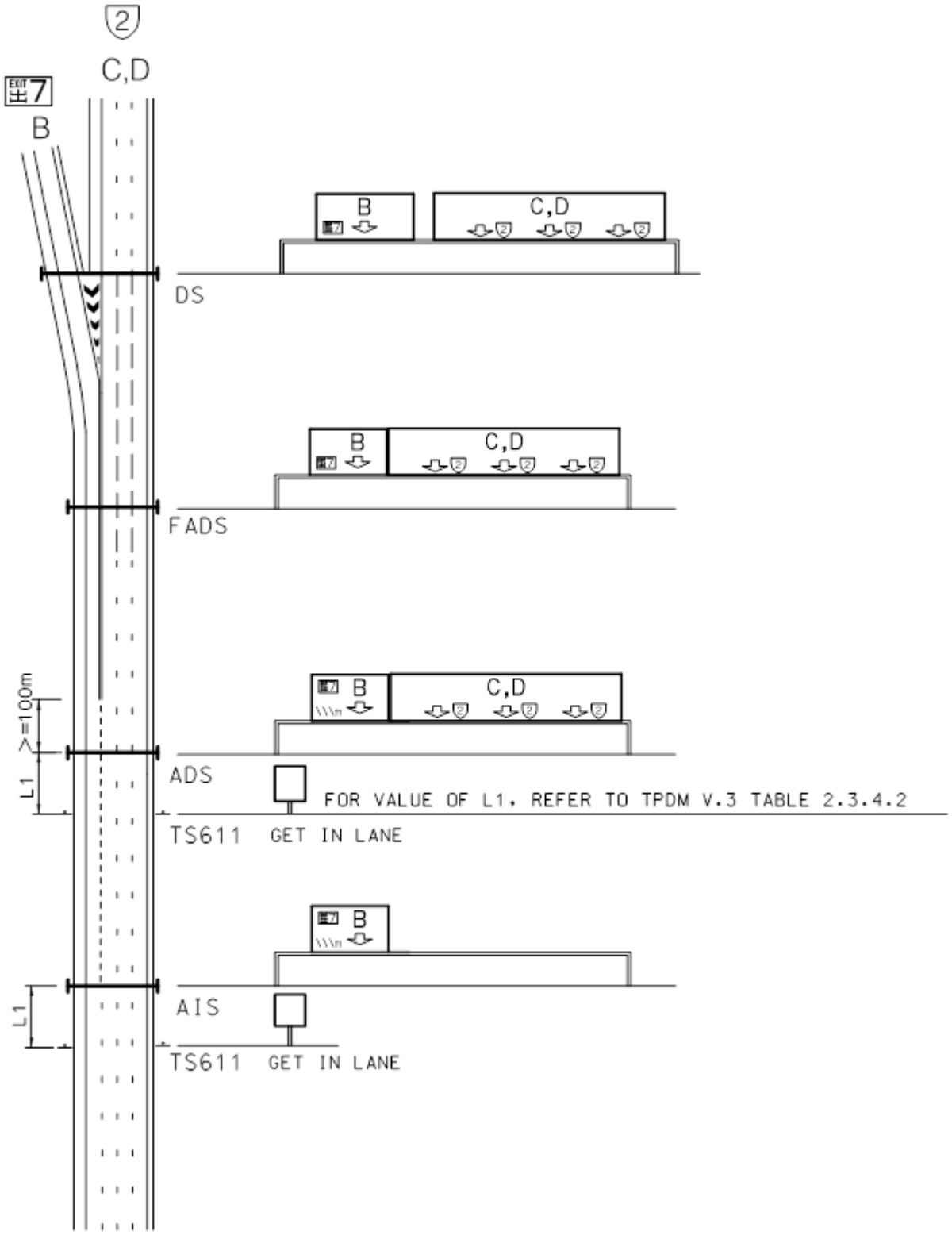
DIAGRAM 3.4.2.15 : DIRECTIONAL SIGNING FOR TAPER DIVERGE JUNCTION WHERE WEAVING IS RESTRICTED BEFORE FINAL ADVANCE DIRECTION SIGN



NOTES

1. ADVANCE INFORMATION SIGN (MAY BE IN ROADSIDE FORMAT IF GANTRY NOT PRACTICABLE) AND TS611 SHOULD BE ADDDED TO GIVE DRIVERS EARLY ALERT OF THE LANE RESTRICTION AHEAD
2. DOUBLE WHITE LINES RM 1003 (OR 1001) SHOULD NOT BE STARTED WITHIN 100M AFTER THE ADVANCE DIRECTION SIGN

DIAGRAM 3.4.2.16 : DIRECTIONAL SIGNING FOR "LANE DROP" JUNCTION WHERE WEAVING IS RESTRICTED BEFORE FINAL ADVANCE DIRECTION SIGN

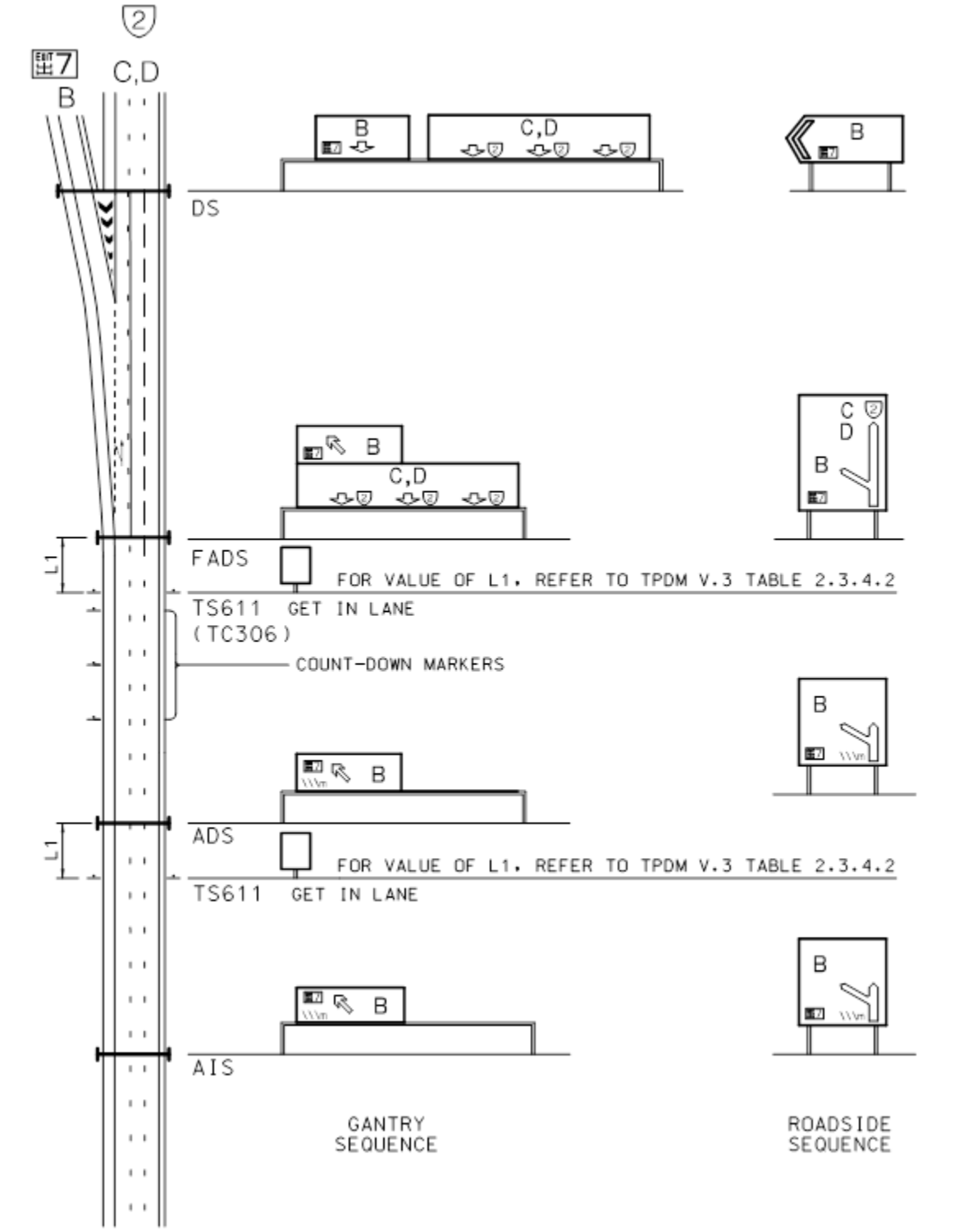


NOTES

1. ADVANCE INFORMATION SIGN (MAY BE IN ROADSIDE FORMAT IF GANTRY NOT PRACTICABLE) AND TS611 SHOULD BE ADDED TO GIVE DRIVERS EARLY ALERT OF EXIT AND LANE RESTRICTION AHEAD
2. DOUBLE WHITE LINES SHOULD NOT BE STARTED WITHIN 100M AFTER THE ADVANCE DIRECTION SIGN

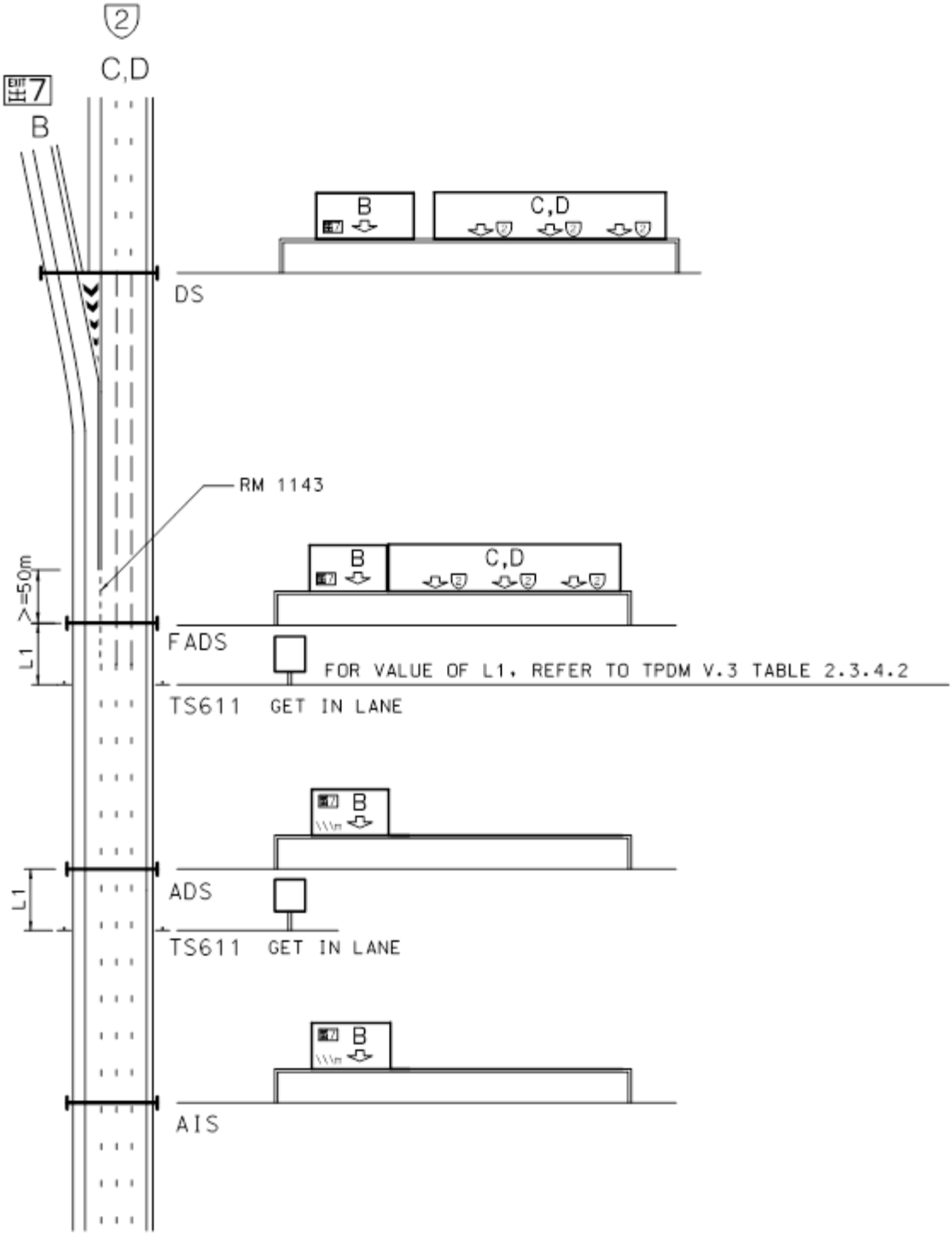
DIAGRAM 3.4.2.17 : DIRECTIONAL SIGNING FORJUNCTIONS WHERE WEAVING IS RESTRICTED AFTER FINAL ADVANCE DIRECTION SIGN

(i) TAPER DIVERGE JUNCTION



NOTE : REFER TO PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN

(ii) "LANE DROP" JUNCTION



NOTES

1. REFER TO PARAGRAPH 3.2.4.2 FOR PROVISION OF ADVANCE INFORMATION SIGN
2. RM1143 DELINEATING THE "LANE DROP" MAY BE EXTENDED UP TO ADVANCE DIRECTION SIGN AS NECESSARY

Junction after a tunnel

3.4.2.30 In Hong Kong, the traffic lanes inside tunnel tubes are normally separated by double white lines. Drivers heading for a junction downstream which is close to the tunnel exit portal with inadequate weaving length may be required to select the appropriate lane before entering the tunnel. In designing road tunnel system, this situation should be avoided wherever possible, and drivers should be given adequate weaving length after exiting the tunnel for the junction downstream. In addition, the feasibility of providing adequate and necessary signing particularly inside the tunnel tube for the junction downstream should be well explored and considered at the early design stage.

3.4.2.31 However, if a taper diverge has to be provided immediately downstream of a tunnel, appropriate and adequate signing should be carefully designed at the following locations with reference to a typical signing arrangement as shown in Diagram 3.4.2.18 (i): -

(i) Downstream of tunnel exit – DS and possibly FADS and countdown markers positioned downstream of a tunnel exit should be checked for adequacy of visibility distance. Signs at or near this position may be obscured by the tunnel roof, the tunnel wall or other features.

(ii) Ahead of tunnel entrance – If lane selection ahead of tunnel is required, a complete set of directional signs will be necessary ahead of a tunnel entrance portal and the last DS should preferably be located at least 50m ahead of the commencement of the double white lines system.

(iii) Inside tunnel tube – If necessary, adequate space should be allowed inside the tunnel tube for provision of appropriate directional signs (such as ADS and FADS), countdown markers and warning signs. Sign provision inside cut-and-covered tunnels and noise enclosures are generally more feasible and should be well-explored at the early design stage. The signs may be suitably modified to suit site constraints.

3.4.2.32 In the case of a “lane drop” or a diverge of carriageway into two carriageways of equal status to be provided immediately downstream of a tunnel where there is insufficient distance for providing normal signing sequence outside the tunnel tube, a typical signing arrangement is shown in Diagram 3.4.2.18 (ii) and the following should be noted in preparing the signing scheme: -

(i) Downstream of tunnel exit – FADS with adequate visibility should not be located closer than 300m from the exit so as to allow sufficient weaving distance outside the tunnel tube. A pair of traffic signs “get in lane” should be provided ahead of the FADS to remind drivers that they have to select the appropriate lane. Road markings 1143 in between the FADS and DS may be extended up to the portal exit where necessary to alert drivers of the “lane drop” or diverge ahead. If the tunnel has 3 lanes, appropriate road markings may be required to restrict the movement of traffic in the offside lane in view of the limited weaving distance.

(ii) Inside tunnel tube – similar to sub-paragraph 3.4.2.31 (iii), adequate space allowance and visibility should be made inside the tunnel tube for provision of appropriate ADS.

(iii) Ahead of tunnel entrance – to minimise weaving movements after exiting the tunnel, appropriate signing (AIS) may be required to effect early lane selection before entering the tunnel. If there is a merge of slip road traffic before the tunnel as shown in the diagram, the signing should carefully be designed so as to avoid it being seen by the slip road traffic, otherwise the slip road traffic may be tempted to cut across the double white lines before the tunnel entrance.

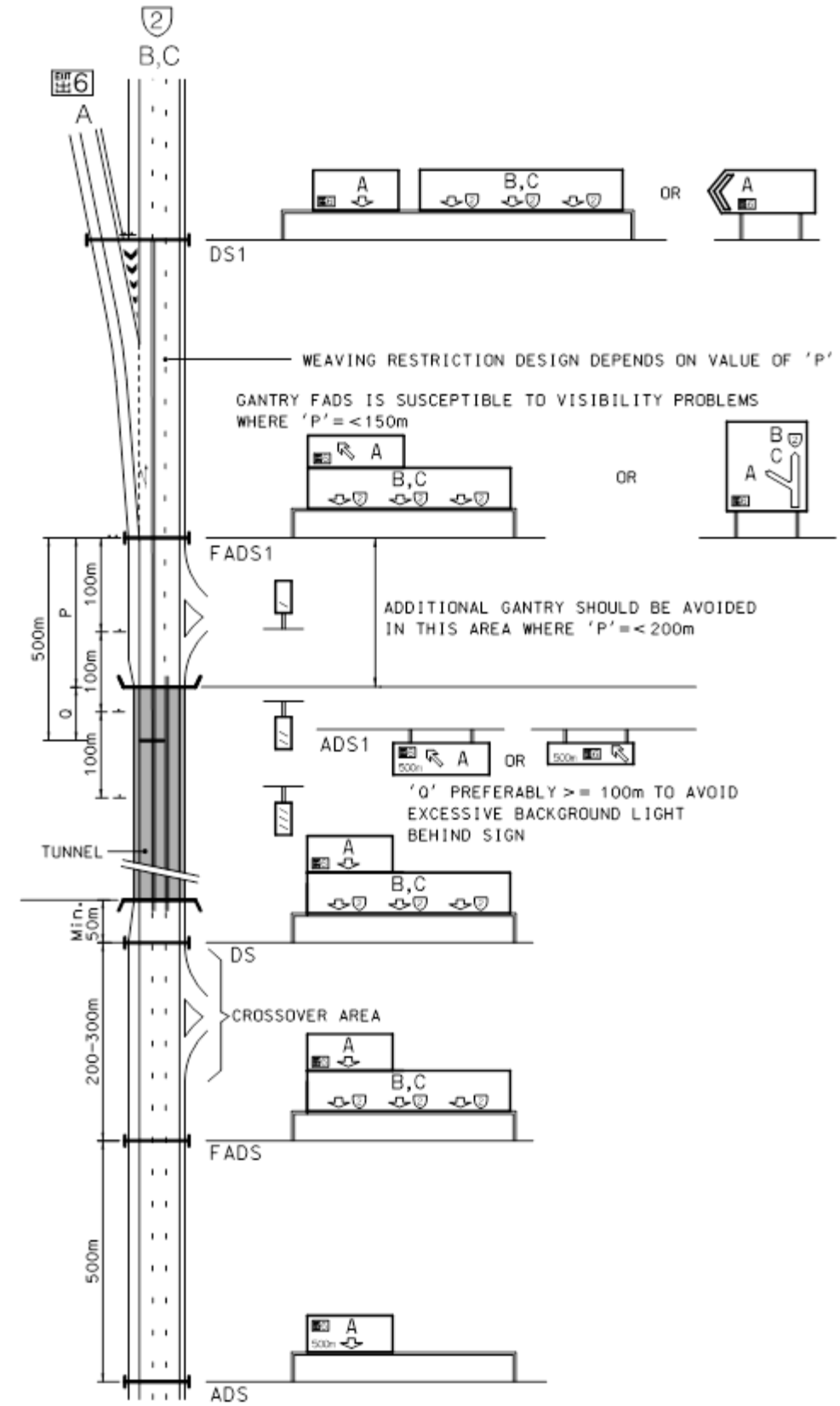
(iv) Moreover, if the diverge in Diagram 3.4.2.18 (ii) is too close to the tunnel exit that could not allow safe weaving movement after the tunnel, then appropriate signing at locations similar to the set of Directional Signs (ADS, FADS & DS) as shown in Diagram 3.4.2.18 (i) must be provided to effect the required lane selection ahead of the tunnel.

3.4.2.33 If drivers are required to select the correct lane before entering a tunnel, besides provision of adequate and appropriate signing, the design flow and capacity of each traffic lane should also be thoroughly checked to ensure adequacy.

3.4.2.34 It should be noted that tunnels are generally operated in various pre-determined modes such as single tube operation, lane closures and tidal flows. The validity of the signing system should carefully be assessed for every mode of operation.

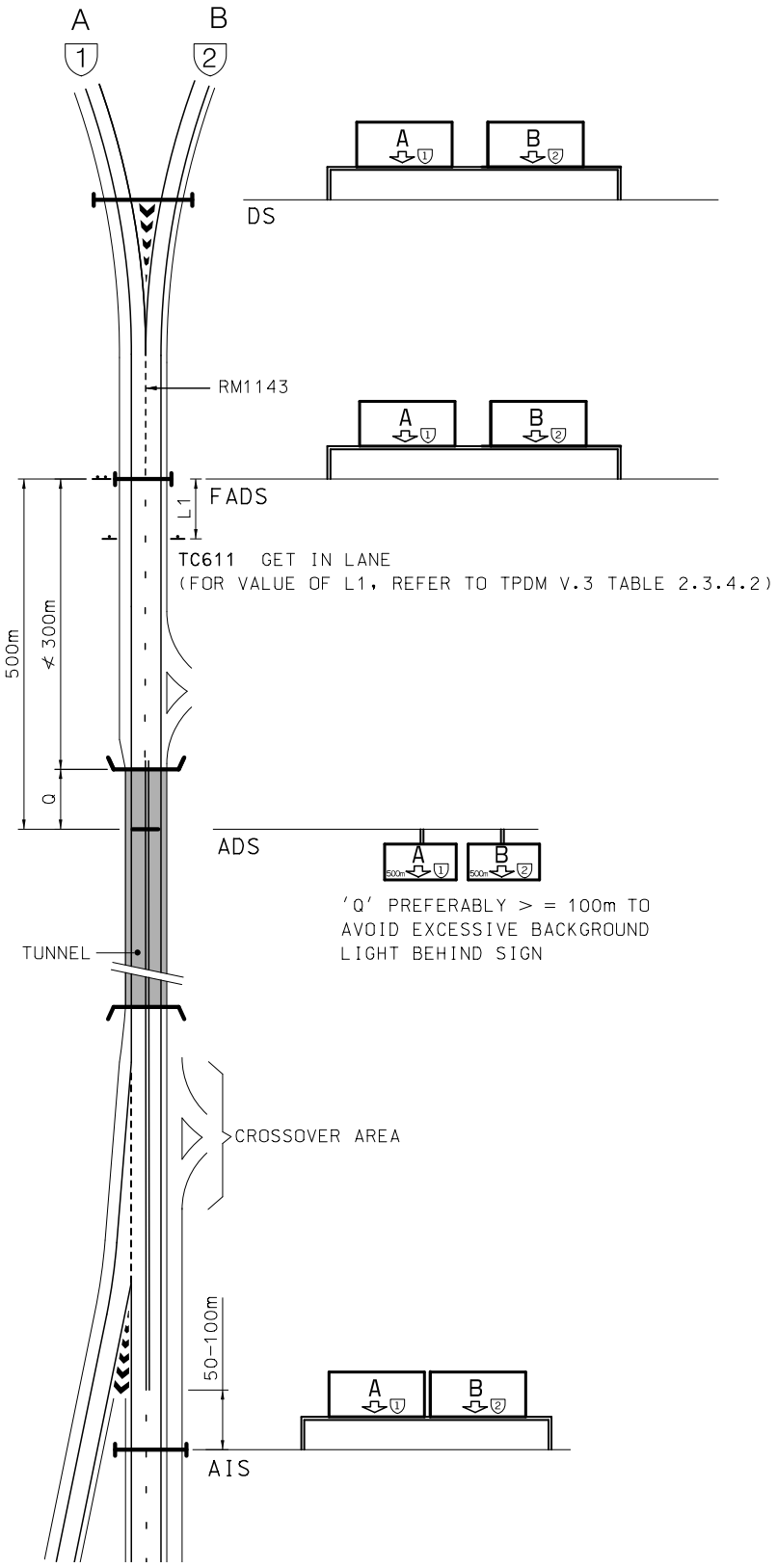
DIAGRAM 3.4.2.18 : SIGNING SCHEME FOR JUNCTIONS AFTER TUNNEL

(i) TAPER DIVERGE IMMEDIATELY DOWNSTREAM OF TUNNEL EXIT



NOTE : FOR THE UPPER TIER LANE SIGNS OVER THE FADS AND DS, THE DOWNWARD POINTING ARROW SHOULD ALIGN WITH THE ONE BELOW AND BE CENTRALLY LOCATED OVER THE RELEVANT LANE. THE ARROW MAY HOWEVER BE OMITTED IF THE OVERALL SIGN HEIGHT IS EXCESSIVE.

(ii) "LANE DROP" DIVERGE IMMEDIATELY DOWNSTREAM OF TUNNEL EXIT



NOTES

1. FOR THE ADVANCE DIRECTION SIGN INSIDE TUNNEL TUBE, THE DOWNWARD POINTING ARROWS MAY BE OMITTED WHERE THERE IS A SERIOUS CONSTRAINT ON AVAILABLE HEADROOM
2. RM1143 IN BETWEEN THE FINAL ADVANCE DIRECTION SIGN AND THE DIVERGE CHEVRON ROAD MARKING MAY BE EXTENDED UP TO THE TUNNEL EXIT PORTAL WHERE NECESSARY
3. IF THE ADVANCE INFORMATION SIGN IS FAR FROM THE ADVANCE DIRECTION SIGN OVER 2KM, THE DISTANCE INDICATION MAY BE OMITTED

Junctions after toll booths

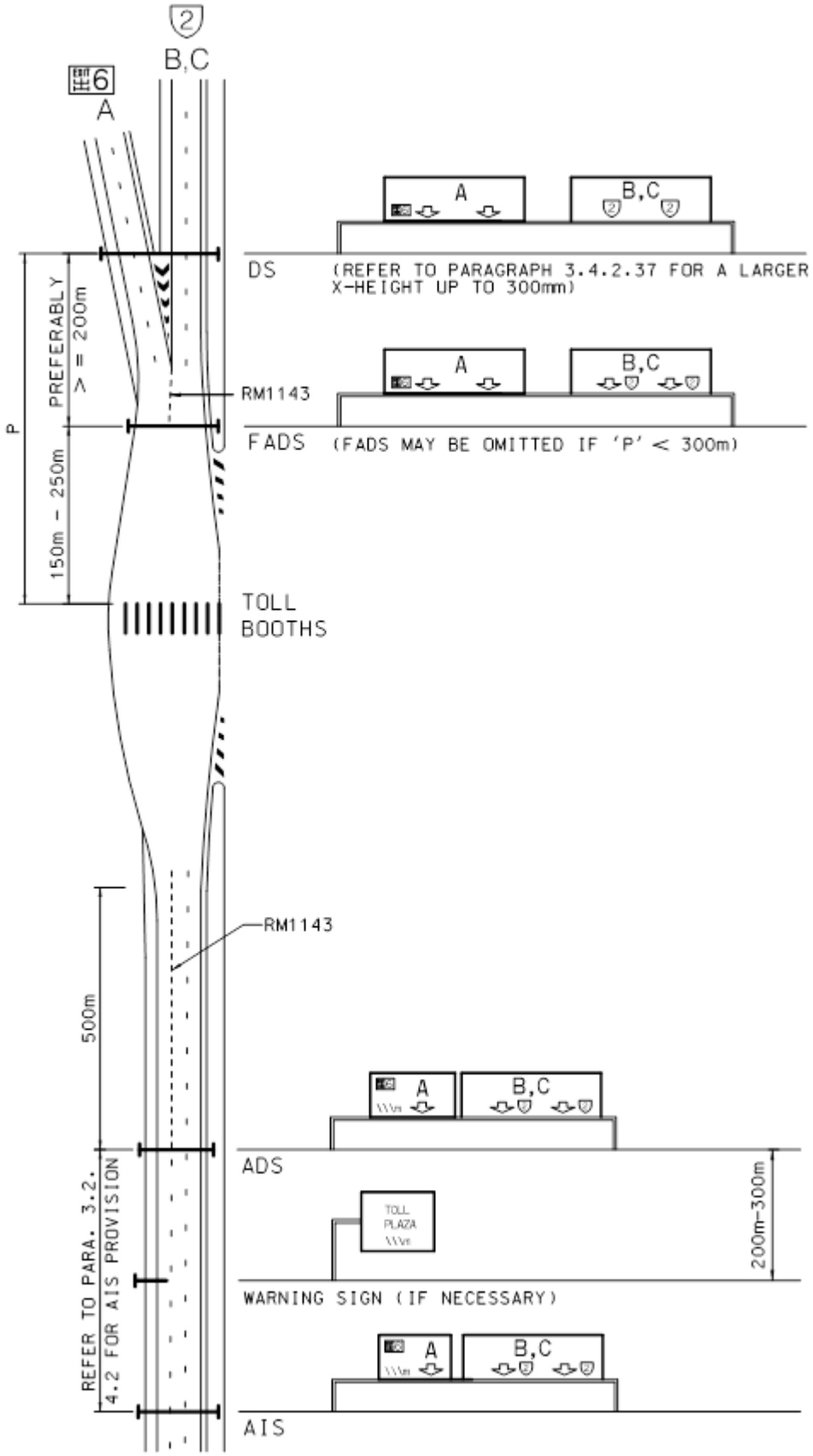
3.4.2.35 If a toll plaza is located within the normal signing sequence of a junction, the precise signing scheme will be dependent on the position of the toll plaza and the need for lane selection through the toll lanes. Separate warning signs indicating a toll plaza ahead are also advisable.

3.4.2.36 Within a toll plaza, there may be other junctions serving operational or administrative facilities. For this reason, any AIS or ADS ahead of the toll plaza intended for the junction are preferably in "lane drop" format without the use of any inclined arrows. In addition, road marking 1143 may be used where necessary to delineate the left lane and to separate the appropriate toll lanes for exit traffic.

3.4.2.37 Diagram 3.4.2.19 shows a "lane drop" junction shortly after a toll plaza. Upstream of the toll plaza, advance signs comprising AIS (if required) and ADS are provided together with a warning sign indicating "Toll Plaza XXXm" where necessary. Downstream of the toll plaza, both FADS and DS are provided where there is sufficient distance. If the junction is located fairly close to the toll plaza and only one gantry can be provided, the FADS may be omitted and the DS should be readable for traffic leaving the toll booths. This may be achieved by relocating the gantry DS upstream or using a larger x-height up to 300mm.

3.4.2.38 Erection of overhead direction signs at the toll canopy is generally not advisable. These will complicate drivers' decision since selection between "Autotoll" lanes and manual toll lanes will also be required. Limited direction signs may still be justified, for example, where usage of some toll lanes is obligatory for access to a minor junction. Under these circumstances and provided that other signs and road markings cannot give the guidance accurately, overhead direction signs may be erected at the toll canopy. Such signs should be simple in design and the x-height is preferably 250mm.

DIAGRAM 3.4.2.19 : SIGNING SCHEME FOR JUNCTIONS AFTER TOLL PLAZA



NOTE : WHERE NECESSARY, THE SIGNING SCHEME MAY USE TRAFFIC CONES OR SUITABLY EXTEND RM1143 IN AREAS BEFORE AND AFTER THE TOLL BOOTHS TO GUIDE TRAFFIC FOR THEIR DESTINATIONS

Other junction types

3.4.2.39 Most junctions along Trunk Roads, Primary Distributor Roads and Rural Roads will be grade separated, but on some occasions, it may be necessary to employ an at-grade roundabout. Where this does occur, the signing should be in accordance with Diagram 3.4.2.20.

3.4.2.40 Where a roundabout forms part of a grade separated junction, the signing on the approach slip road to the roundabout should be in accordance with Diagram 3.4.2.21. Obviously, TS 425 "Roundabout Ahead" will not be able to be located 500m in advance of the junction and the spacing will need to take account of the circumstance of the location.

3.4.2.41 For roundabouts with an exclusive turning lane, the directional signing should be in accordance with Diagram 3.4.2.22. It should be noted that a modified roundabout symbol is used and the ADS is positioned somewhere 50m – 100m ahead to the start of the exclusive turning lane. If the exclusive turning lane leads off well ahead of the roundabout, a repeater ADS in the normal format or a roundabout warning sign (on the offside or both sides) for the main road traffic may be desirable 50m or more ahead of the give-way lines at the roundabout.

3.4.2.42 Diagram 3.4.2.23 illustrates the signing scheme where the exclusive turning lane leads off from a "lane drop" junction. A mixture of sign formats comprising roundabout map type ADS and gantry signs will be required but the precise combination depends on prevailing conditions. While provision of at least one gantry is generally desirable to indicate the "lane drop", lane destination signs may be sufficient for double lane approaches.

3.4.2.43 For other grade separated junction types, the directional signing on the slip road will generally only involve having a single ADS located at 50 - 100m ahead of the stop/give-way lines as shown in Diagram 3.4.2.24, unless the junction is signal controlled when it may be appropriate to erect traffic sign 409 "traffic signals ahead" with an appropriate distance supplementary plate in advance of the ADS. The larger distance is appropriate for approaches with two or more traffic lanes. The warning sign must not interfere with the visibility splay of the ADS.

DIAGRAM 3.4.2.20 : DIRECTIONAL SIGNING FOR ROUNDABOUTS WITH HIGH SPEED APPROACH

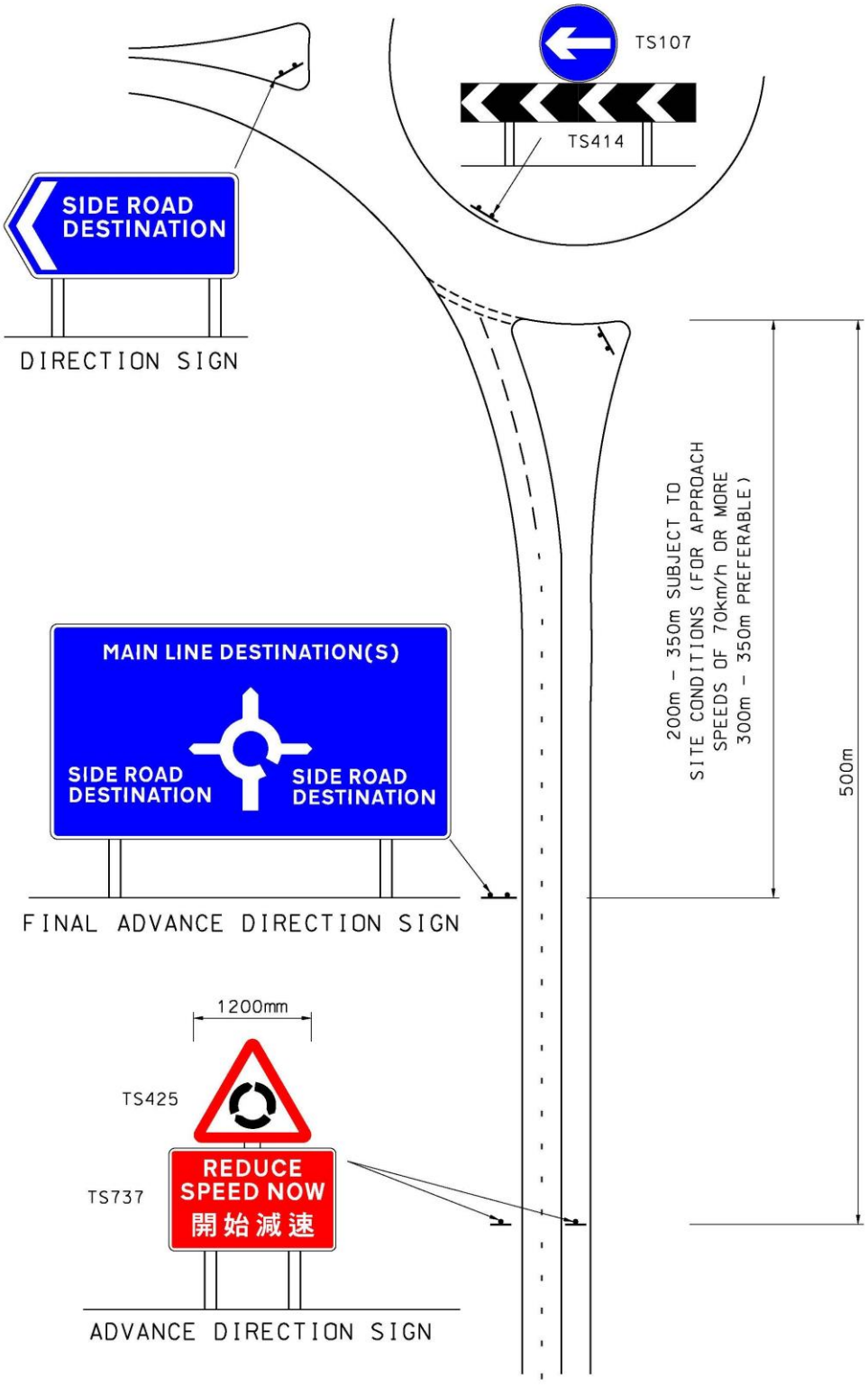
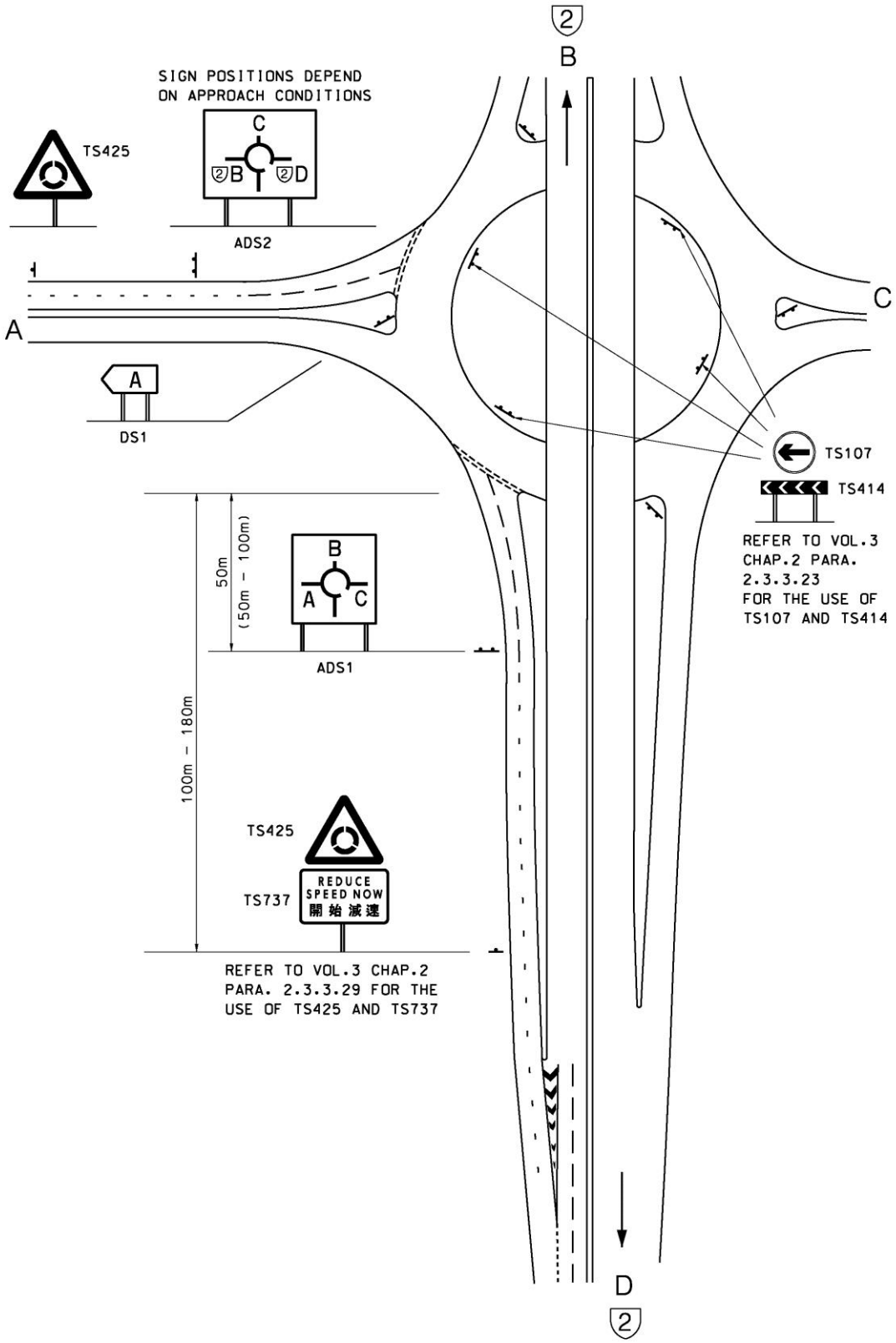


DIAGRAM 3.4.2.21 : SLIP ROAD DIRECTIONAL SIGNING – ROUNDABOUT JUNCTION



NOTE : THE WARNING SIGN TS425 SHOULD BE SUITABLY KEPT CLEAR OF THE FOLLOWING ADVANCE DIRECTION SIGN (ADS1) TO AVOID INTERFERRING WITH ITS VISIBILITY SPLAY

DIAGRAM 3.4.2.22 : SIGNING SCHEME FOR ROUNDABOUTS WITH EXCLUSIVE TURNING LANE

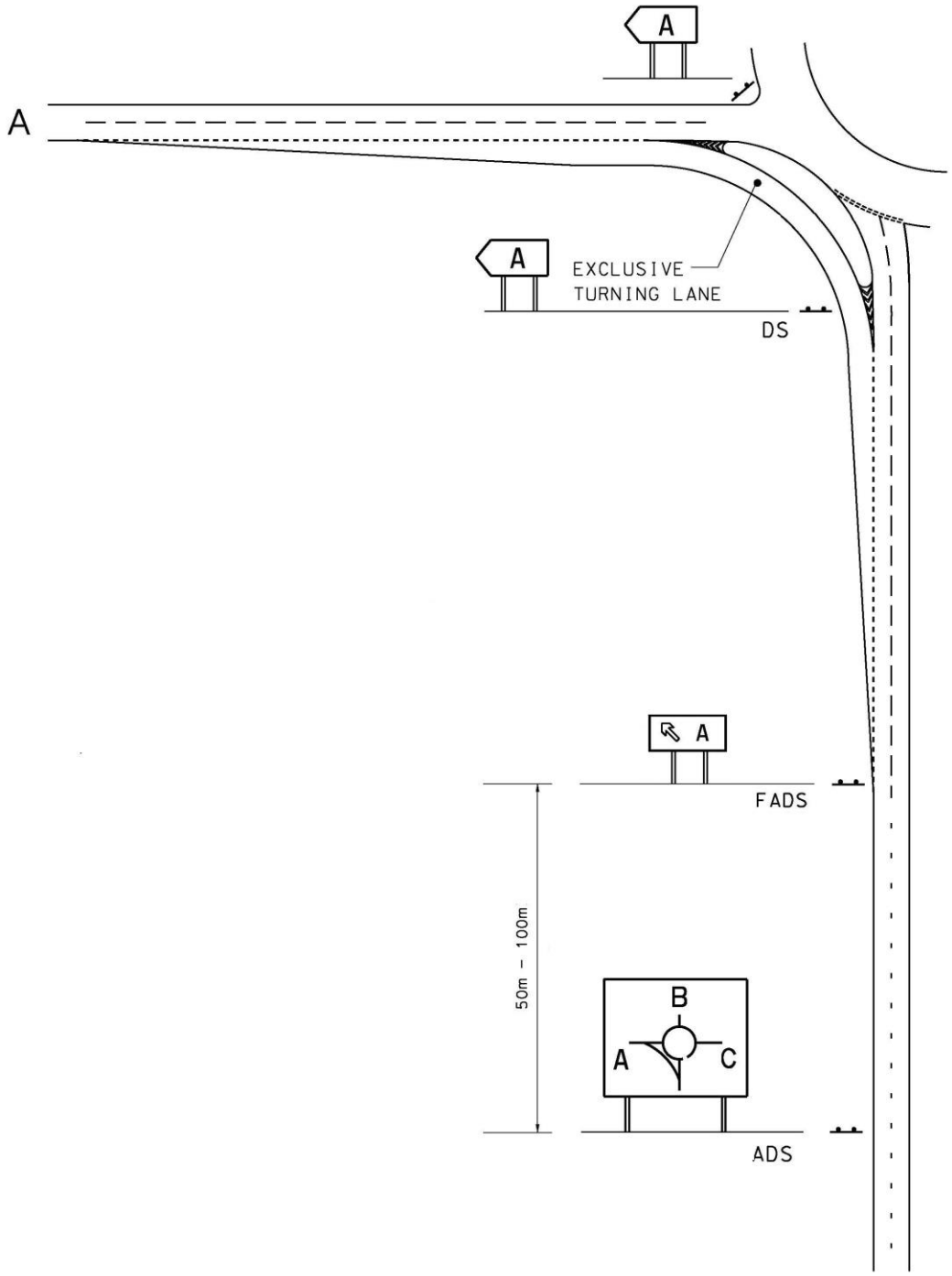


DIAGRAM 3.4.2.23 : SIGNING SCHEME FOR ROUNDABOUTS WITH HIGH STANDARD APPROACH AND "LANE DROP" EXCLUSIVE TURNING LANE

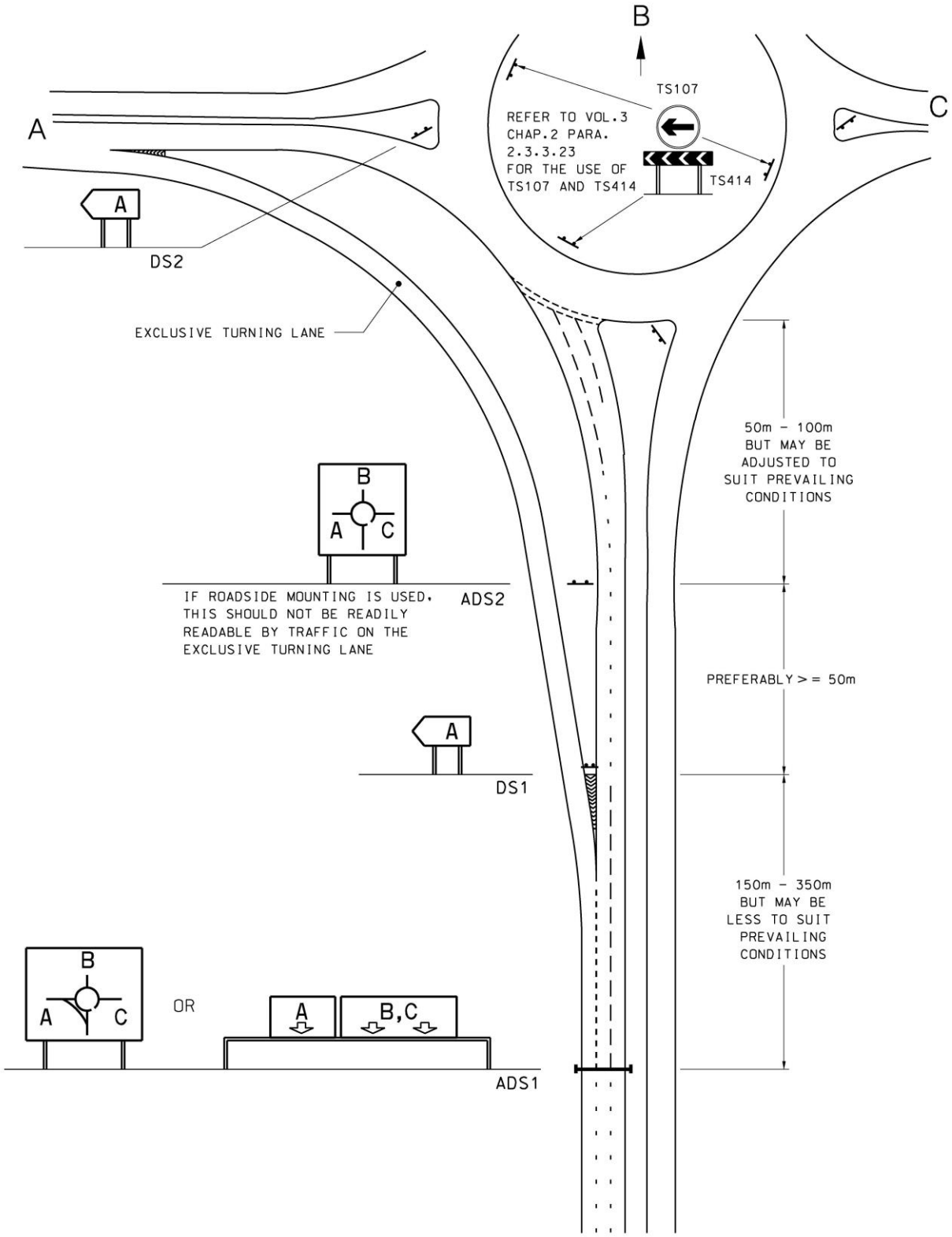
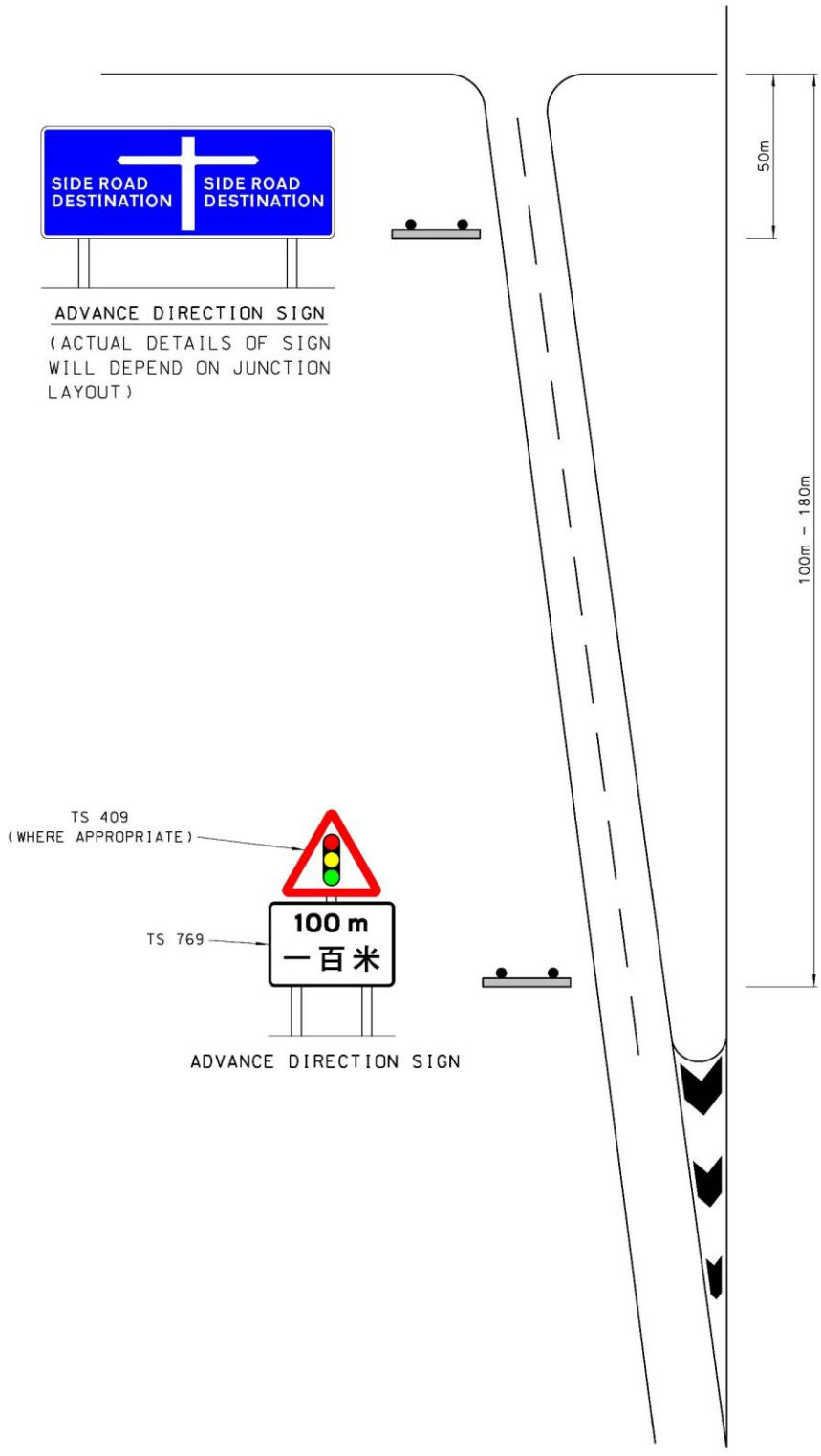


DIAGRAM 3.4.2.24: SLIP ROAD DIRECTIONAL SIGNING PRIORITY / TRAFFIC SIGNAL JUNCTION



3.4.3 Other Roads

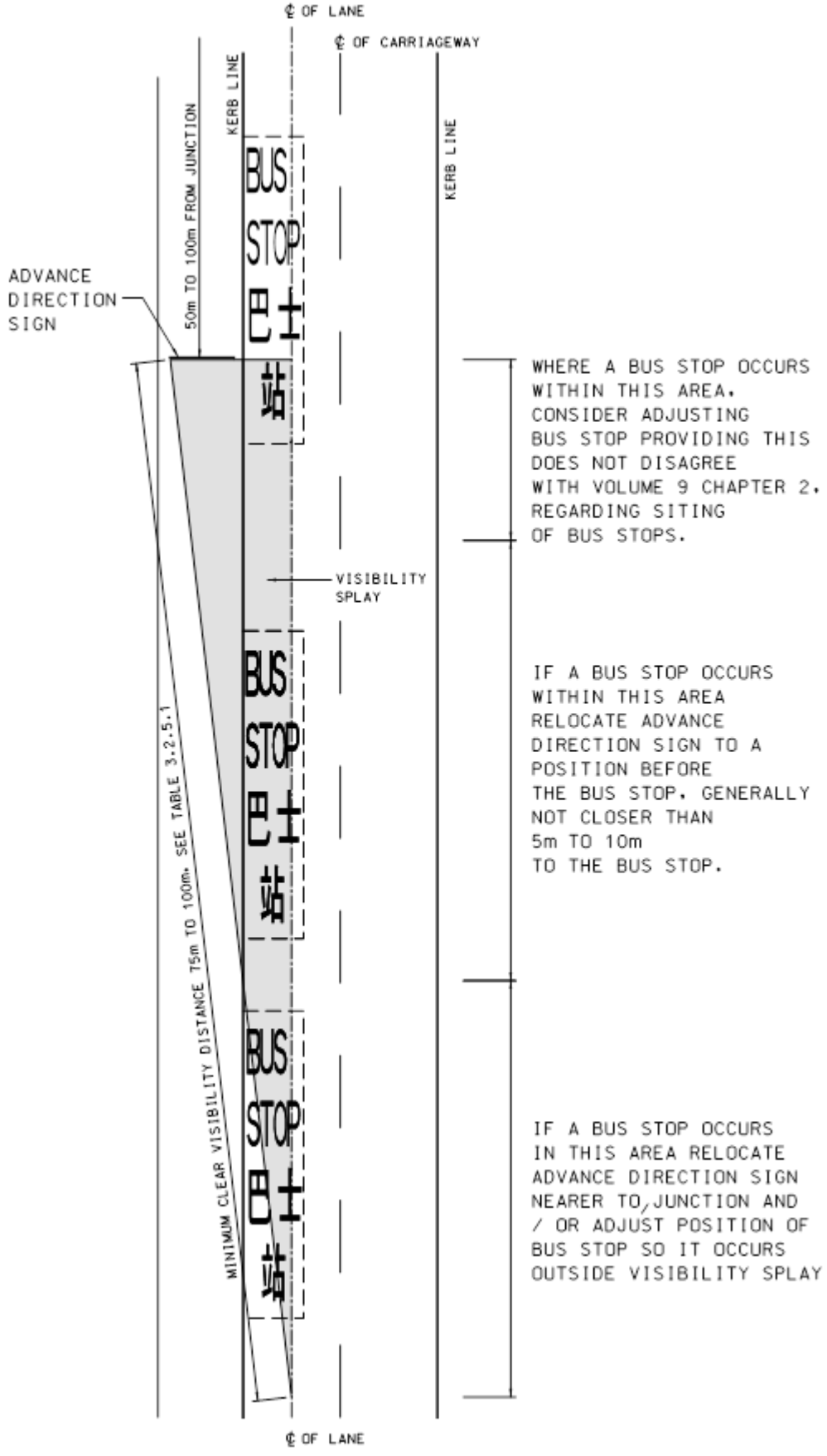
3.4.3.1 This Section describes directional signing arrangements for other roads, that is roads which are not Expressways, Trunk Roads, Primary Distributor Roads or Rural Roads , and are also not Private Roads within the meaning given in Section 2 of the Road Traffic Ordinance, Cap. 374.

3.4.3.2 Along "Other Roads", any use of ADS will normally be confined to District Distributor Roads and Rural Roads, and then not always on these roads. In general, where they are used, ADS should be located on the main road some 50m to 100m in advance of the junction, and on the minor road some 50m in advance of the junction. The actual location of the signs will depend on the particular characteristics of the location, taking into account junction types, site conditions, possible approach speeds, and available land for the erection of signs. The availability of land is a particular problem for both ADS and DS, as along these road types there will exist various constraints such as narrow footways, pedestrian considerations, other street furniture and building canopies. Advice in this Section is generally illustrative of ideal conditions which as explained may not occur, and it will therefore often be necessary to accept some compromise as to the signs to be used and their location. However, any compromise should ensure that for the conditions prevailing the most appropriate directional signing arrangement has been chosen. It is also necessary to take account of whether the signs are really required. If for example the route is obvious, or the destination to be indicated is of little importance, then using such signs will not necessarily aid drivers but they will increase the problems of sign clutter. Consideration should be given, however, where possible to giving directions to motorists to the nearest trunk routes or expressways, or to destinations via such trunk routes or expressways. To achieve this, nothing in paragraph 3.4.3.31 should preclude the use of road names or route numbers as destinations.

3.4.3.3 Visibility distances to all directional signs used along road types described in this Section, should be provided in accordance with Table 3.2.5.1 of this Chapter.

3.4.3.4 A particular problem may arise along these "Other Roads" in respect of achieving the visibility requirements for directional signs because of the presence of bus stops, which will often be required to be located in the same approximate position as ADS, causing the sign to completely or substantially be obscured when a bus stops. Unlike along Trunk or Primary Distributor Roads where the stop should be adjusted, along other roads, it is generally very difficult to relocate the position of the stop, and therefore it is the sign that normally should be re-positioned. Diagram 3.4.3.1 provides guidance as to when the position of the bus stop should be adjusted or, more generally, when the ADS should be re-positioned. The Diagram will also be relevant where kerbside parking is permitted, although in these cases it is more appropriate to remove the parking, if vehicles are likely to interfere with the visibility of a directional sign. However on some occasions, a compromise of adjusting the sign slightly and removing only some of the parking spaces may be possible.

DIAGRAM 3.4.3.1 : LOCATION OF BUS STOPS IN RESPECT OF ADVANCE DIRECTION SIGNS



Priority "T" junction

3.4.3.5 Diagram 3.4.3.2 illustrates a typical arrangement for the directional signing of a priority controlled "T" junction where ADS is to be used. Along the main road, the ADS in the form of a map type sign can, for the type of junction shown and where the approach speed is not greater than 50 km/h, be erected 50m in advance of the junction. However, if the approach speed is greater than 50 km/h or a bend occurs in the vicinity of the junction so that the clear visibility to the junction is only 50m or less, the location of the sign should be adjusted in accordance with the following: -

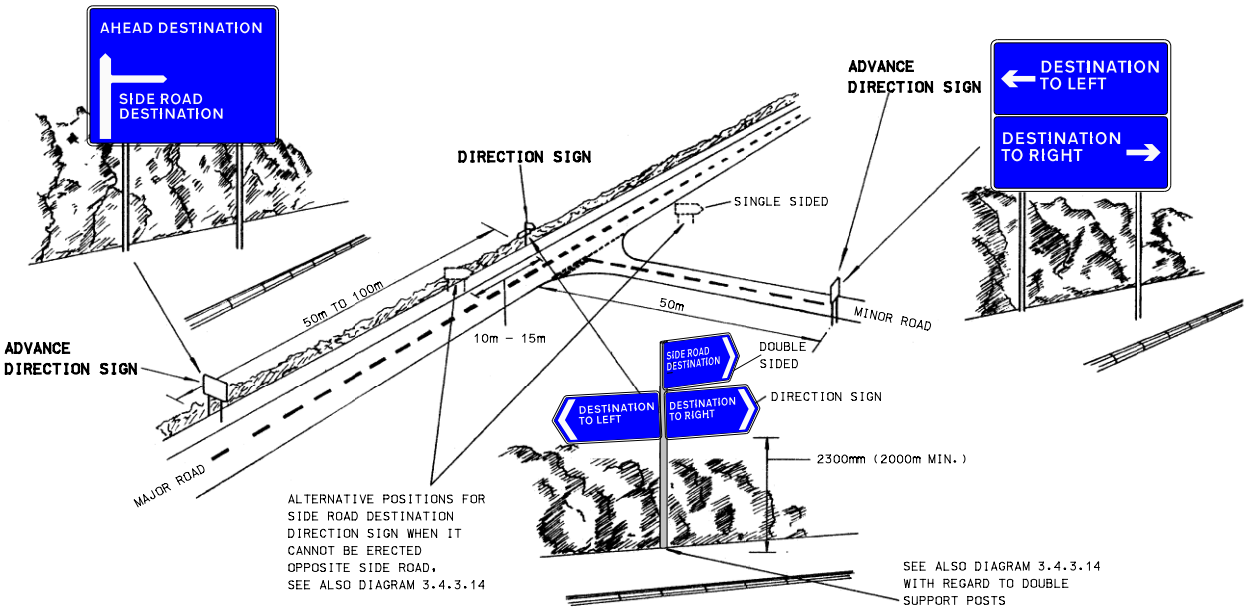
(i) Where the visibility to the junction is restricted, the sign should be located at about 70m in advance of the junction;

(ii) For approach speeds greater than 50 km/h and up to 60 km/h, the sign should be located 70m to 75m in advance of the junction; and

(iii) For approach speeds in excess of 60 km/h, 100m in advance of the junction.

3.4.3.6 Although as shown in Diagram 3.4.3.2 a stack type ADS is generally preferable on the minor road, as it normally occupies less space and is simple in layout, a map type sign may be used if it is considered to be more descriptive. The DS at the junction, however, as shown in Diagram 3.4.3.2, should consist of flag type signs for this junction arrangement as the destination along the minor road is also being indicated. The Diagram does illustrate the use of single support post for some signs, which may not always be possible, and further advice where double support posts are required for the sign arrangement shown is given in paragraph 3.4.3.24. Additionally, it may be necessary to consider an alternative arrangement for the DS indicating side road as erecting it opposite the side road may not always be possible because of site constraints or visibility limitations. Diagram 3.4.3.2 illustrates one alternative arrangement where a DS is erected slightly in advance of the junction on the side of the road adjacent to approaching traffic and Diagram 3.4.3.14 illustrates a further arrangement.

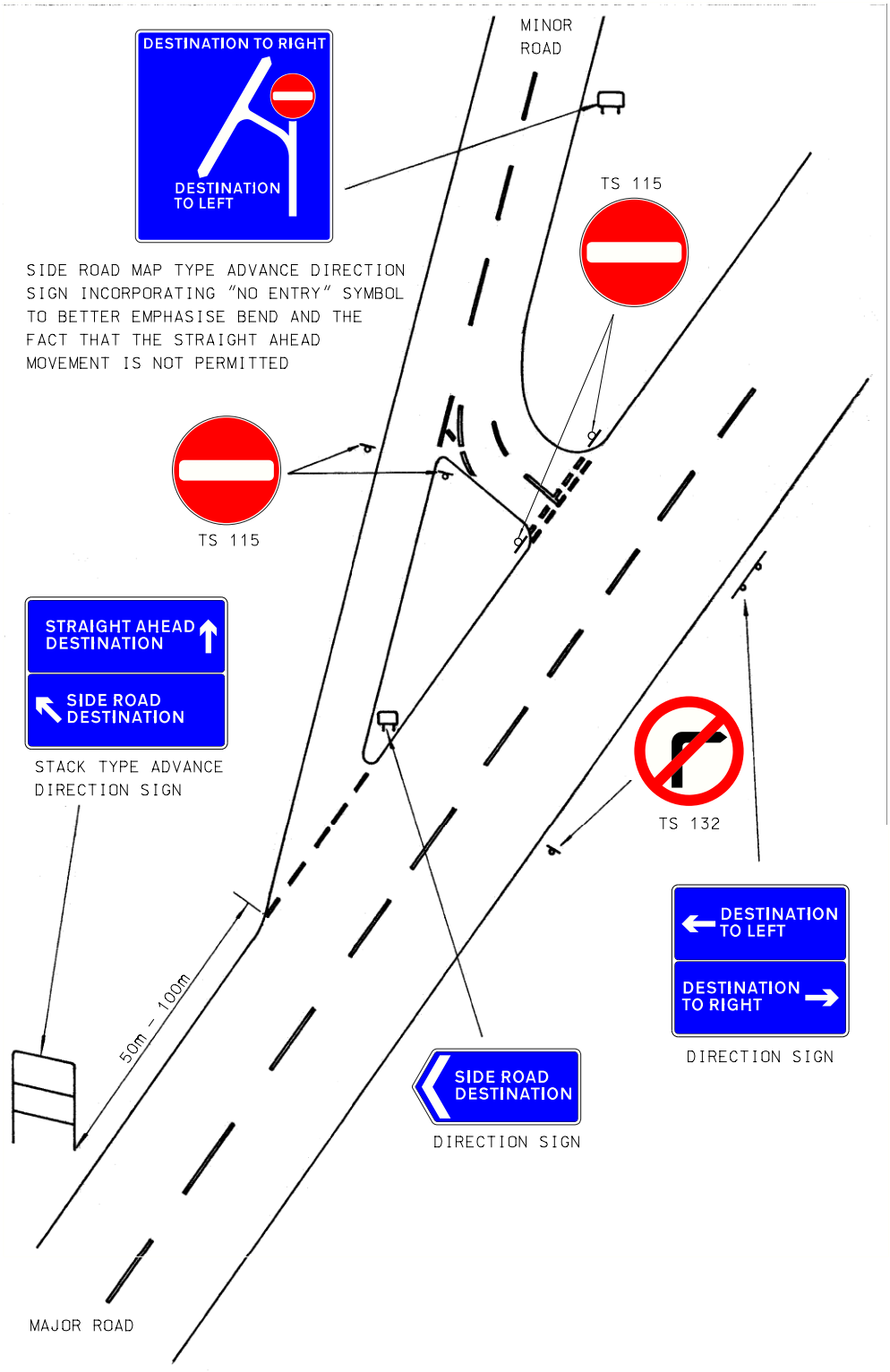
DIAGRAM 3.4.3.2 : USE OF ADVANCE DIRECTION AND DIRECTION SIGNS AT "T" JUNCTION



Oblique junction

3.4.3.7 Where a minor road forms an oblique junction with a major road, the ADS along the major road should take the form of a stack type sign incorporating an oblique arrow as shown in Diagram 3.4.3.3. The reason for preferring a stack type sign is that a map type sign having an inclined side arm is usually associated with junctions having deceleration lanes, which is seldom the case with lower order road junctions. Along the minor road, particularly for the type of junction illustrated, there are several advantages in having a map type sign, in that, it illustrates that there is a sharp bend ahead, that the junction is just beyond this, and by the incorporation of the "no entry" symbol, that the straight ahead movement is not permitted. In the example shown in Diagram 3.4.3.3, right-turn movements into the minor road are not permitted, and therefore an ADS for this direction is not entirely necessary. However, it can be advantageous particularly if traffic along the major road in this direction is relatively heavy to have an ADS incorporating a "no right-turn" symbol to warn of this prohibition. Where the right-turn into the minor road is permitted, however, an ADS will be required, and if the entry to the side road is segregated from its exit, a map type sign indicating the arrangement would be appropriate.

DIAGRAM 3.4.3.3 : DIRECTION SIGNS FOR AN OBLIQUE JUNCTION



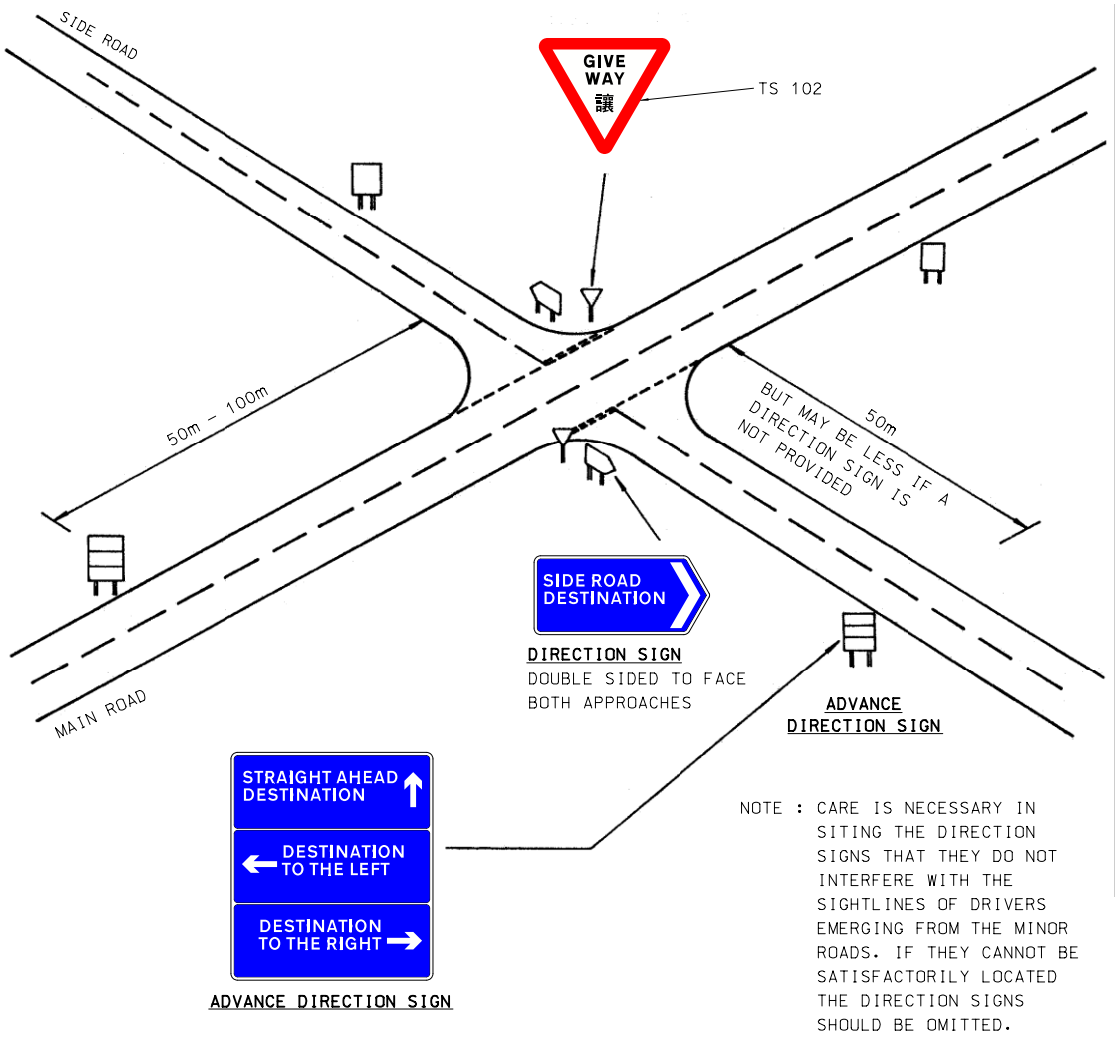
Four-way (cross-road) junction

3.4.3.8 For a four–way priority controlled junction, where ADS is considered necessary, stack type signs will normally be preferable because they generally occupy less space, and a typical illustration of advance signing is shown in Diagram 3.4.3.4. The exact location of the ADS should be determined similarly to that described in paragraph 3.4.3.5.

3.4.3.9 DS at a four–way junction can sometimes be difficult to locate as care must be taken that the visibility of pedestrians and drivers particularly those emerging from the side road are not impaired. In this respect, DS indicating the minor road may be placed along the major road on the far side of the junction or alternatively 10-15m before the junction, as indicated in Diagram 3.4.3.4. DS for vehicles on the minor road can as shown in Diagram 3.4.3.4 be omitted, if it is considered that their provision would result in unnecessary sign clutter and/or interference with the forward visibility of drivers on the major road. In these latter cases, consideration may be given to erecting a combined ADS/DS on the minor road at about 20-25m to the junction. This combined signing arrangement may similarly be used for the main road if considered appropriate and necessary. Moreover, if a left-turn is of large corner radius like a slip road with a traffic island on the side road, the DS may be omitted and a stack type ADS may then be provided at or ahead of the turn.

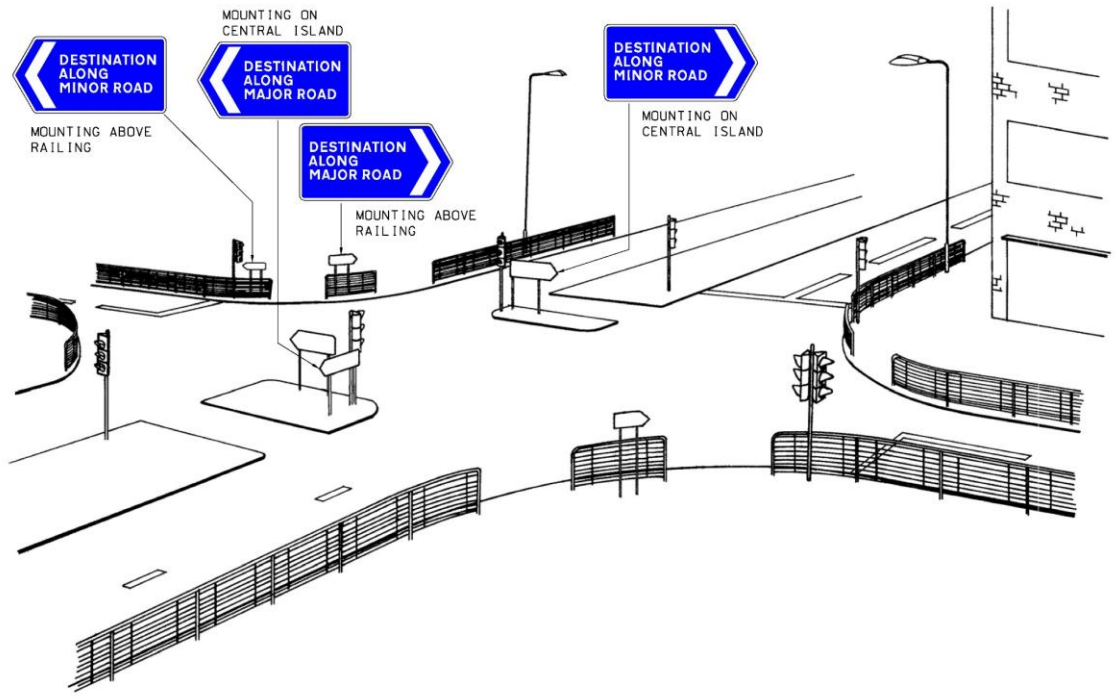
3.4.3.10 The above signing arrangement may also apply to signal controlled junctions. At signal controlled junction, it may be possible to take advantage of the central refuges to erect DS as shown in Diagram 3.4.3.5. However, in doing so, care must be taken that the signs do not obstruct the sightlines of drivers and pedestrians waiting to cross, or obscure pedestrians from the view of drivers. A mounting height of 2300mm (minimum 2000mm) as indicated in the diagram can overcome this sightline problem.

DIAGRAM 3.4.3.4 : USE OF ADVANCE DIRECTION AND DIRECTION SIGNS FOR PRIORITY CROSS-ROAD JUNCTION



NOTE : FOR THE MINOR ROAD, A COMBINED ADVANCE DIRECTION AND DIRECTION SIGN AT ABOUT 20 – 25 m TO THE JUNCTION MAY BE USED INSTEAD.

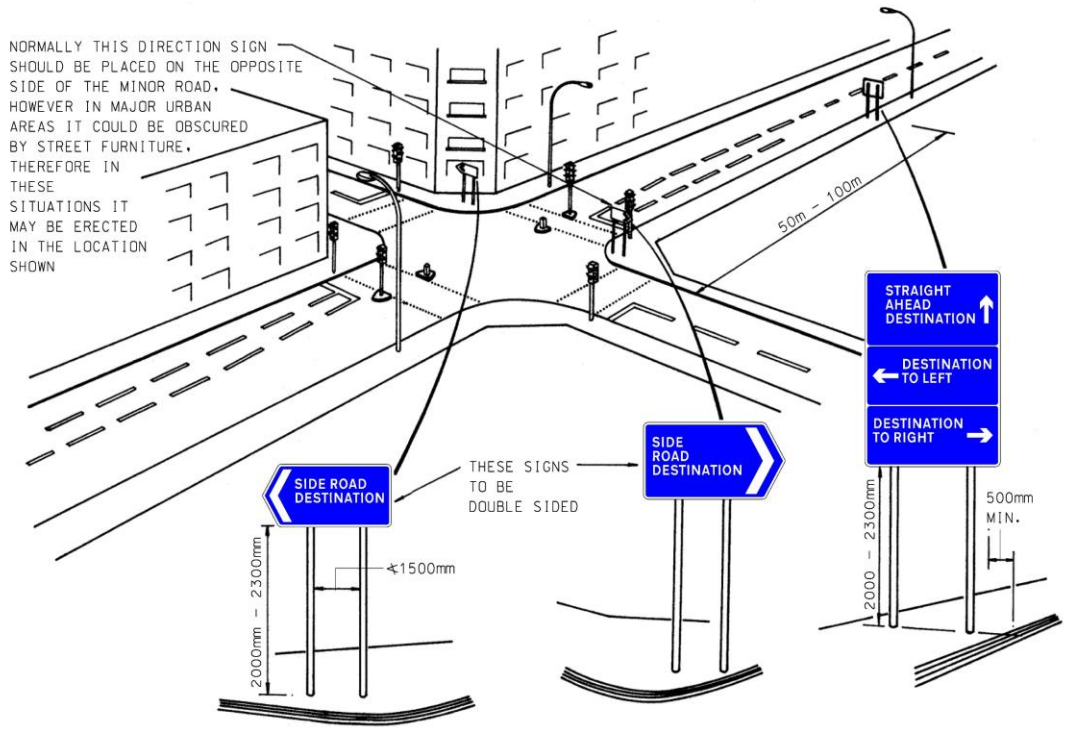
DIAGRAM 3.4.3.5 : DIRECTION SIGNS AT SIGNAL CONTROLLED JUNCTIONS



NOTE : USE MOUNTING HEIGHT 2.3m (MIN. 2m.) TO AVOID CAUSING SIGHTLINE OBSTRUCTION PROBLEM

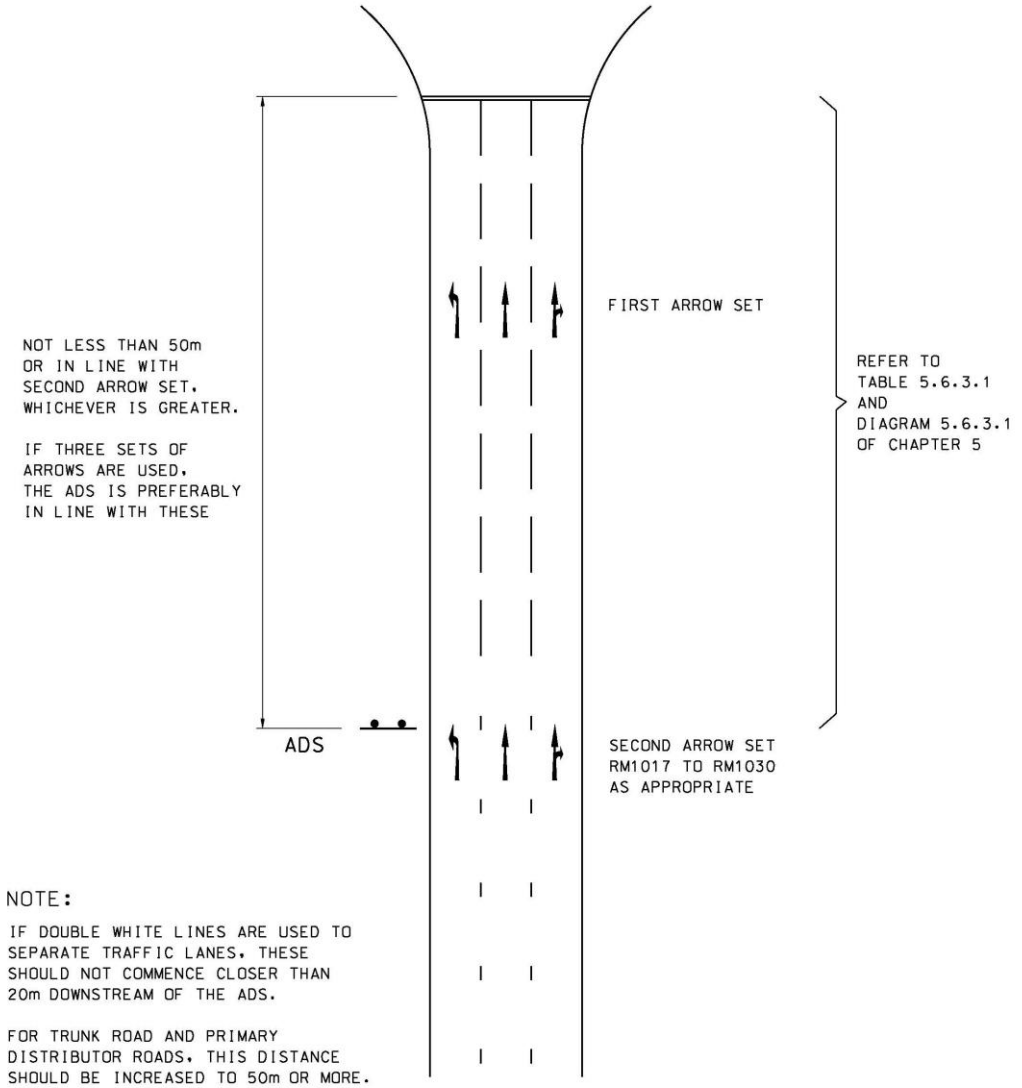
3.4.3.11 Diagram 3.4.3.6 illustrates a further alternative for a four–way junction, where double sided DS is used to indicate appropriate side road destinations to traffic approaching from both directions along the major road. This does however presuppose that the clear visibility distance to the signs in both directions can be achieved, and in urban conditions this might not always be the case, unless great care is taken with the siting of the signs. In this respect, attention will need to be given that the signs are located such that they are not obscured by traffic signals, traffic signs or other street furniture. It is also particularly important that the signs can be reasonably seen without obstruction by vehicles stopped at the signals on both approach arms.

DIAGRAM 3.4.3.6 : USE OF DOUBLE SIDED DIRECTION SIGNS



3.4.3.12 In the situation that both an ADS and lane direction arrows are used on the approach to a junction, it is important that the ADS is properly located in respect of the lane direction arrows such that drivers are aware in sufficient time of the correct lane to be in. It is recommended, as shown in Diagram 3.4.3.7, that the ADS is located in line with the second set of arrows, or 50m away from the junction, whichever is the greater. If, for any reason, a third set of arrows is employed, then it is preferable that the ADS is located in line with these and not the second set of arrows. A further adjustment may be necessary if the double white lines system is used to segregate traffic lanes on the approach to the junction, and for "Other Roads" a distance of at least 20m must be provided, between the ADS and the start of the double white lines system. In fact with the double white lines system it is preferable, where there is sufficient space, that three sets of lane direction arrows are used, so that the ADS is located well in advance of the start of the double white lines so that sufficient warning can be given to drivers as to the correct lane to be in.

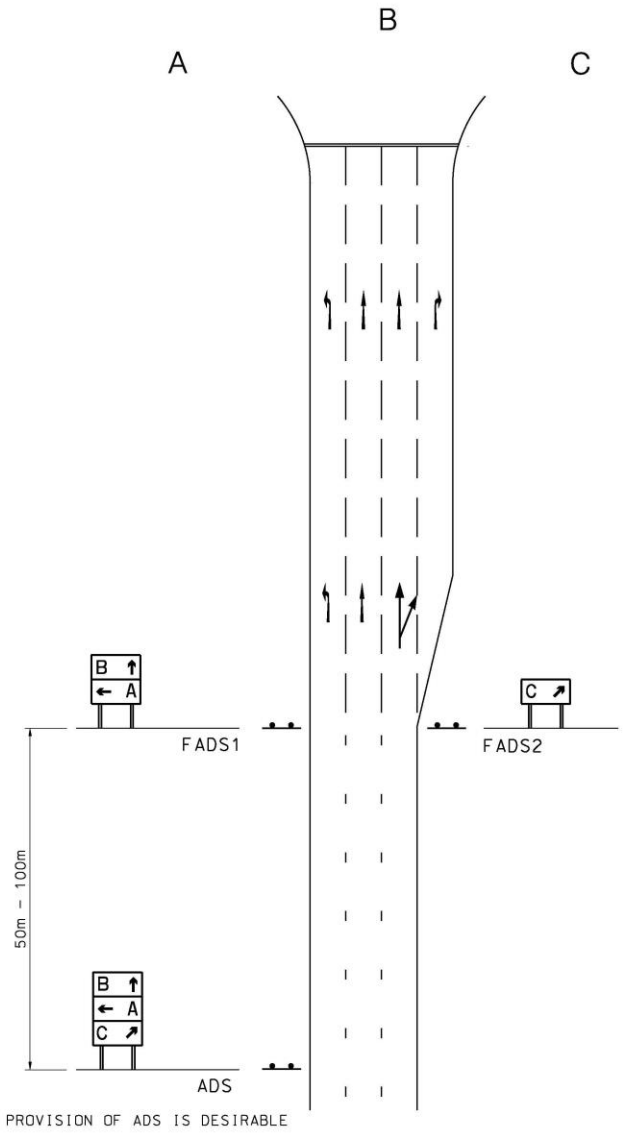
DIAGRAM 3.4.3.7 : LOCATION OF ADVANCE DIRECTION SIGN IN RELATION TO LANE DIRECTION ARROW MARKINGS



3.4.3.13 It will sometimes occur that in addition to the requirement to have both an ADS and lane direction arrows, a bus stop needs to be located in a position that buses when stopped may obscure the ADS. The advice in paragraph 3.4.3.4 is relevant in determining the location of the ADS, but this may result in the sign having to be erected closer than 50m to the junction, or more than 50m in advance of the start of the lane direction arrows. If either of these situations occur, it is recommended that both an ADS and a FADS are used.

3.4.3.14 Where on the approach to a signal controlled junction, the carriageway is widened to form an exclusive right–turning lane and a relatively wide carriageway is formed, it may be an advantage as shown in Diagram 3.4.3.8 to consider splitting the directional signing, so that the directions for the left and straight ahead movements appear on the nearside, and that for the right–turning movement appear on the offside. This is however a somewhat unusual method of signing and should normally not be contemplated unless an ADS can also be erected some 50m to 100m in advance of the split signing.

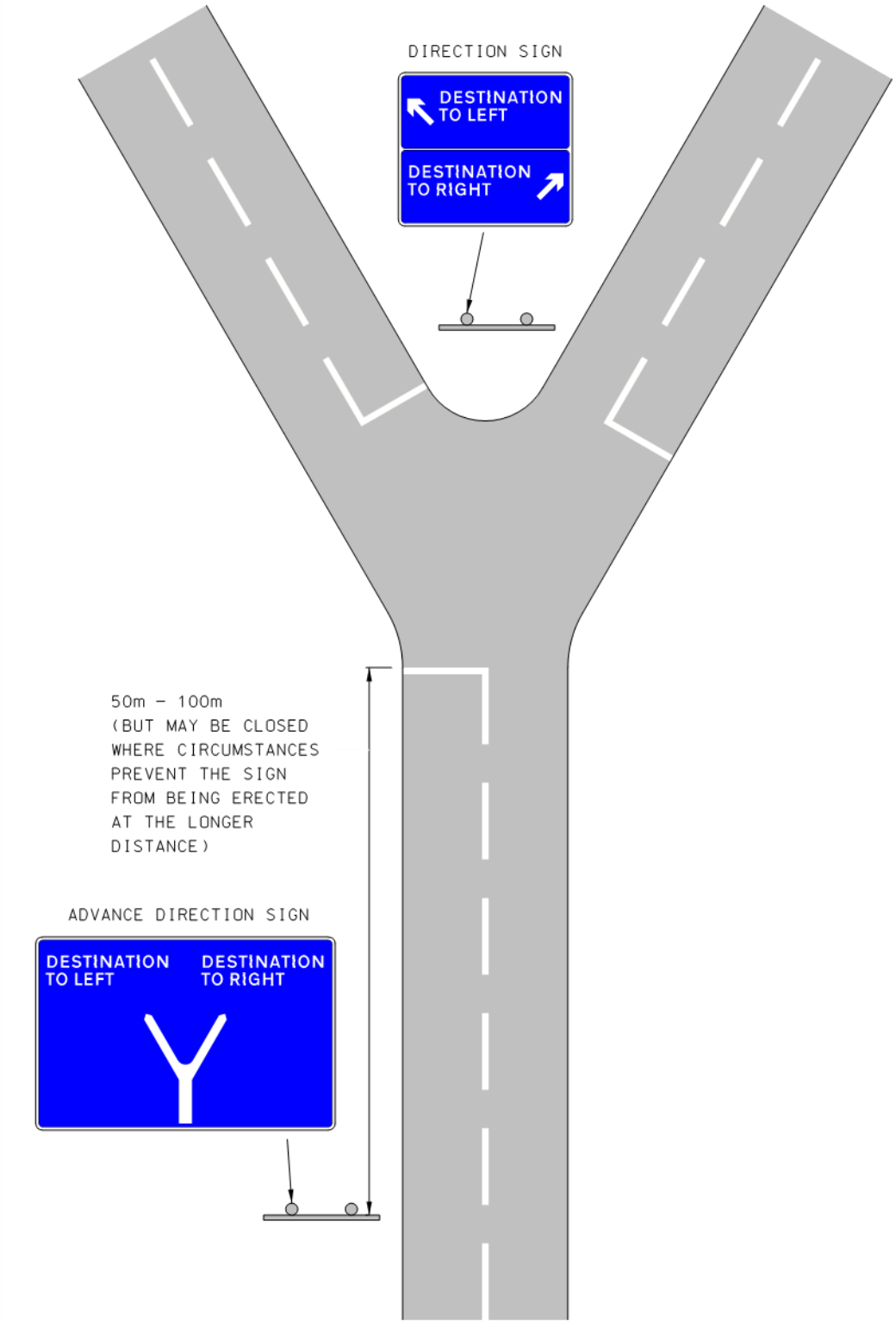
DIAGRAM 3.4.3.8 : SPLIT DIRECTION SIGNS AT SIGNAL CONTROLLED INTERSECTIONS



"Y" junction

3.4.3.15 In advance of a signal controlled "Y" junction where an ADS is required as shown in Diagram 3.4.3.9, it is preferable that this takes the form of a map type sign as this more clearly advises approaching drivers of the junction configuration ahead. For traffic approaching along the stem, the DS in the form of a stack type sign located at the nose of the bifurcation island is appropriate, indicating the destinations to both the right and the left, unlike other roadside directional signs. Although it is preferable to have the ADS located some 50m to 100m in advance of the junction in accordance with the normal requirements for these signs, a closer spacing than this to suit particular site conditions is acceptable. However, even though a closer spacing may be adopted, it is preferable to retain the DS as a further reminder of the route to be taken. For the other approaches, the choice of ADS and DS will depend on the junction geometry and the turning movements being allowed. For the DS, it can be located near to the stop line or on the far side of the junction, whichever is most convenient, as shown in Diagram 3.4.3.9.

DIAGRAM 3.4.3.9 : DIRECTIONAL SIGNING AT A SIGNAL CONTROLLED "Y" JUNCTION



Roundabout

3.4.3.16 Where it is considered that an ADS is required in advance of a roundabout, it is generally not necessary as in the case of the higher hierarchical roads (see Diagram 3.4.2.14) to have both a roundabout warning sign to traffic sign 425 and an ADS, providing the latter is in the form of a map type sign indicating a roundabout ahead as shown in Diagram 3.4.3.10. The ADS should be provided about 50m to 100m ahead of the junction. The lower value is appropriate for minor roads, single carriageway approaches and lower approach speed. The higher value is appropriate for main roads, multi-lane approach or higher approach speeds. If there are three or more approach lanes and approach speed is on the high side, consideration may be given to positioning the ADS further upstream to facilitate lane changing. The exact location of this ADS should follow the advice given in paragraph 3.4.3.5.

3.4.3.17 The position of the DS at a roundabout junction should normally be placed as shown in Diagram 3.4.3.10, that is on the splitter islands and be orientated in such a position to face towards approaching traffic as well as point to the direction of the exit. In the event that the splitter island is too small or not provided, the sign may be erected on the offside of the roundabout exit, or an alternative is to erect a rectangular DS on the nearside of the roundabout exit as shown in Diagram 3.4.3.10. However, care will be necessary as to the orientation and location of the sign, as it needs to be able to be viewed both by drivers on the roundabout itself and the approach road immediately adjacent to the exit road. Moreover, care will also need to be taken that such sign is positioned to provide maximum clear visibility to approaching drivers, does not obstruct pedestrians or their sightlines, and generally cannot be obstructed by pedestrians. To avoid any such sightline problem, the mounting height of DS at roundabouts should generally be 2300mm (minimum 2000mm).

3.4.3.18 On the central island of the roundabout, unless it is a mini-roundabout when the mound forming the island should be kept clear of all obstructions, traffic signs 107 “turn left” and 414 “sharp deviation to left” as shown in Diagram 3.4.3.10 must be erected, and further advice on this is given in Chapter 2 of this Volume.

3.4.3.19 In situation where the clear visibility distance to the ADS for a roundabout junction is restricted, that is less than that given in Table 3.2.5.1 of this Chapter, and its position cannot be adjusted to overcome this, then consideration may be given to erecting a warning sign to traffic sign 425 “roundabout ahead” some 45m in advance of the ADS as shown in Diagram 3.4.3.11 (i). However, unless approach speeds are particularly high, even in these situations traffic sign 425 is not absolutely necessary. But where approach speeds are high, consideration may also be given to erecting in conjunction with traffic sign 425 a supplementary plate, either indicating the distance to the roundabout or traffic sign 737 “reduce speed now”, though it is stressed that for most occasions on these “Other Roads” traffic sign 425 alone should be sufficient and supplementary plates should not be used unless they are really considered necessary.

3.4.3.20 Traffic sign 425 “roundabout ahead” should always be used as shown in Diagram 3.4.3.11 (ii), and further illustrated in Diagram 3.4.3.12 on the approach to all minor road roundabout junctions where ADS are not erected. It should also be noted that, as illustrated in Diagram 3.4.3.12, signs on the central island of the roundabout must always be provided, unless it is a mini-roundabout.

DIAGRAM 3.4.3.10 : USE OF ADVANCE DIRECTION AND DIRECTION SIGNS AT ROUNDABOUTS

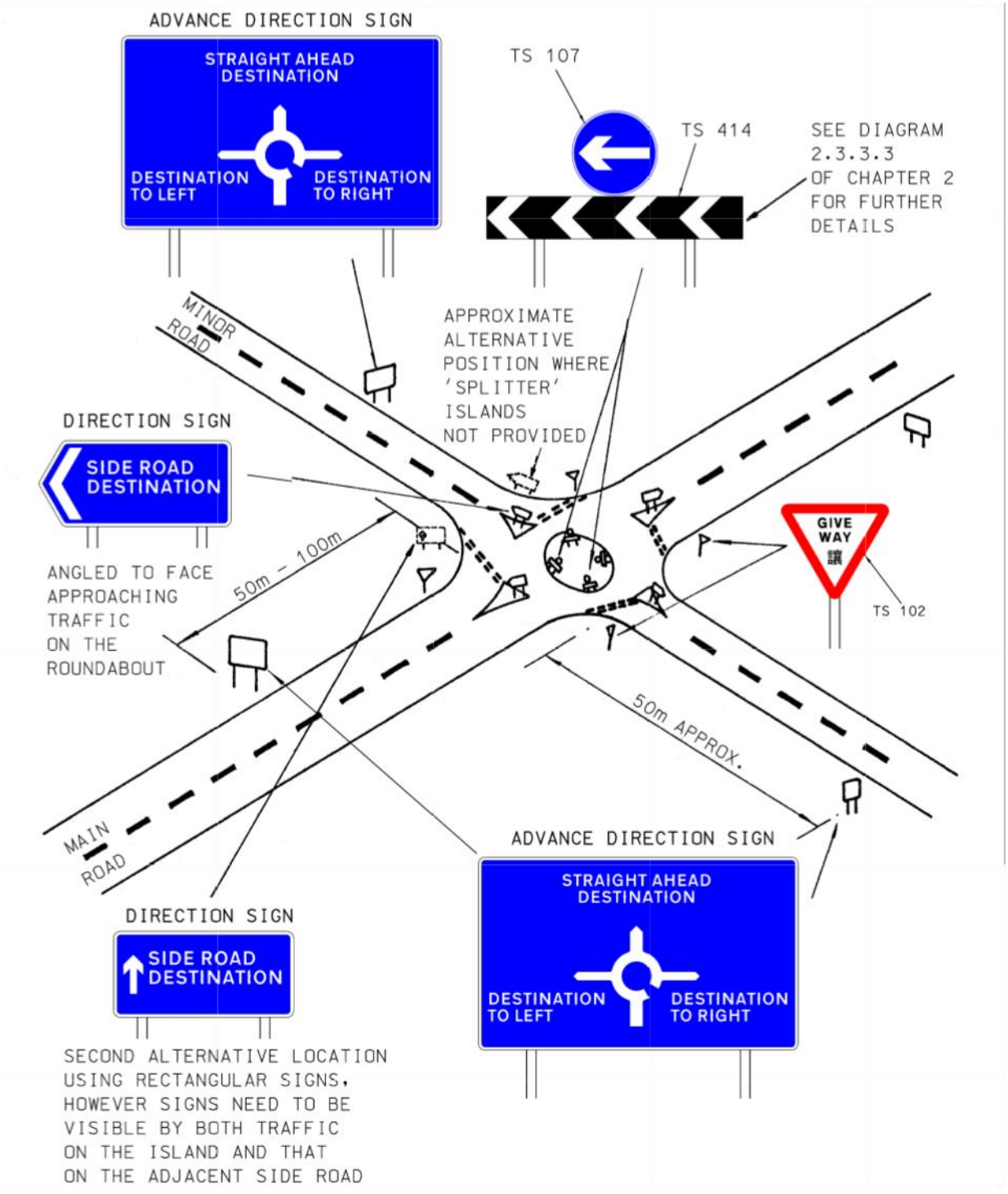
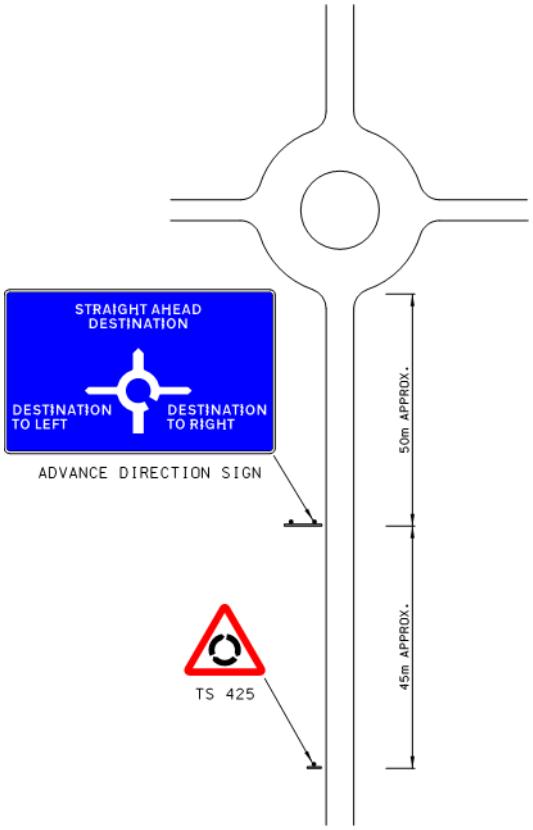


DIAGRAM 3.4.3.11 : USE OF TRAFFIC SIGN 425, "ROUNDABOUT AHEAD" ON "OTHER ROADS"

(i) WHERE APPROACH SPEEDS ARE AT OR ABOVE 50 km/h, AND/OR VISIBILITY IS RESTRICTED



(ii) TO WARN OF A MINOR ROAD ROUNDABOUT JUNCTION

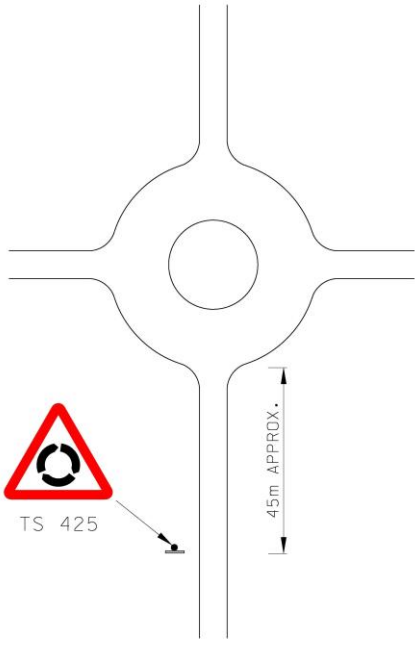
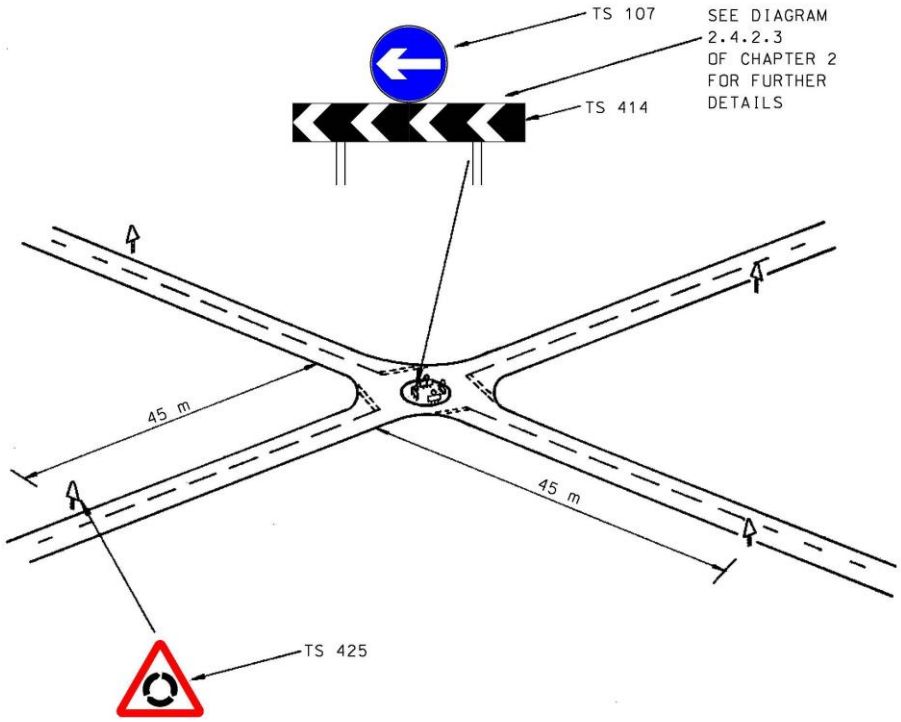


DIAGRAM 3.4.3.12 : SIGNING FOR ROUNDABOUT WHERE DIRECTION SIGNS ARE NOT REQUIRED



Minor Junction

3.4.3.21 For most junctions along these "Other Roads" which are rural feeder roads, local distributor roads and local streets with low geometric standards and approach speed, DS alone will generally be sufficient to provide guidance to motorists, and the use of flag type signs at a "T" junction for these situations is illustrated in Diagram 3.4.3.13.

3.4.3.22 As indicated in Diagram 3.4.3.13, the height of the DS for the side road destinations if located adjacent to a footway must be at least 2000mm above the footway, but the DS for the main route destinations can be mounted at a lower height providing they are erected at the back of the footway, or over a verge, and there is insufficient pedestrian flow across the faces of the signs to cause the sign to be obscured. However, low mounted signs of the latter type will generally only be appropriate in rural areas as in urban areas pedestrian flows are generally such that the low mounted signs would be obscured for much of the time, and in these locations, therefore the signs will need to be at least 2000mm above the footway surface.

3.4.3.23 Diagram 3.4.3.13 also indicates the use of a combined ADS/DS to indicate the side road destinations for vehicles approaching along the main road on the same side as the side road. This sign is generally only necessary where there is a wide approach or visibility to the DS on the offside is restricted. Although the combined ADS/DS may be placed closer to the junction than the normal position for an ADS, care should be taken that it is not too close to the junction that it might obstruct visibility to the junction or that of drivers emerging from the junction. Exact location of where it should be positioned will depend on the particular circumstances, but some 20m to 25m in advance of the junction will normally be appropriate.

3.4.3.24 Diagram 3.4.3.13 does assume that for the DS opposite the side road, a single post mounting can be employed. Although in many respects this is preferable as it causes less obstruction to pedestrians if the post can be erected at the back of the footway, in many situations because of the size of the sign, it is necessary to have a double post support. Diagram 3.4.3.14 illustrates alternative arrangements when double support posts are required to be used. The preferable arrangement is as shown in Diagram 3.4.3.14 (i), however the post supporting the side road destination sign for this arrangement may in some circumstance obscure the signs indicating the destinations to the left and right. An alternative location for these latter signs to avoid them being obscured is to erect them adjacent to the carriageway and this is indicated in dotted form in the diagram. However, in the circumstances that the arrangements in Diagram 3.4.3.14 (i) are not considered appropriate, then an arrangement as shown in (ii) of this Diagram could be adopted, but this arrangement does presume that there is adequate visibility to the signs erected on the side road, which may not always be the case. A further alternative for the side road destination signs is shown in Diagram 3.4.3.2, whereby theDS is erected slightly in advance of the junction on the same side as approaching traffic.

DIAGRAM 3.4.3.13 : USE OF DIRECTION SIGNS

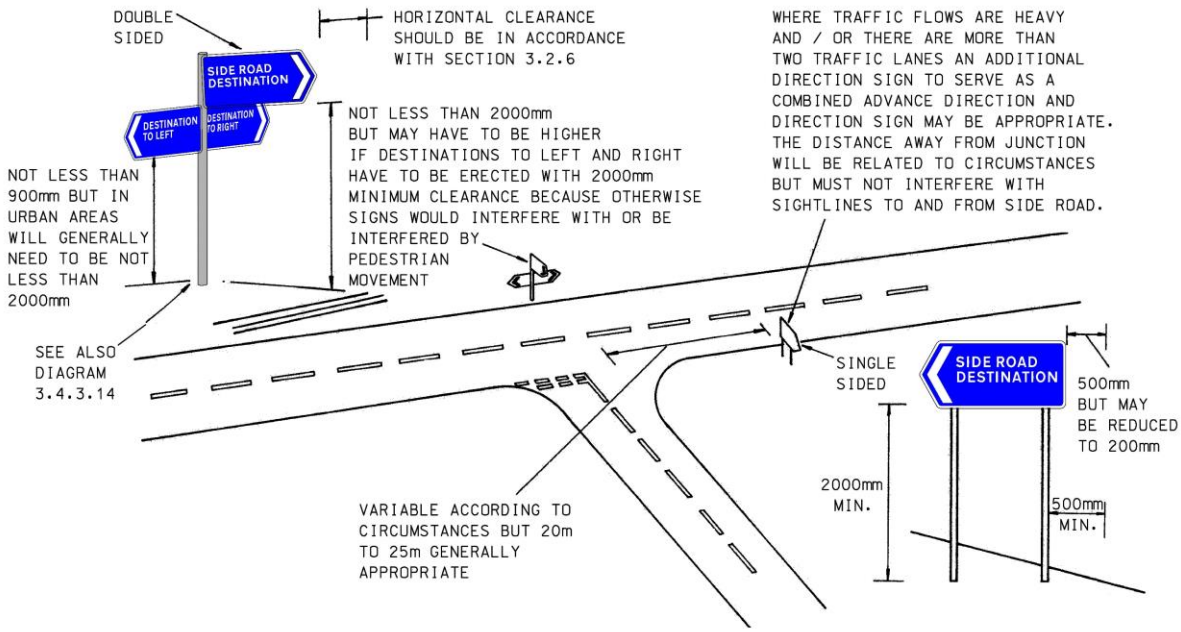
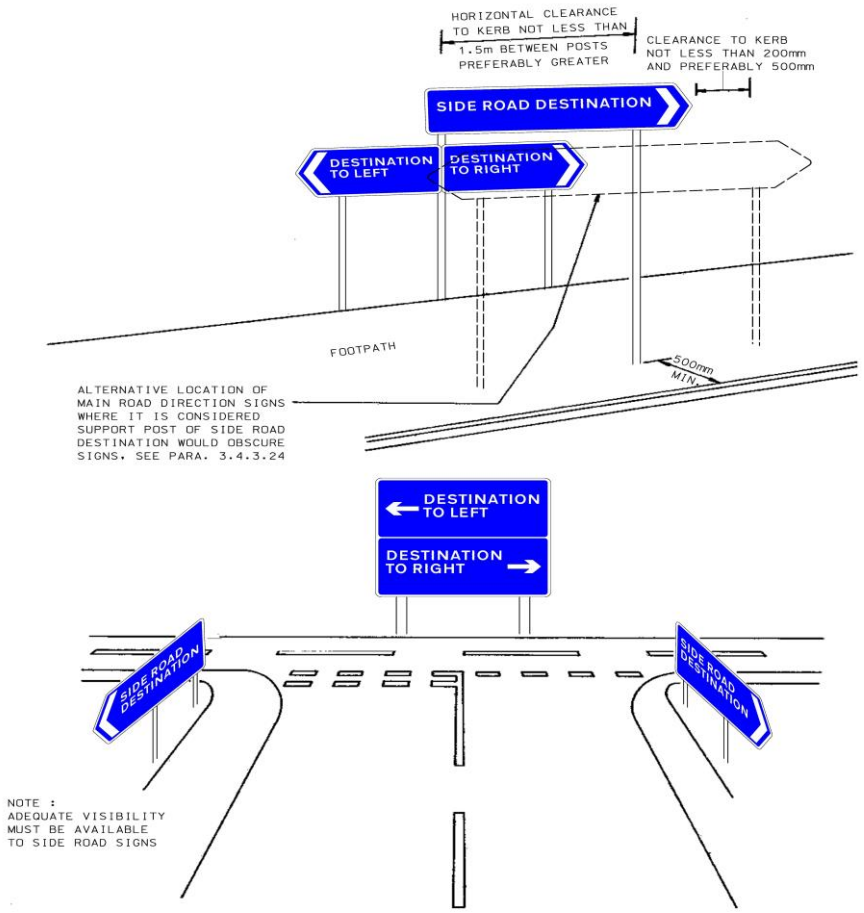


DIAGRAM 3.4.3.14 : DIRECTION SIGNS WITH DOUBLE SUPPORT POSTS



3.4.3.25 At four-way junctions if it is necessary to indicate particular routes to be followed as mentioned before it is preferable that a system of ADS with DS erected around the junction as shown in Diagram 3.4.3.6 is used. However, in some urban areas this may be difficult to achieve and therefore at junctions where traffic flows are relatively light or approach speeds are generally less than 50 km/h, directional signing can be in the form of a combined ADS/DS in stack type format placed some 20m to 25m in advance of the junction depending on the circumstances of the location, as illustrated in Diagram 3.4.3.15.

3.4.3.26 At a “T” junction of a minor road with a major road, it may be unnecessary to indicate the destination along the minor road, but for traffic emerging from the minor road, it can be helpful to have a single DS erected opposite the minor road entry, as shown in Diagram 3.4.3.16, to indicate the destinations along the major road. For this purpose, a stack type sign is generally the most appropriate type.

3.4.3.27 It is sometimes necessary, particularly where the route is not obvious, to direct motorists to a particular facility or place such as a car park. In these situations, as illustrated in Diagram 3.4.3.17, once such signing has commenced, it must be continued until the particular place is reached. The exact start of the signing for these facilities will depend upon the type of facility and the degree of difficulty in reaching it, but as most motorists should generally be aware of the approximate location of such places, only signs in the immediate vicinity will normally be necessary. However, as mentioned previously, such signing can lead to sign clutter occurring, and it is therefore necessary before permitting such signs to be erected to ensure that the signs are essential and for example not to provide them would be to the detriment of the general traffic management of that area.

3.4.3.28 In the case of directional signs for car parks, it is not necessary to use these on every occasion, and only those situations where the car park is not obvious, or for traffic management reasons vehicles need to be directed via a particular route, should directional signing be considered. Also in accordance with Chapter 7 of Volume 7, it is not generally appropriate to consider the provision of directional signing unless the car park has at least 100 spaces open for public use (excluding reserved spaces). This figure should not be viewed rigidly, and car parks having lesser spaces may be signed where it is considered appropriate. For goods vehicle parks, the situation is entirely different and directional signing may be considered for parks having considerably fewer spaces, though it is generally not recommended where less than twenty spaces are available for public use. Signs at the entrance, of the parking structure, are the owner's/operator's responsibility, but they should be encouraged, as indicated in Diagram 3.4.3.17, to provide a variable sign in a prominent position within the development, indicating the number of available spaces and when the car park is full, so as to avoid as far as possible unnecessary queuing occurring.

3.4.3.29 Where DS of the type described in paragraphs 3.4.3.27 and 3.4.3.28 are to be employed, they should be considered separately from the normal DS, and should not be incorporated into the same sign as these. However, consideration may be given to erecting these place name direction signs on the same support posts as the normal route destination direction signs, and in these cases the place name direction sign should be mounted beneath the route destination signs, as illustrated in Diagram 3.4.3.17.

DIAGRAM 3.4.3.15 : DIRECTIONAL SIGNING FOR A FOUR-WAY, LOW VOLUME, LOW APPROACH SPEED JUNCTION

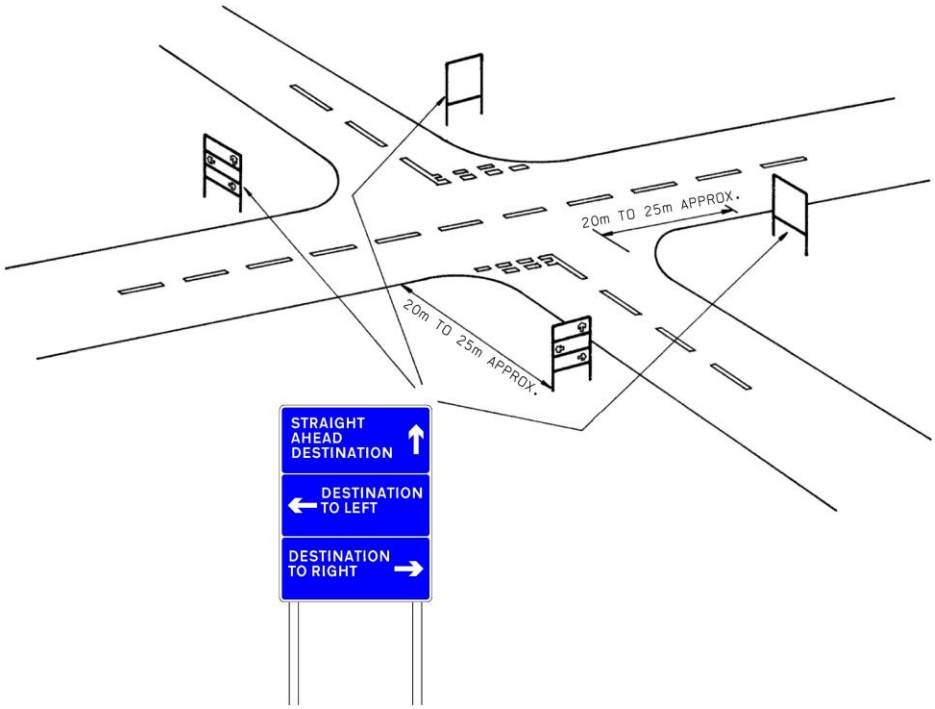


DIAGRAM 3.4.3.16 : DIRECTION SIGN FOR MINOR ROAD ONLY

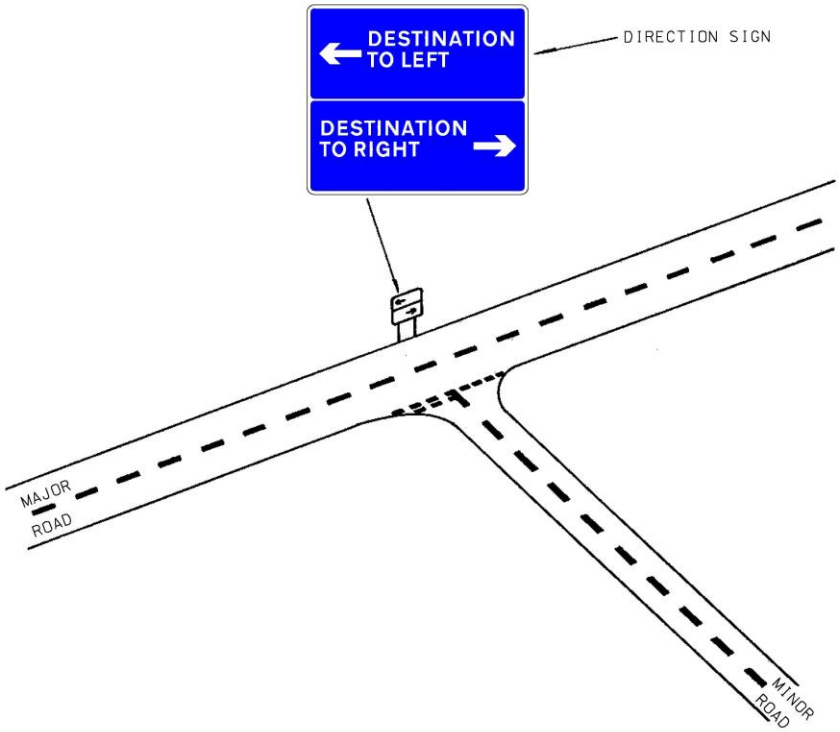
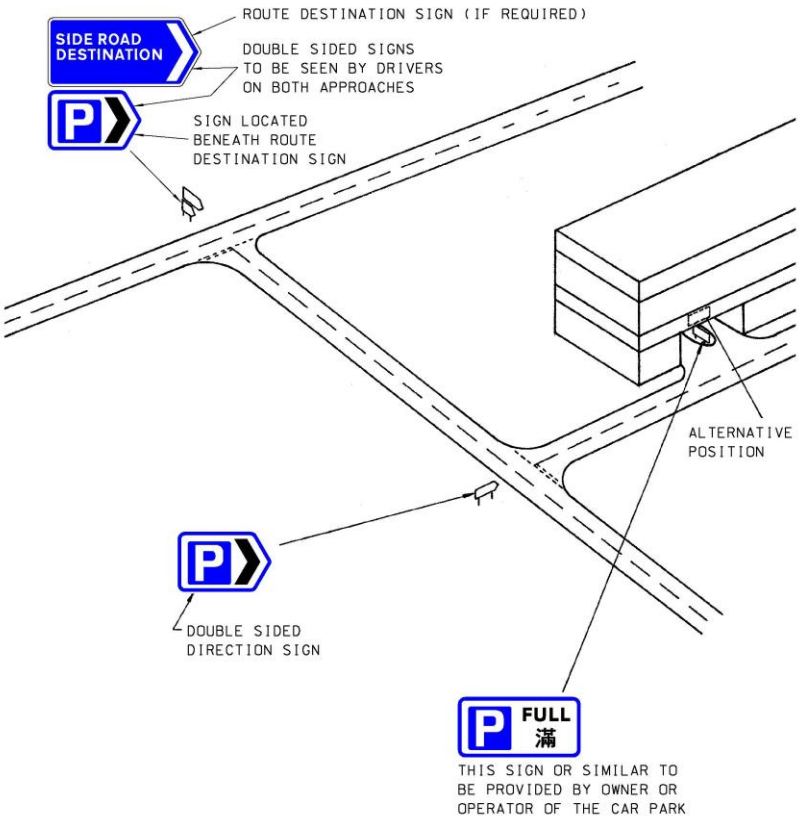


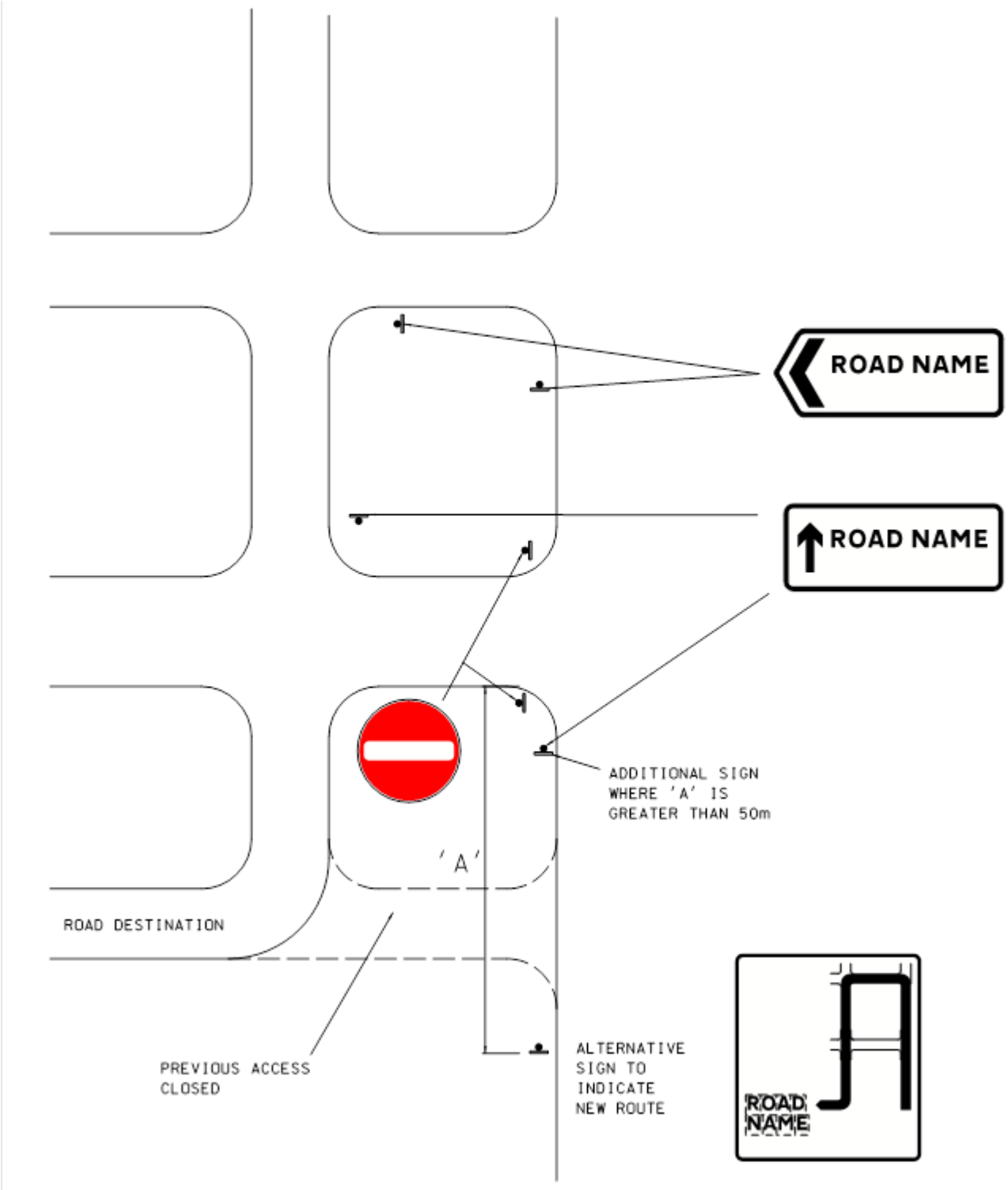
DIAGRAM 3.4.3.17 : SIGNING OF CAR PARKS OR OTHER SIMILAR DESTINATIONS



3.4.3.30 Whilst road names should not normally be used on directional signs, it may be necessary because traffic management measures have prevented the direct access to a road which was previously available, to indicate to motorists the new route to that road by the use of directional signs incorporating the name of that road. Generally, the use of such signing is considered temporary but if it is thought that the signs will be necessary for at least twelve months then they should be treated as permanent signs. As illustrated in Diagram 3.4.3.18, the directional signs must be erected throughout the route to be followed. The location of the first sign will depend upon the particular circumstances involved, but in the case shown in Diagram 3.4.3.18, the first sign should be erected slightly in advance of the junction which has been closed.

3.4.3.31 An alternative method to indicate to drivers a new route to follow is by use of local ADS of the type illustrated in Diagram 3.3.3.9 of Section 3.3., and also shown in Diagram 3.4.3.18 of this Section. The advantage of these signs, subject to the content of the sign not being too elaborate, is that they provide drivers with complete information at the start of the route, and drivers are clear as to what turns to take. However, their disadvantage is that they usually have to be quite large and problems can therefore be experienced in finding suitable sites to locate them. Also if the route involves several turns, drivers may forget the original instructions given by the sign and in these cases it will be necessary to have further direction signs of the flag or rectangular type along the route, as a reminder of the route to follow. But if the new route is fairly direct, then such additional signing may not be necessary.

DIAGRAM 3.4.3.18 : LOCAL DIRECTIONAL SIGNING USING ROAD NAMES



3.5 Design Requirements

3.5.1 General

3.5.1.1 It is essential that any traffic sign erected on any road in Hong Kong can be adequately read and understood at the appropriate distance from the sign by a motorist approaching at a speed commensurate with the general operating speed of traffic on that road.

3.5.1.2 The design requirements in this Section when properly applied will enable signs of appropriate sizes to be produced which are legible at the required distances.

3.5.1.3 Whilst the advice in this Section is mainly directed at directional signs, it is also applicable to other traffic signs such as regulatory, warning and informatory signs and supplementary plates, and reference to these other signs is made in the text.

3.5.1.4 Design requirements in this Section will also apply to the sign face details of all variable direction or message signs.

3.5.1.5 For all directional signs having two or more destinations, the destinations must be displayed, in the case where the destinations are arranged in a vertical column so that the nearest destination is uppermost and the farthest lowermost. In the case of destinations displayed horizontally on the same line, they should be arranged in an order that will encourage vehicles to enter the appropriate lane at the optimum time. Generally, therefore the nearest destination would appear on the left and the farthest destination on the right in that line. However, in certain circumstances such as with offside exit slip roads, a reversed order of destinations would be required.

3.5.1.6 Design of any sign face should be checked for: -

(i) consistency in a sign sequence or along a route
(ii) overall clarity of the presentation
(iii) avoidance of confusion due to adverse interactions of sign contents
(iv) availability of adequate space and visibility
(v) aesthetic and overall balance of sign face and mounting design

3.5.2 x-heights

3.5.2.1 The basic factor in determining the size of a sign is the x-height to be used for the letters, characters and symbols on that sign. The x-height (x-height) is the height of the lower case "x" in millimetres.

3.5.2.2 Appropriate x-heights for directional signs are given in Table 3.2.5.1 of this Chapter, and appropriate x-heights for Regulatory, Warning and Informatory Signs and Supplementary Plates are given in Table 3.5.2.1. The alternative figures shown in brackets in the tables x-heightmay be used for “difficult” locations, where having the normal x-height would result in the sign being too large to be accommodated within the site available. However, efforts should be made to adopt a larger value of x-height wherever possible and intermediate x-height, to the nearest 5mm, in between the appropriate size and the alternative size may be used where necessary.

3.5.2.3 The x-height to be used is mainly determined by the design speed with reference to road type of the concerned road section. If design speed is not available for existing road, the imposed speed limit or the 85th percentile speed of light vehicles may be used, or whichever higher shall be used for determining the x-height x-heightgiven in both Table 3.2.4.1 and Table 3.5.2.1x-height.

Table 3.5.2.1
Appropriate x-heights for Regulatory, Warning and Informatory Signs and Supplementary Plates

	Design Speed (km/h)	Typical Road Type	Regulatory, Warning and Informatory Signs x-height (mm)	Supplementary Plate x-height (mm)
(i)	80 or greater	Expressway	200 (150)	100
(ii)	70 - 80	Trunk Road	150 (100)	100 (75)
(iii)	50 - 70	Primary/District Distributor Road and Rural Road	100 (75)	62.5 (50)
(iv)	50 or less	Others	75 (50)	(50) (37.5)

Notes

1. The x-height to be used is mainly determined by the design speed with reference to road type as appropriate. If design speed is not available for existing road, the imposed speed limit or the 85th percentile speed of light vehicles may be used, or whichever higher shall be used.
2. The smaller alternative sizes shown in brackets or intermediate size, generally to the nearest 5mm, between the recommended size and the smaller alternative size may be used where amenity considerations or physical restrictions of the site make the larger size undesirable.
3. See paragraph 3.5.3.6 for requirements for pedestrian signs and other design limitations.

3.5.3 English Alphabets, Chinese Characters and Numerals

3.5.3.1 The letter and character styles to be used for signs design in Hong Kong are as follows:

(i)	For light letters on a dark background e.g. Directional Signs, Temporary roadworks sign	- Transport Medium
(ii)	For dark letters on a light background e.g. Supplementary Plates, Temporary Direction Signs	- Transport Heavy
(iii)	For characters on a dark or light background	- Avector Chinese True Type Fonts (Hong Kong) - BlackBold **全真字庫(港人版) - 粗黑** - Source Han Sans HK-Bold 思源黑體香港版 (for pedestrian wayfinding signage system)

3.5.3.2 The Transport Medium and the Transport Heavy Alphabets consist of upper and lower case letters, together with numerals and associated symbols, placed on individual tiles as illustrated in Diagrams 3.5.3.1 to 3.5.3.8.

3.5.3.3 The size of the letters, numerals or symbols, in either the Transport Medium or Transport Heavy alphabets is, as shown in Diagram 3.5.3.9 related to the height of the lower case "x", i.e. the x-height. The upper case letters are 1.4 times the x-height.

3.5.3.4 For design purpose, all alphabets, numerals and punctuations are contained in a tile. A tile is an imaginary rectangular border for dimensioning purpose and does not appear in the actual sign face. The tile height for individual letters and numerals are related to the x-height and as shown in Diagram 3.5.3.9, a tile height for these is always equivalent to twice the x-height.

3.5.3.5 Standard x-heights to be used in the design of traffic signs in the Territory are: -

(i) 20mm
(ii) 25mm
(iii) 37.5mm
(iv) 50mm
(v) 62.5mm
(vi) 75mm
(vii) 100mm
(viii) 150mm
(ix) 200mm
(x) 250mm

3.5.3.6 x-heights smaller than 20mm are not appropriate for vehicular traffic and therefore should not be used on any sign intended to be read by a driver of a vehicle. x-heights of 20mm, 25mm and 37.5mm are mainly used for pedestrian signs including wayfinding signage system, cyclist signs and traffic signs, and they should not be used as the main text on directional signs for vehicular traffic. Traffic signs having a x-height of 250mm or larger would only be appropriate for Expressways where the design speed is l00 km/h or above.

DIAGRAM 3.5.3.1 : TRANSPORT MEDIUM UPPER CASE ALPHABET



DIAGRAM 3.5.3.2 : TRANSPORT MEDIUM LOWER CASE ALPHABET



DIAGRAM 3.5.3.3 : TRANSPORT MEDIUM NUMERALS

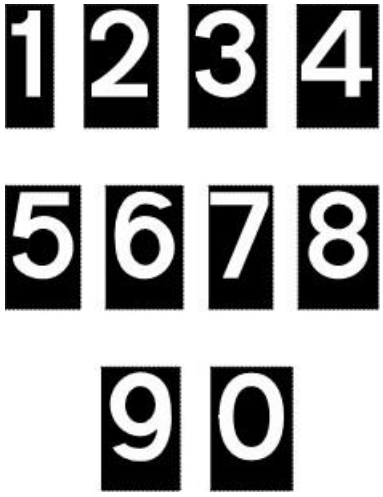


DIAGRAM 3.5.3.4 : TRANSPORT MEDIUM PUNCTUATION MARKS

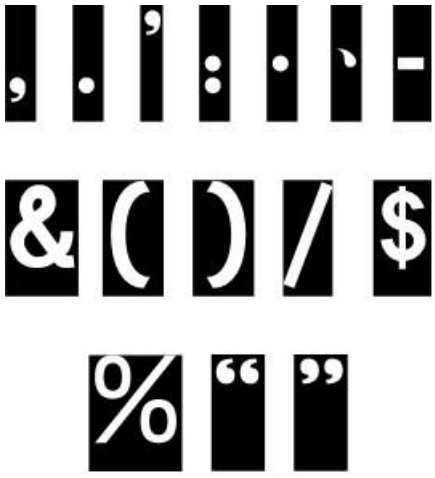


DIAGRAM 3.5.3.5 : TRANSPORT HEAVY UPPER CASE ALPHABET



DIAGRAM 3.5.3.6 : TRANSPORT HEAVY LOWER CASE ALPHABET



DIAGRAM 3.5.3.7 : TRANSPORT HEAVY NUMERALS

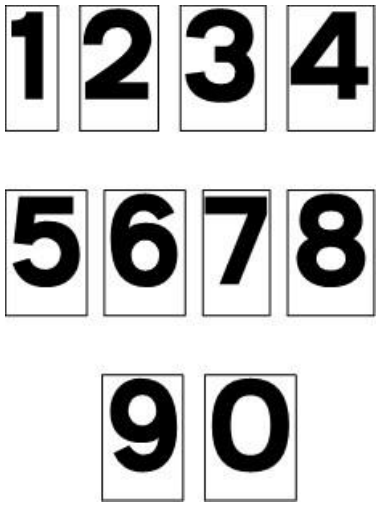


DIAGRAM 3.5.3.8 : TRANSPORT HEAVY PUNCTUATION MARKS

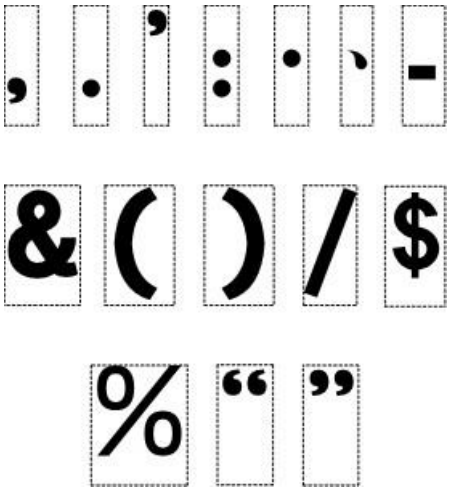
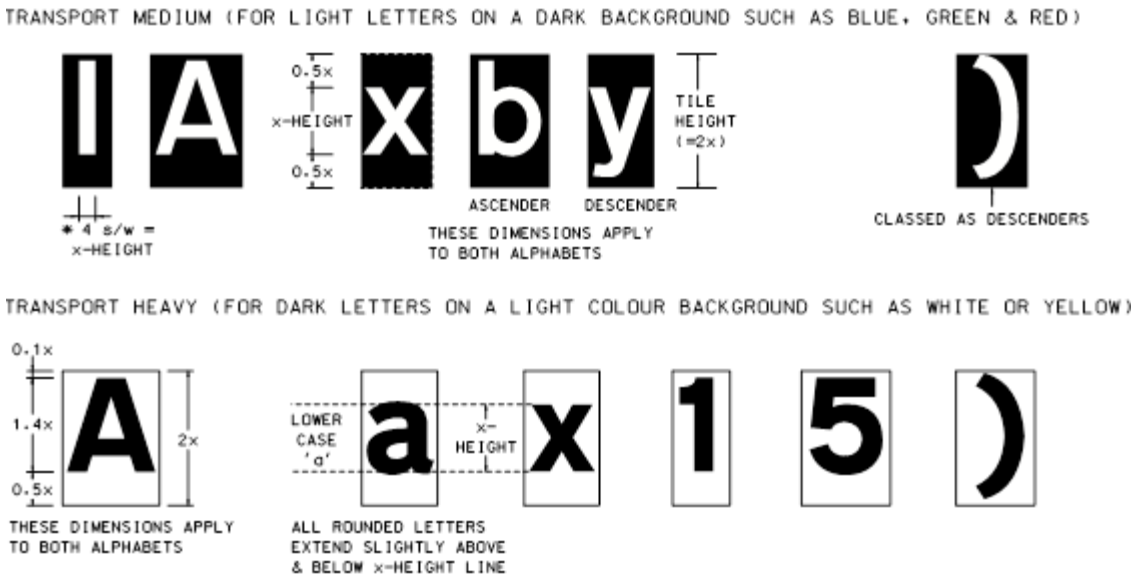


DIAGRAM 3.5.3.9 : TILE PROPORTIONS



3.5.3.7 The width of individual tiles for letters, numerals and punctuations are expressed as a percentage of the x-heights, and these are shown in Tables 3.5.3.1 and 3.5.3.2 for the Transport Medium and Heavy alphabets respectively.

3.5.3.8 As with letters and numerals, Chinese characters are also related to x-height, and in this respect the height/width of all characters is *taken* to be 2.25 times the x-height.

3.5.3.9 The height and width of a tile for a Chinese character is taken as 2.85 and 2.75 times the x-height respectively, but these dimensions have been standardised as shown in Table 3.5.3.3 and are illustrated in Diagram 3.5.3.10.

3.5.3.10 Punctuation marks for Chinese characters should be in accordance with the Transport Heavy Alphabet as shown in Diagram 3.5.3.8. The separator "、" is a special symbol as shown in Diagram 3.5.3.10 (i).

3.5.3.11 Where numerals are used to distinguish different zones of a place, it is generally more preferable to use Arabic numerals instead of traditional Chinese characters such as 9號貨櫃碼頭 for Container Terminal 9. Numerals for Chinese characters should be taken from the Transport Medium Alphabets. The x-height of the numeral should increase 37.5% compared with the Chinese character. This is illustrated in Diagram 3.5.3.10 (iii).

3.5.3.12 The spacing between a Chinese character and its upper tile edge has been adjusted from 0.5 to 0.1 x-height. This new requirement should be explicitly illustrated on drawings for construction purposes. The new requirement serves to provide a more balanced appearance where there are several rows of English and Chinese messages. Other benefits are reduction of sign height, aesthetic and relief of structural loading. This is illustrated on Diagram 3.5.3.9 and 3.5.3.10 (i) for English Alphabets and Chinese Characters respectively.

3.5.3.13 In respect of the arrangement of characters, this must be such that they read from left to right.

3.5.3.14 In Tables 3.5.3.1 and 3.5.3.2, certain letters have alternative percentages indicated in brackets. This is because when these letters are used with other particular letters, if the standard tile width was used the space between the adjacent letters would be too wide. Therefore, when T, V or Y are followed by a, e, g, o, r, s, u, w or y, for both letters, narrower tile widths calculated from the percentages in brackets in Tables 3.5.3.1 and 3.5.3.2 should be used. For the upper case W, the opposite is true and when this is followed by another upper case letter, a specially increased tile width for 'W' as given in Tables 3.5.3.1 and 3.5.3.2 should be used.

3.5.3.15 By butting tiles up to one another, the correct spacing between letters and characters is always obtained. However, to form words and to obtain the correct position of the blocks of words relative to the sides of the sign, it is necessary to be able to specify space sizes. Similarly, border widths and symbol dimensions also need to be specified as these will vary according to x-height being used. The basic unit used for this purpose is a stroke width (s/w), which is defined as the thickness of the capital letter 'I' in the Transport Medium Alphabet of the x-height being used and is one quarter of the x-height. However, for convenience, stroke widths are rounded to whole millimetres and the most commonly used ones and their appropriate values according to the particular x-height can be obtained from Table 3.5.3.4.

Table 3.5.3.1
Tile Widths for Transport Medium Alphabet

Upper Case		Lower Case		Numerals and Fractions		Punctuation Marks etc.	
Letter	Percentage of x-height	Letter	Percentage of x-height	Numeral	Percentage of x-height	Mark	Percentage of x-height
A	136	a	111 (104)	1	78	,	53
B	147	b	117	2	120	.	53
C	148	c	103	3	127	’	39
D	154	d	119	4	132	:	53
E	132	e	109 (102)	5	122	·	53
F	119	f	75	6	126	`	53
G	155	g	114 (107)	7	104	-	66
H	160	h	112	8	130	&	126
I	73	i	54	9	128	(	105
J	93	j	58	0	133	)	105
K	138	k	108			/	85
L	107	l	62			$	100
M	184	m	164			%	160
N	168	n	112			“	92
O	156	o	118 (111)			”	92
P	130	p	118				
Q	158	q	118				
R	141	r	73 (59)				
S	137	s	97 (95)				
T	109 (105)	t	81				
U	154	u	115 (101)				
V	130 (120)	v	98				
W	183 (189)	w	147 (145)				
X	128	x	104				
Y	123 (118)	y	98 (96)				
Z	119	z	97				

Note: See paragraph 3.5.3.14 regarding figures in brackets.

Table 3.5.3.2
Tile Widths for Transport Heavy Alphabet

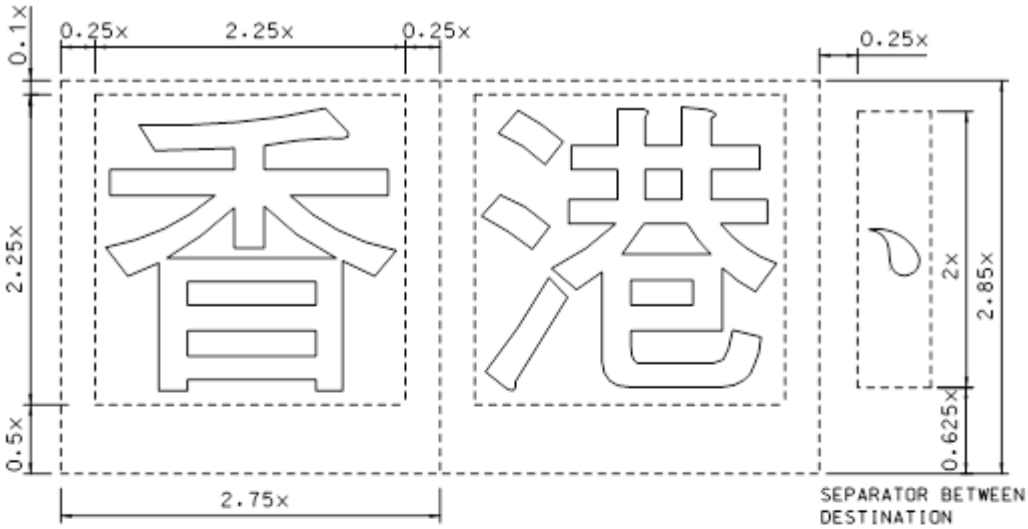
Upper Case		Lower Case		Numerals and Fractions		Punctuation Marks etc.	
Letter	Percentage of x-height	Letter	Percentage of x-height	Numeral	Percentage of x-height	Mark	Percentage of x-height
A	142	a	111 (104)	1	84	,	56
B	146	b	107	2	125	.	56
C	151	c	107	3	136	’	41
D	150	d	119	4	138	:	56
E	136	e	110 (103)	5	130	·	56
F	121	f	79	6	129	、	53
G	156	g	117 (110)	7	107	-	71
H	159	h	119	8	138	&	126
I	73	i	55	9	129	(	115
J	95	j	71	0	145	)	115
K	138	k	114			/	88
L	118	l	63			$	100
M	186	m	173			%	160
N	168	n	119			“	92
O	158	o	115 (107)			”	92
P	134	p	120				
Q	161	q	120				
R	148	r	80 (67)				
S	146	s	100 (98)				
T	118 (113)	t	84				
U	157	u	120 (107)				
V	133 (127)	v	107				
W	193 (196)	w	160 (154)				
X	130	x	110				
Y	128 (125)	y	106 (104)				
Z	119	z	93				

Note: See paragraph 3.5.3.14 regarding figures in brackets.

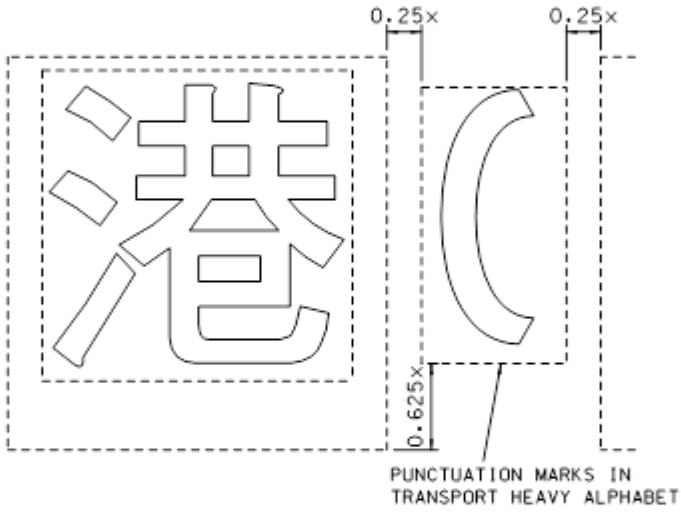
Table 3.5.3.3
Tile Heights and Widths for Chinese Characters

xheight (mm)	Appropriate Tile Height of Character (mm)	Appropriate Tile Width of Character (mm)
20	57	55
25	71	69
37.5	107	103
50	143	138
62.5	178	172
75	214	206
100	285	275
150	428	413
200	570	550
225	641	619
250	713	688
300	855	825

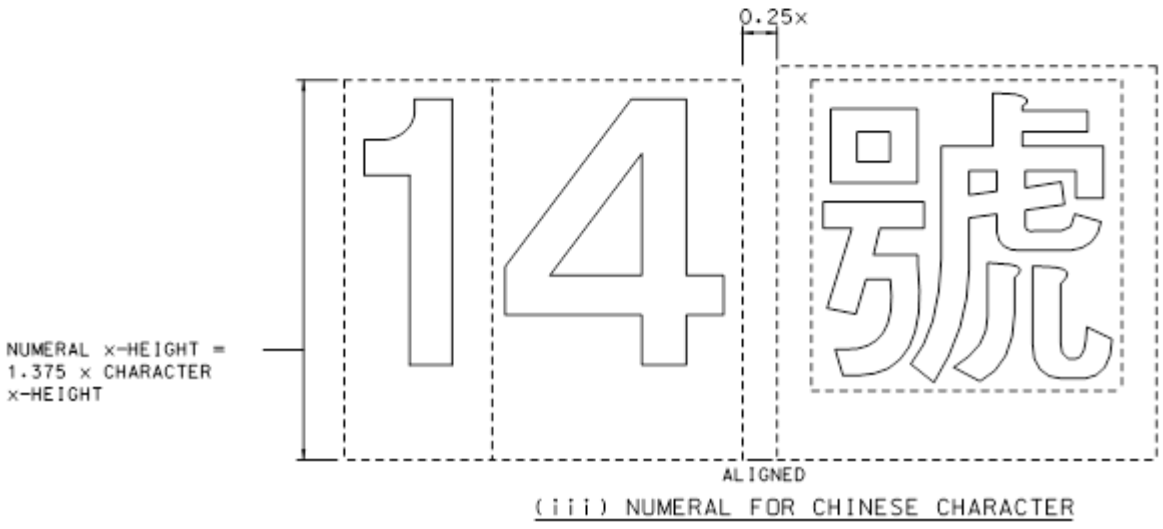
DIAGRAM 3.5.3.10 : EXAMPLES OF AVECTOR CHINESE TRUE TYPE FONTS (HONG KONG) - BLACKBOLD 全真字庫(港人版) - 粗黑 CHARACTERS AND TILE DIMENSIONS



(i) BASIC ARRANGEMENT



(ii) POSITIONING OF OTHER PUNCTUATION MARKS



(iii) NUMERAL FOR CHINESE CHARACTER

x DENOTES x-height

TABLE 3.5.3.4
Stroke Width (s/w) Dimensions According to x-height

s/w	x-height (mm)											
	20	25	37.5	50	62.5	75	100	150	200	225	250	300
	s/w dimensions (mm)											
¼	1	2	2	3	4	5	6	9	13	14	16	19
½	3	3	5	6	8	9	13	19	25	28	31	38
¾	4	5	7	9	12	14	19	28	38	42	47	56
1	5	6	9	13	16	19	25	38	50	56	63	75
1½	8	9	14	19	23	28	38	56	75	84	94	113
2	10	13	19	25	31	38	50	75	100	113	125	150
2½	13	16	23	31	39	47	63	94	125	141	156	188
3	15	19	28	38	47	56	75	113	150	169	188	225
4	20	25	38	50	63	75	100	150	200	225	250	300
5	25	31	47	63	78	94	125	188	250	281	313	375
6	30	38	56	75	94	113	150	225	300	338	375	450
7	35	44	66	88	109	131	175	263	350	394	438	525
8	40	50	75	100	125	150	200	300	400	450	500	600
9	45	56	84	113	141	169	225	338	450	506	563	675
10	50	63	94	125	156	188	250	375	500	563	625	750
12	60	75	113	150	188	225	300	450	600	675	750	900
14	70	88	131	175	219	263	350	525	700	788	875	1050
16	80	100	150	200	250	300	400	600	800	900	1000	1200
18	90	113	169	225	281	338	450	675	900	1013	1125	1350
20	100	125	188	250	313	375	500	750	1000	1125	1250	1500
30	150	188	281	375	469	563	750	1125	1500	1688	1875	2250

3.5.4 Common Sign Design Features

Legend Blocks

3.5.4.1 To form a word, tiles are butted together as shown in Diagram 3.5.4.1 (i), but where words are required to form a message in the same line there should be a space of 2 s/w between each word.

3.5.4.2 Characters are located beneath and butted up to the words they are associated with, and are themselves butted up to each other, as shown in Diagram 3.5.4.1 (i).

3.5.4.3 A Chinese message is formed by directly butting up tiles of Chinese characters from left to right. An English message is directly butted above its corresponding Chinese message. The assembly is called a Legend Block which will also include any symbols associated with the messages.

3.5.4.4 Although as mentioned above letter tiles are butted together to form words, for letters and associated numerals, as for example, "1 km" there should be a space of 1 s/w between the numeral and the letter, as indicated in Diagram 3.5.4.1 (i). However, for the notation "500m" or similar, there contains no separation between the individual elements.

3.5.4.5 In general, groups of destinations in English and Chinese are directly butted above one another. However, in some cases, it may be necessary to segregate these groups, for example, where only one group is associated with a route shield or a tunnel symbol, then a vertical spacing of 2 s/w should be provided between the groups.

3.5.4.6 A green panel at the immediate junction leading to and indicating a forthcoming Expressway consists of a white border, green background and white colour messages in the Transport Medium alphabet. A typical green panel is shown in Diagram 3.5.4.1 (ii).

3.5.4.7 As mentioned in paragraph 3.2.7.9, a typical white panel for signing local destinations is as shown in Diagram 3.5.4.1 (iii). The panel has a white background and black colour English and Chinese characters. English letters shall be in the Transport Heavy alphabet. The panel has no border and the corners should be round. Depending on the merits of individual cases, the x-height of white panel may be one step smaller than the x-height of the main sign.

Sign Border Details

3.5.4.8 The border widths and radii for all rectangular directional and regulatory signs and supplementary plates are expressed as a proportion of the stroke width (s/w) and these are given in Table 3.5.4.1.

Table 3.5.4.1
Border Widths and Corner Radii for All Signs of a Rectangular Shape

	Directional sign	Green panel	Exit number plate	White panel	Regulatory/ Informatory sign	Supplementary plate
Border width	1.5 s/w	0.5 s/w	0.5 s/w	Nil	1.5 s/w	1 s/w
Internal corner radii	1.5 s/w	1 s/w	90° angle	1 s/w	1.5 s/w	1 s/w
External corner radii	3 s/w	1.5 s/w	90° angle		3 s/w	2 s/w

3.5.4.9 Between the borders and the block or symbol, a standard spacing should be provided, which is illustrated in Diagram 3.5.4.2, and should be 2.5 s/w for the space between the block or any symbol and the upper/side borders, 1.5 s/w between the block or any symbol and the lower border. For convenience, the adoption of 1.5 s/w spacing at the bottom is extended to route symbols, route shields and exit number plates, etc. However as mentioned in paragraph 3.5.4.16, the width and depth of signs should be suitably rounded up or down as appropriate by adjusting equally, in the case of the width the spaces between the block or symbol, and the side border, and in the case of the depth the spaces between the block and the upper/lower border.

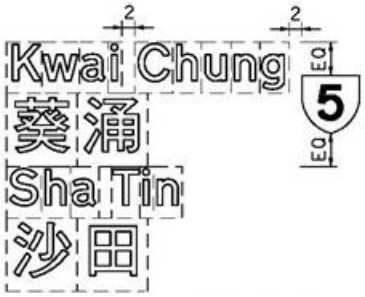
DIAGRAM 3.5.4.1 : BLOCK ASSEMBLY, GREEN PANELS AND WHITE PANELS

DIMENSIONS IN STROKE WIDTHS

(i) LEGEND BLOCKS



(a) MESSAGE ONLY



(b) MESSAGE WITH ROUTE SHIELD

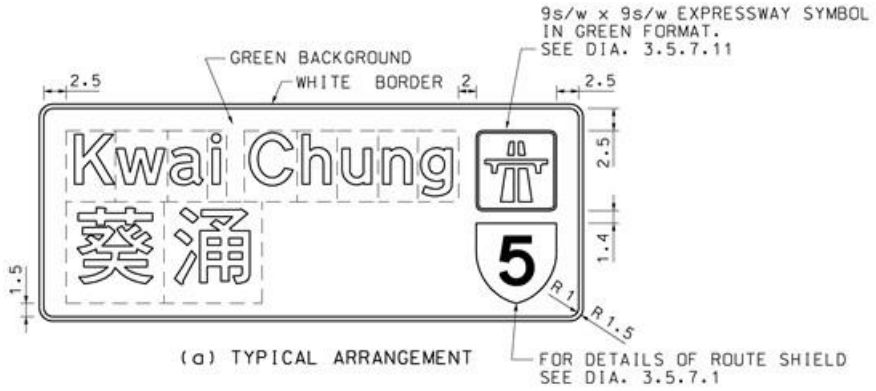


(c) DISTANCE INDICATOR IN METRE



(d) DISTANCE INDICATOR IN KILOMETRE

(ii) GREEN PANEL

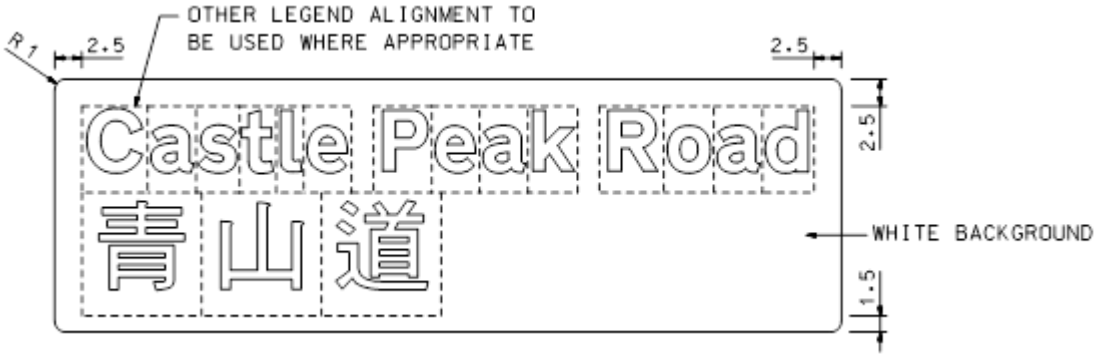


(a) TYPICAL ARRANGEMENT

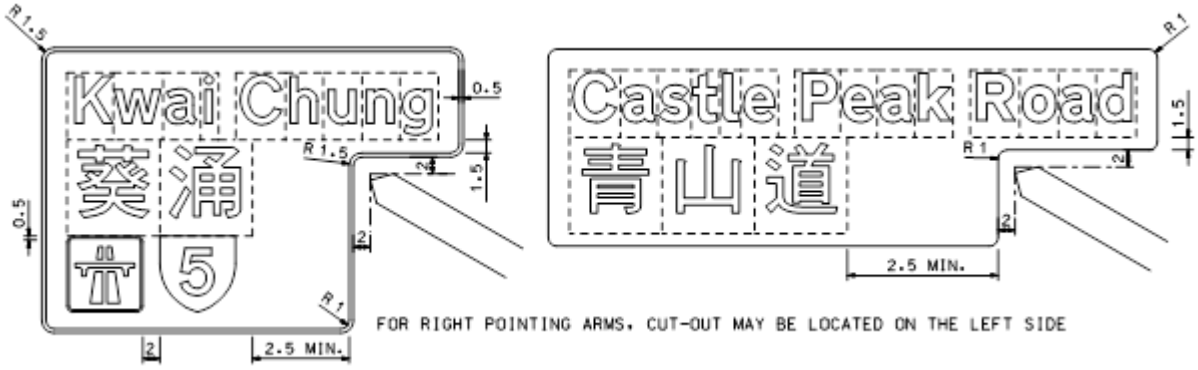


(b) EXAMPLE

(iii) WHITE PANEL



(iv) PANEL WITH CUT-OUT FOR MAP TYPE SIGN FACE (OPTIONAL)

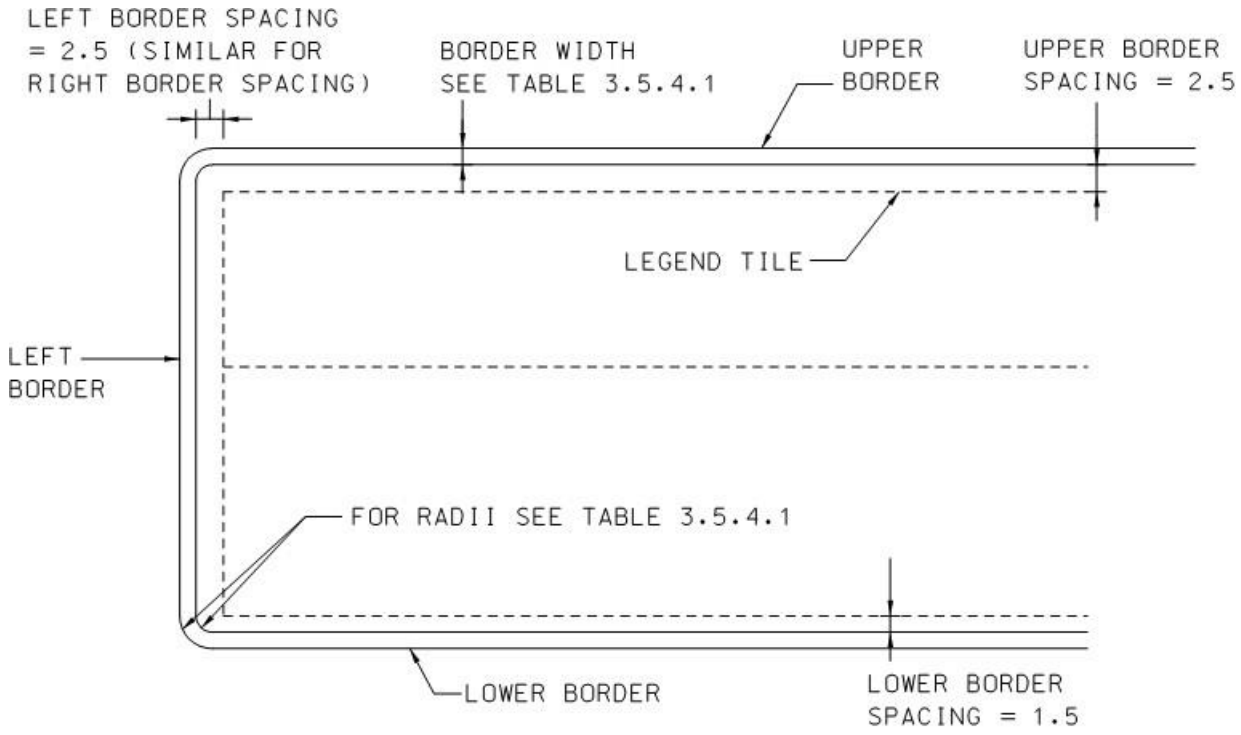


NOTE : ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16

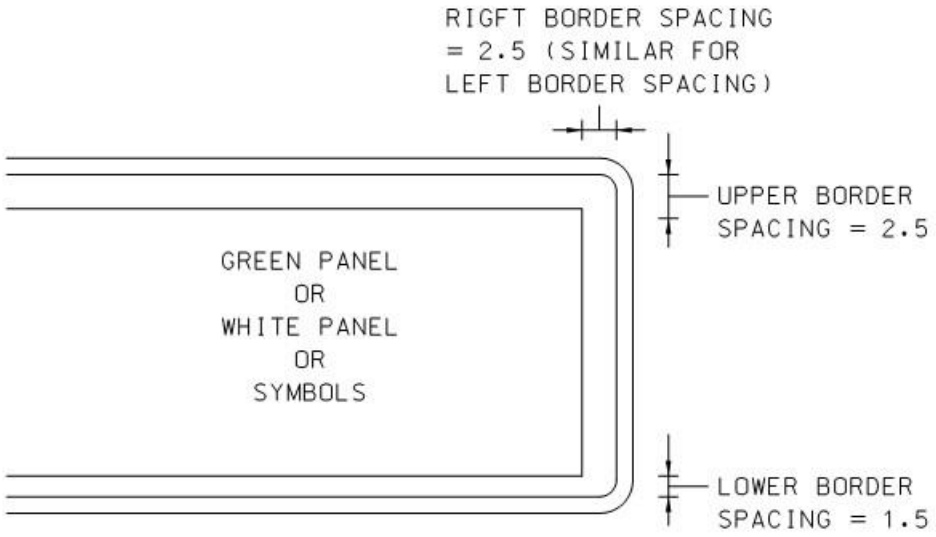
DIAGRAM 3.5.4.2 : TILE AND BORDER SPACINGS

DIMENSIONS IN STROKE WIDTHS

(i) BASIC BORDER DETAILS



(ii) PANELS OR SYMBOLS WITH BORDERS



NOTE : ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16

Alignment of Legend Blocks

3.5.4.10 For messages on different rows, there are two main types of alignment:

(i) Alignment to the Left - This is generally appropriate for all roadside signs including stack type signs, flag type signs and map type signs (see note below), as well as gantry signs in taper diverge format for both nearside and offside exits.

(ii) Centre Arrangement - This is generally appropriate for gantry signs in mainline or "lane drop" format and roadside lane destination signs.

(Note: For map type signs with side destinations both to the left and right, the straight ahead destinations should be centred horizontally over the vertical arm)

3.5.4.11 A single destination or a continuous message may be displayed over more than one row for either English or Chinese but this should be avoided as far as possible such as by use of abbreviations (see Section 3.7.5). If it could not be avoided, these rows should be aligned to their centres for each language.

3.5.4.12 Although these alignment rules are related to sign formats and consistency of usage is encouraged, it is permissible to adopt alternative alignment and to make adjustments if these have significant benefits in terms of space utilisation or sign face appearance.

Separation

3.5.4.13 For gantry signs, different English destinations may be positioned horizontally on one row and separated by a comma. The previous practice of using "&" should be discontinued. Similarly, the Chinese character "及" is replaced by the separator symbol "、". Where different destinations are laid out on different rows, neither the comma nor the separator symbol "、" is used.

3.5.4.14 On some rare occasions, unrelated English destinations on different rows are susceptible to misinterpretation. An example is "Central" above "Kowloon" which may be interpreted as "Central Kowloon". In such circumstances, an additional comma should be appended after "Central" if it actually means two destinations.

Central
Kowloon → **Central,**
Kowloon

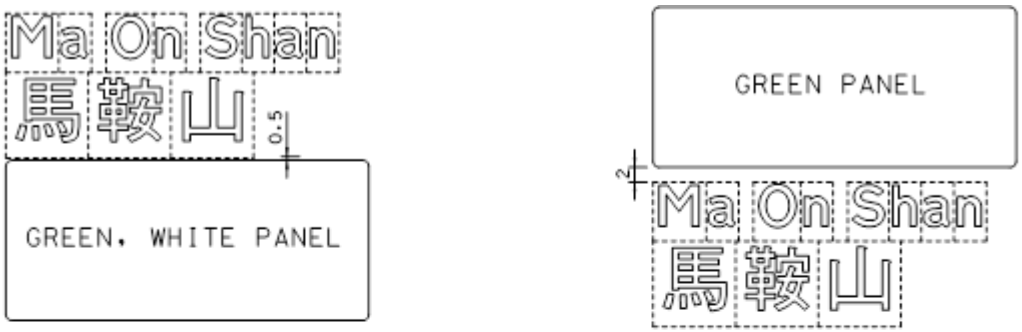
The corresponding Chinese message does not require any modification if confusion does not arise. All messages should be checked for possibilities of confusion.

3.5.4.15 Diagram 3.5.4.3 shows the separation where symbols or panels form part of the same legend block, as well as the separation for downward pointing arrows or route shields. The separation for symbols or panels above or below a message is different to compensate for the space between the actual English or Chinese characters and the tile borders.

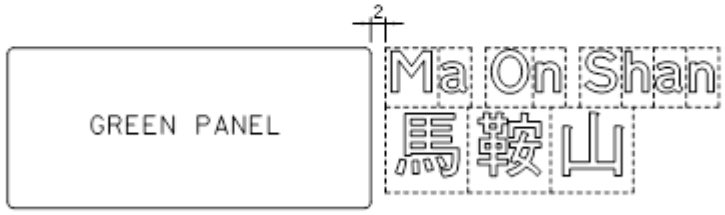
DIAGRAM 3.5.4.3 : SPACING BETWEEN MESSAGES, PANELS AND SYMBOLS

DIMENSIONS IN STROKE WIDTHS

(i) SPACING BETWEEN MESSAGE AND PANEL



(a) VERTICAL

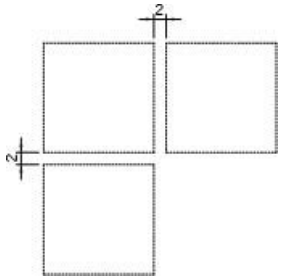


(b) HORIZONTAL

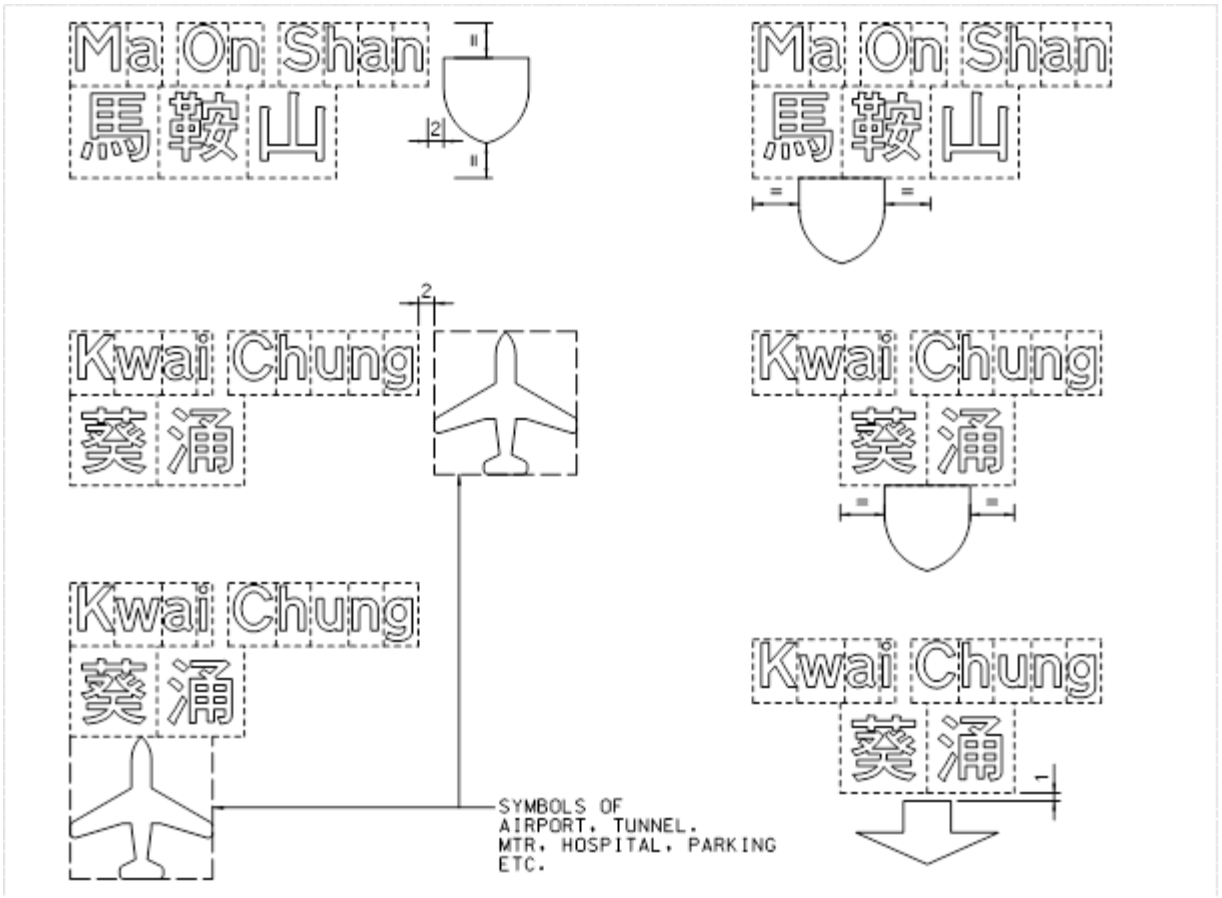
(i) SPACING BETWEEN MESSAGE AND PANEL

DIAGRAM 3.5.4.3(I)

(ii) SPACING BETWEEN SYMBOLS



(iii) SPACING BETWEEN MESSAGE AND SYMBOL



Rounding of Overall Dimensions

3.5.4.16 As mentioned in paragraph 3.5.4.9, the width and depth of rectangular signs should be rounded up or down as appropriate, by adjusting equally the top, bottom and side spacing, in accordance with the following: -

(i) When the depth or width of a sign exceeds 2 metres, its calculated dimensions should be rounded in increments of 50mm. Dimensions up to and including 25mm over the nearest increment should be rounded down whilst dimensions over 25mm should be rounded up. For example, the calculated width dimension 3125mm would become 3100mm by deducting 12.5mm from each side spacing, and the calculated depth dimension 3126mm would become 3150mm by adding 12mm to both the top and bottom spacing.

(ii) When both the depth and width of a sign is less than 2 metres, the calculated dimensions should be rounded in increments of 25mm. Calculated dimension of 5mm or less, above the nearest increment should be rounded down, whilst over 5mm the dimension should be rounded up. For example, a sign whose calculated width and depth are 1209mm and 1004mm respectively, should be rounded by equal adjustments to the side spacings and the top and bottom spacings to 1225mm and 1000mm respectively.

3.5.4.17 Generally, the same x-height will be used for all elements such as letters and characters on a sign, however at times it is necessary to vary the x-height for different parts of a sign assembly. For example, the use of a smaller x-height for local destination in white panel and "(via Lion Rock Tunnel)" in the message "Sha Tin (via Lion Rock Tunnel)". Where different x-heights are employed in the same sign, the border width of the sign and sizes of chevrons, arrows and symbols is related to the smaller x-height but the spacing between the nearest block or symbol and any border will be related to the x-height of that block or symbol.

3.5.5 Roadside Directional Signs

3.5.5.1 For all roadside directional signs, the letter and character tiles should be aligned so that reading from left to right the extreme left-hand edge of the tiles coincides, as shown in Diagram 3.5.5.1.

3.5.5.2 Where there is more than one destination, as shown in Diagram 3.5.5.2, the place name tiles should be stacked immediately beneath each other, with the extreme left-hand edge of the tiles all coinciding, and the nearest destination uppermost.

3.5.5.3 Diagram 3.5.5.1 shows the various design details for a roadside ADS (same for AIS, if provided, except with a different distance indication) used on Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads along SRN. The ADS format for taper diverge junctions consists of a standard route symbol as shown in Diagrams 3.5.5.1 (i)(c) and (d). The mainline forward destination is not displayed. The legend block may be completely or partially positioned above the arm of the route symbol. These two versions will result in a taller or wider sign respectively. The selection of either format should be based on availability of lateral space and structural considerations. Diagram 3.5.5.1 (i)(e) also shows the use of double side arm route symbol for successive taper diverge junctions. If the ADS is erected on an Expressway, then an Expressway symbol should be included in the top right-hand corner of the sign as shown in Diagram 3.5.5.1. For details of the Expressway symbol, see Section 3.5.7.

3.5.5.4 For "lane drop" junctions along SRN, as mentioned in paragraph 3.3.3.5, a gantry ADS should be used as far as possible. However, if a full gantry sign is not considered justified, a new roadside format as shown in Diagram 3.5.5.1 (ii) may be adopted. The legend block is positioned above the exit number and the distance indication.

3.5.5.5 Where the ADS is closer than 250m to the junction, subject to paragraph 3.2.4.7, the distance indication should be omitted.

3.5.5.6 Where a route shield is to be included in the ADS for the side arm, it should, as shown in Diagram 3.5.5.1, be situated below the Chinese characters and centred horizontally beneath the tiles of the first two Chinese characters or to the left of the side route destination. Details of the design of route shields and their use are given in Section 3.5.7.

3.5.5.7 Diagram 3.5.5.2 illustrates the design details for the FADS for taper diverge junctions on Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads along SRN. It will also be the format for an ADS on other roads having diverge taper but where only the ADS and a DS are employed. For "lane drop" junctions along SRN, gantry signs must be used for the FADS. See paragraph 3.3.4.6.

3.5.5.8 If the FADS is erected on an Expressway, then the Expressway symbol should be positioned as shown in Diagram 3.5.5.2 above the route shield symbol.

3.5.5.9 The route shield symbol for the side stem of the FADS should follow those for the ADS as per paragraph 3.5.5.6 above.

3.5.5.10 Where for an ADS of the type shown in Diagram 3.5.5.1 or a FADS as shown in Diagram 3.5.5.2 it is necessary to incorporate a tunnel symbol, this should be positioned as shown in Diagram 3.5.5.3. See also Section 3.5.7 in respect of where it is appropriate to use the tunnel symbol. However, only a tunnel symbol should normally be used to signify a tunnel, and not the name of the tunnel.

3.5.5.11 Diagram 3.5.5.4 illustrates the design details for a map type crossroads ADS. The English letters and Chinese characters of the straight ahead destination should separately be centred horizontally above the main stem of the route symbol. If there is a route shield, then it should be placed at a spacing of 2 s/w to the right of the English letters or Chinese characters, whichever is longer.

3.5.5.12 Where in the ADS shown in Diagram 3.5.5.4 it is necessary to incorporate a tunnel symbol, this should be as shown in Diagram 3.5.5.5.

3.5.5.13 It will sometimes be necessary to modify route symbols on map type ADS to indicate different junction arrangements to that shown in Diagram 3.5.5.4. Diagram 3.5.5.6 illustrates a number of different route symbol arrangements, including those where it is necessary to incorporate a regulatory or warning sign. Other route symbol arrangements may also be used but as far as possible they should be based on the design details shown in Diagram 3.5.5.6.

3.5.5.14 Details of the warning sign symbol when used in map type signs are given in Diagram 3.5.5.7, and for further details Section 3.5.7 should be referred to.

3.5.5.15 Diagram 3.5.5.8 illustrates the design details for an ADS for a 4-arm roundabout. The positioning of the straight ahead destinations above the main route symbol being the same as that for the crossroads ADS as described in paragraph 3.5.5.11.

3.5.5.16 It is sometimes the case that the actual roundabout is not of a regular shape or there are more than four arms. For these situations, Diagram 3.5.5.9 provides details of various alternative roundabout symbols. However, it may be necessary to adopt a roundabout symbol different from those shown in this diagram, but as far as possible designs should follow the basic widths and radii given.

3.5.5.17 Roundabouts can sometimes be conveniently used to provide access from an adjacent development, or similar, to the major road network. In these cases, if it is considered not appropriate to include the place name of that development on the ADS, then as shown in Diagram 3.5.5.9 in respect of the multi-arm roundabout, a stub end can be used just to indicate that there is an access. A stub end can also be used to indicate an exit arm where its place names are omitted.

3.5.5.18 If a tunnel symbol is required to be incorporated into a roundabout ADS, then for the straight ahead direction, it should be positioned as shown in Diagram 3.5.5.5. When the tunnel symbol is required to be indicated for a side route, then it should be located similarly to that shown in Diagrams 3.5.5.5 and 3.5.5.11.

3.5.5.19 In respect of the design of flag type DS, Diagram 3.5.5.10 provides details of the dimensions to be used. It should be noted that if there is more than one destination to be shown on the sign, then different dimensions are used. Moreover, excessive large size of flag type sign should be avoided and therefore it is recommended that two or more smaller signs are used where there are three or more destinations.

3.5.5.20 Where a tunnel symbol needs to be incorporated into a flag type DS, this should be positioned in accordance with Diagram 3.5.5.11. If the tunnel is associated with a destination to the right, then the symbol should be to the left of the legend. For further details, see Section 3.5.6.

3.5.5.21 Where a flag type sign incorporates a route shield, this should be arranged similarly to that for the straight ahead movement on ADS as shown in both Diagrams 3.5.5.4 and 3.5.5.8. However, if a tunnel symbol also has to be incorporated, then the arrangement should be as shown in Diagram 3.5.5.11 (iii). Moreover, if the symbol is associated with a destination to the right, then it should be positioned to the left of the legend, but using the same spacing as when it is placed to the right.

3.5.5.22 Stack type signs are formed by stacking of rectangular sign plates and each sign plate consists of a legend block and an arrow. Diagram 3.5.5.12 indicates basic design details for stack type and rectangular signs, where the destination is to the left or right.

3.5.5.23 Stack type signs may be adopted as ADS, FADS or sometimes DS. In general, they are the most compact form of sign face and require less lateral space than map type signs. Stack type signs may be used for both optional turning lane and “lane drop” junctions. Provided that the lane arrangement at a junction is not too complicated, it may be assumed that motorists are able to follow lane direction markings on the approach. If the approach speed is high and there are multiple traffic lanes or “lane drops”, it will be more appropriate to adopt ADS in map type, gantry or lane destination sign formats.

3.5.5.24 There are five normal arrow directions for stack type signs as summarised in Table 3.5.5.1. Inclined arrows at 22.5 degrees (NNW or NNE for stack type DS at diverge nose with low angle of divergence) or 45 degrees (NW or NE) may be used as shown in Diagram 3.5.5.13 to show a more representative direction to be turned at the junction ahead. However, where the junction is a deceleration lane from a dual carriageway road, the 22.5 degree inclined arrow must always be used for the DS. It should perhaps be pointed out that this situation should seldom arise because as mentioned in paragraph 3.3.5.8 on Expressways, Trunk Roads, Primary Distributor Roads and Rural Roads where a roadside DS is required, this must always be of the flag type.

Table 3.5.5.1
Type and Placement Order of Arrows

Placement Order	Arrow Type	Arrow Direction
1	↑	N (straight ahead)
2	↖	NW
3	←	W (left)
4	→	E (right)
5	↗	NE

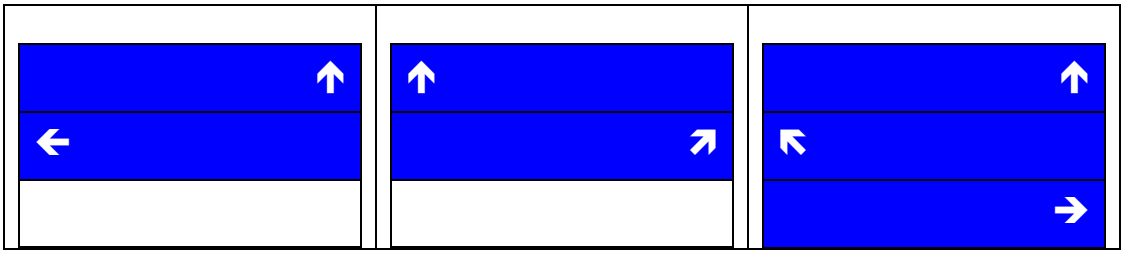
3.5.5.25 Other than 'Y' or oblique junctions, left/right pointing (90º) map type arms or arrows are normally used on ADS or DS (at start of turn) to indicate the side road for at-grade crossroads and 'T'-junctions. Inclined arrows will be more appropriate where the turn is preceded by a physical lane change.

3.5.5.26 Stack type signs normally do not contain a distance indication unless it is considered beneficial notably ahead of weaving sections. In other cases, roadside ADS positioned at 200m or more ahead of a junction is preferably in map type or lane destination format and a distance indication is used.

3.5.5.27 Signs are stacked from top to bottom according to the order of placement of arrows as shown in Table 3.5.5.1. If a particular arrow direction is not present, the priority then goes to the next arrow direction. This rule applies to any blue colour signs including those with green/white panels, or wholly white colour local direction signs.

3.5.5.28 Straight ahead arrow (N) should normally be placed to the left of the legend as illustrated in Diagram 3.5.5.14. However, if there are two or more different arrow directions and the straight ahead arrow is above an arrow towards the left (W, NW, NNW), then the straight ahead arrow should be relocated to the right as shown in Table 3.5.5.2.

Table 3.5.5.2
Staggering of Arrows



3.5.5.29 For placement of local destination names on stack type signs, see paragraphs 3.2.7.9 and 3.2.7.10.

3.5.5.30 Where route shields and tunnel symbols are required to be incorporated into stack type or rectangular signs, they should be positioned in accordance with Diagrams 3.5.5.15 and 3.5.5.16.

3.5.5.31 Local ADS of the type referred to in paragraph 3.3.3.28 and Diagram 3.3.3.9 will take a variety of forms according to the circumstances of the actual road layout. However, as far as this is possible, the basic dimensions and design details should follow that given in Diagram 3.5.5.17.

3.5.5.32 Diagram 3.5.5.18 provides the design details for the two types of route confirmatory signs.

3.5.5.33 At the end of a strategic route, an “End” plate as indicated in Diagram 3.5.5.19 should be erected on the roadside. It should be noted that the “End” plate is not necessary to be erected on exits of strategic routes.

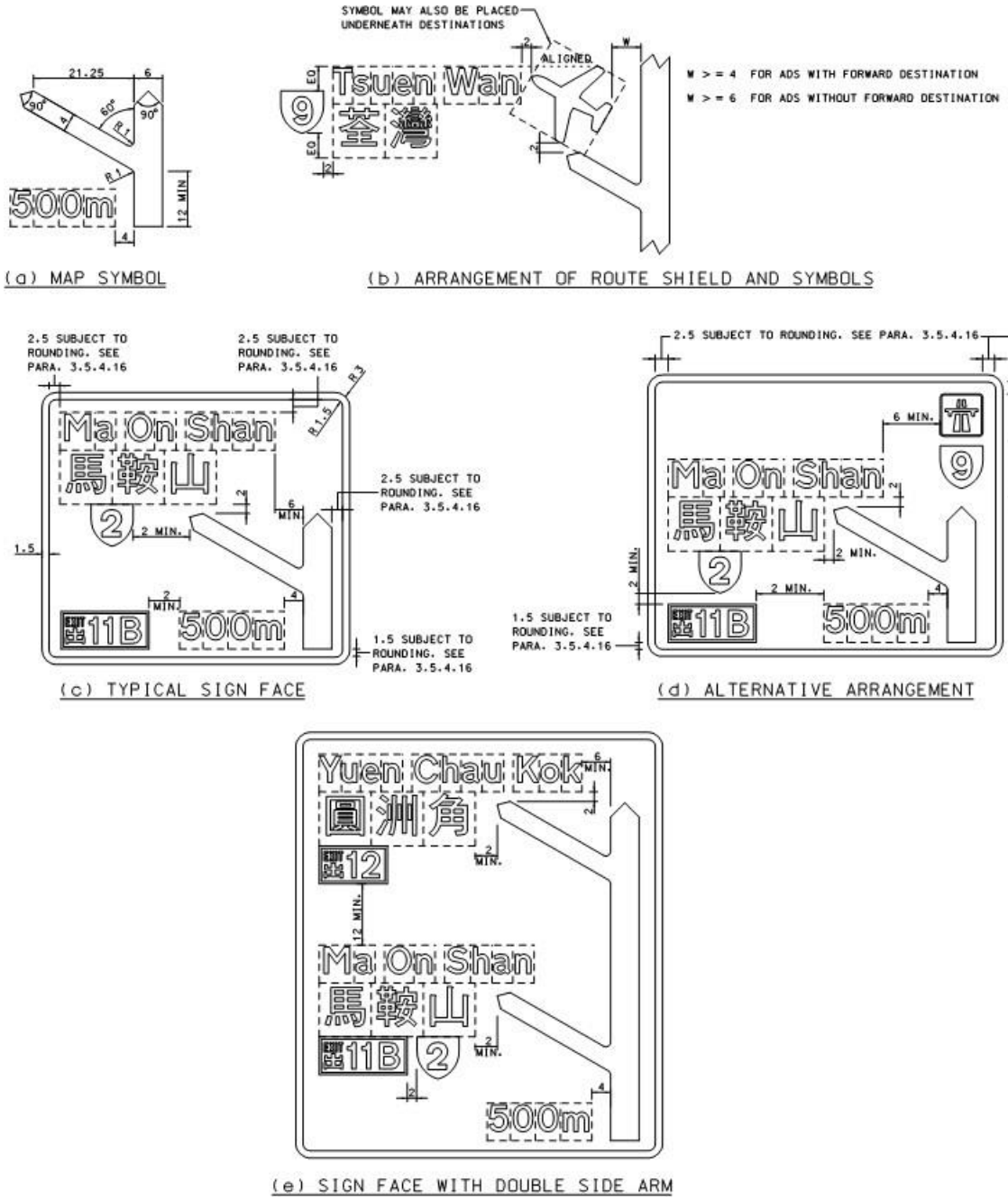
3.5.5.34 Paragraph 3.3.3.23 does refer to roadside ADS being used to indicate “lane drop” situations in urban environment. However, such signs could be substantial in size and difficulty may be encountered in being able to provide sufficient space to erect such a sign. The design details for these signs are illustrated in Diagram 3.5.5.20 and it should be noted that all arrows should transversely be in line across the sign as should the lane lines. Also although the lane lines are indicated as being 8 s/w in length, the length of the lowest mark of the lane lines, and the top mark of the lane line adjacent to the “lane drop” destination, may need to be adjusted to suit the actual depth of the sign.

3.5.5.35 Where a tunnel symbol is required to be incorporated into a “lane drop” ADS, it should be located adjacent to the destination which immediately follows the tunnel, as shown in Diagram 3.5.5.20. Further information as to the use of the tunnel symbol is given in Section 3.5.7. For the route shield, this should be located as shown in Diagram 3.5.5.20, unless the route shield and the tunnel symbol needs to be located adjacent to the same destination when the arrangement should be as shown in Diagram 3.5.5.5.

DIAGRAM 3.5.5.1 : ADVANCE DIRECTION SIGN

DIMENSIONS IN STROKE WIDTHS

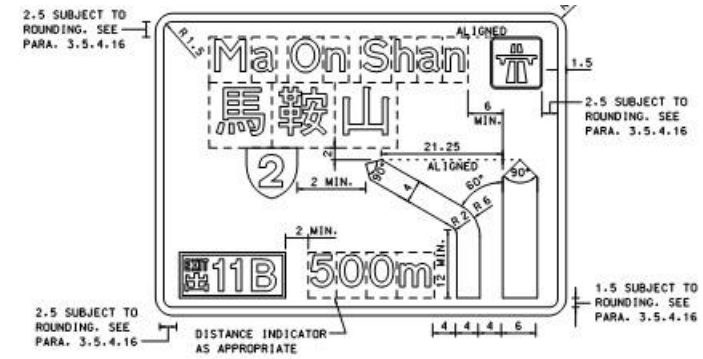
(i) TAPER DIVERGE JUNCTION



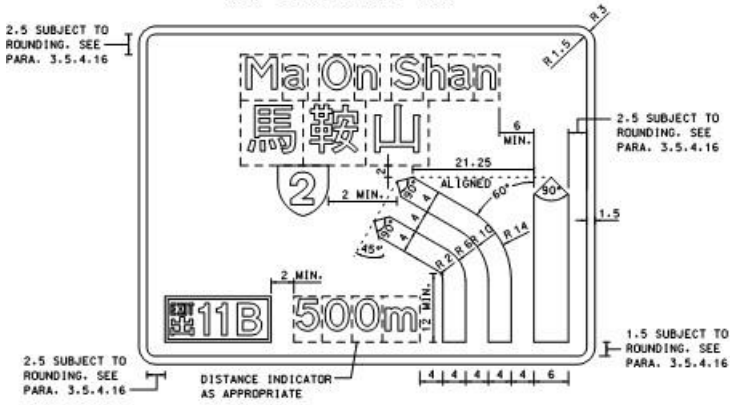
NOTES

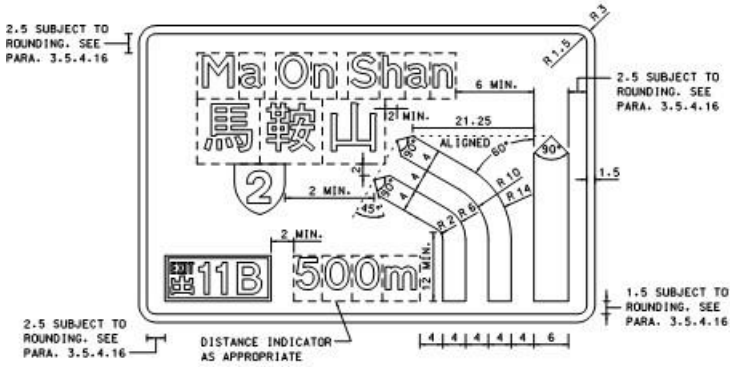
1. IF ERECTED ON EXPRESSWAY, THEN AN EXPRESSWAY SYMBOL SHOULD BE ADDED TO THE TOP RIGHT CORNER OF THE SIGN.
2. ROUTE SHIELD MAY BE PUT TO THE LEFT OF THE LEGEND AS IN (b) ABOVE IF WIDTH OF SIGN IS NOT CRITICAL.
3. FOR (e), A DISTANCE INDICATION MAY BE ADDED FOR THE SECOND EXIT AS NECESSARY.

(ii) "LANE DROP" JUNCTION

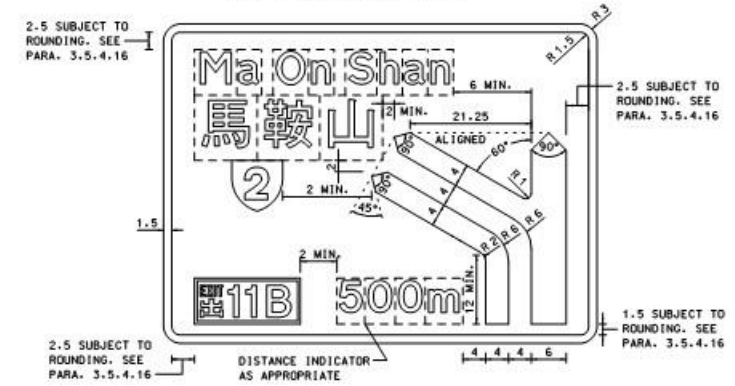


(a) SINGLE LANE DROP





(b) DOUBLE LANE DROP



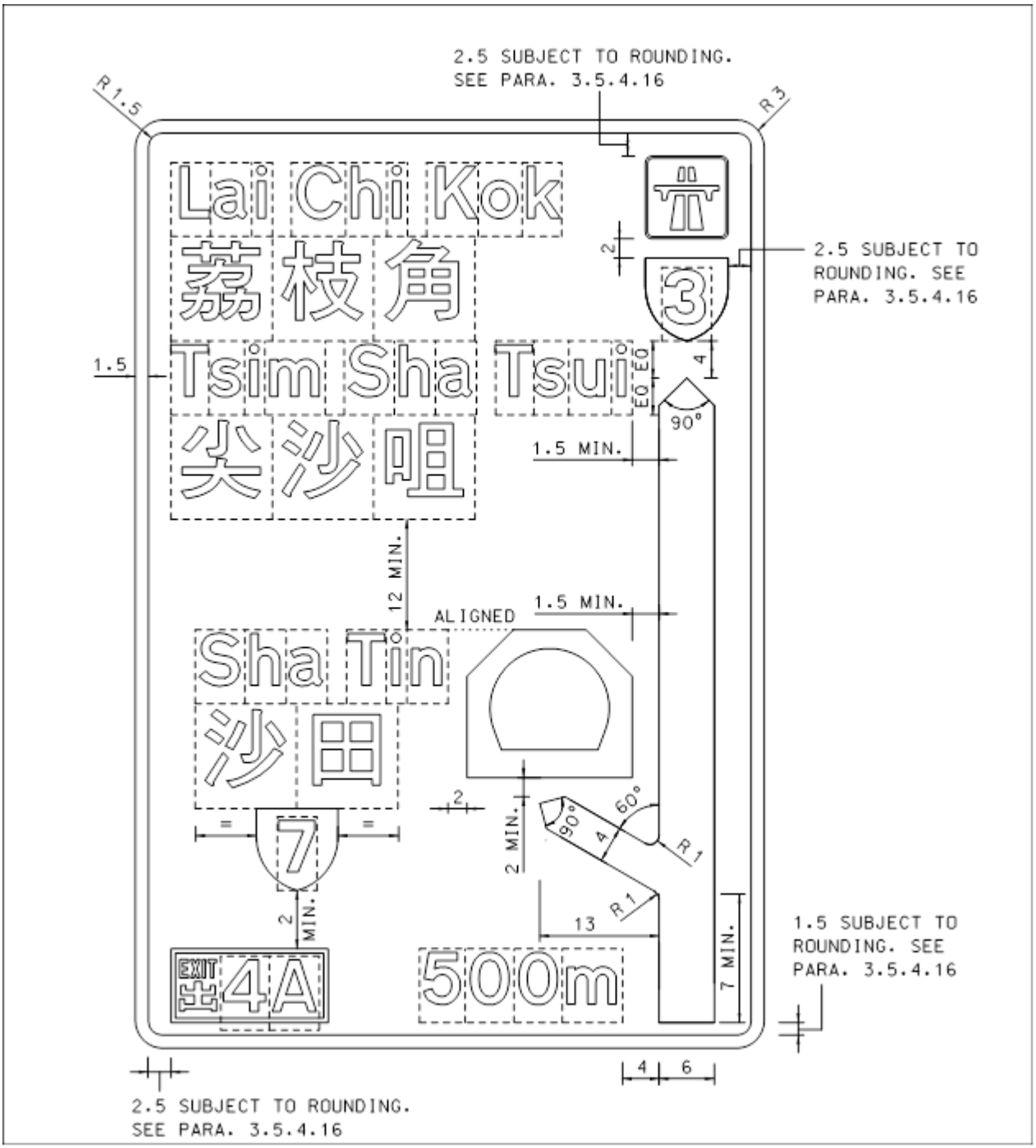
(c) SINGLE LANE DROP WITH DIRECT DIVERGE

NOTE : IF ERECTED ON EXPRESSWAY, THEN AN EXPRESSWAY SYMBOL SHOULD BE ADDED TO THE TOP RIGHT CORNER OF THE SIGN

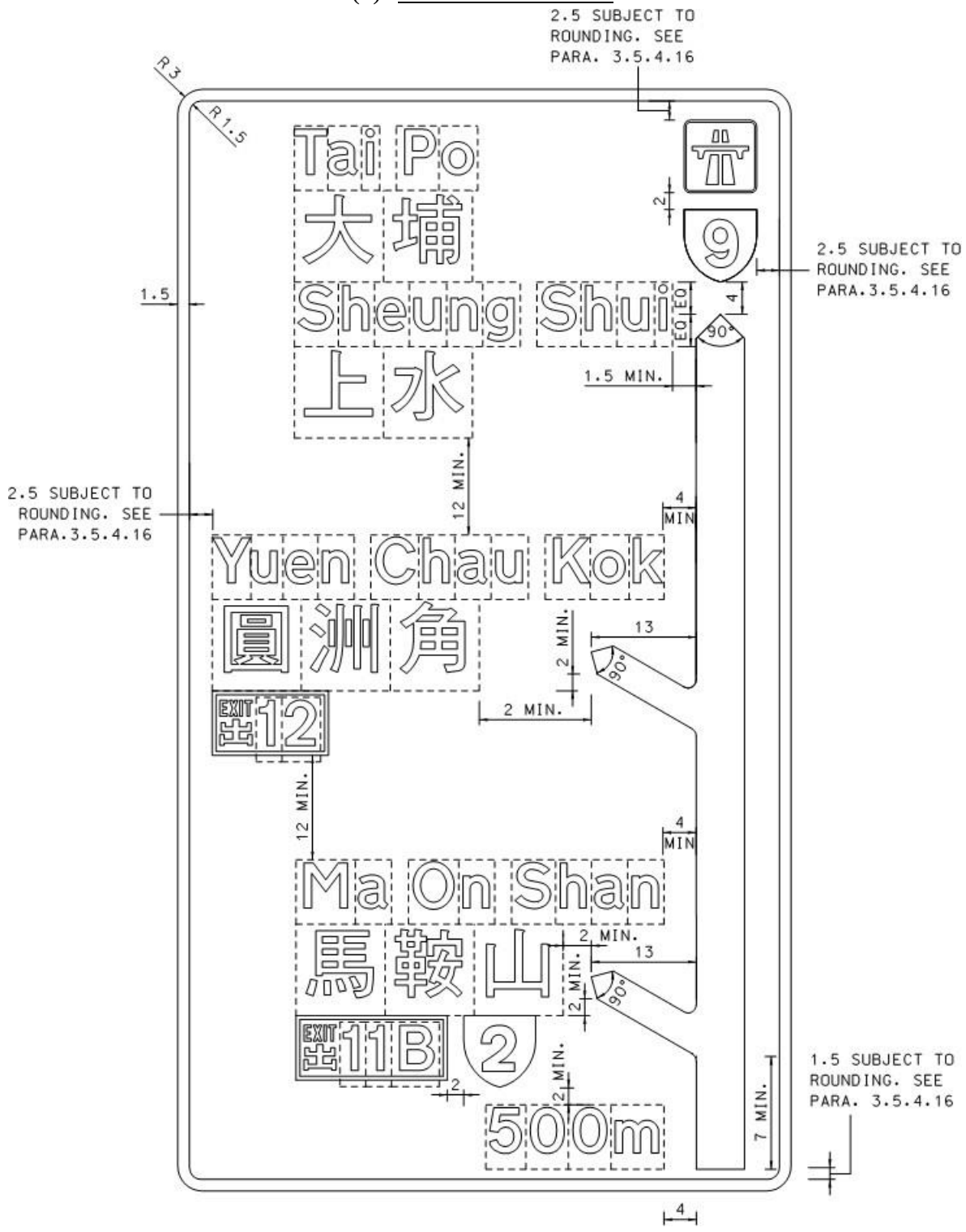
DIAGRAM 3.5.5.2 : FINAL ADVANCE DIRECTION SIGN / ADVANCE DIRECTION SIGN FOR TAPER DIVERGE JUNCITON

DIMENSIONS IN STROKE WIDTHS

(i) SINGLE SIDE ARM



(ii) DOUBLE SIDE ARM

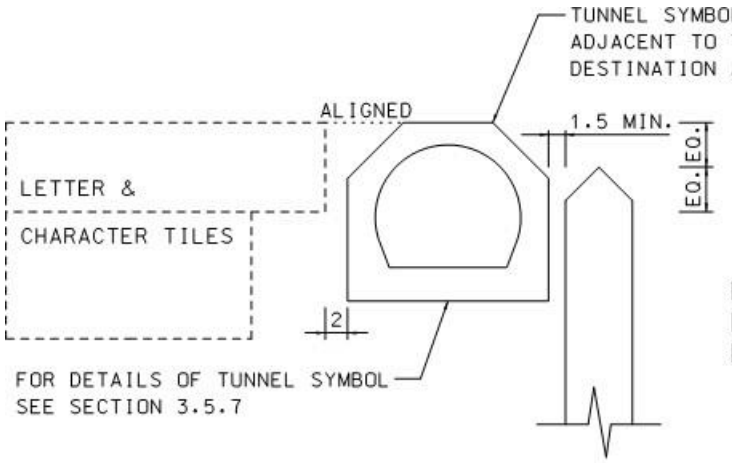


NOTES

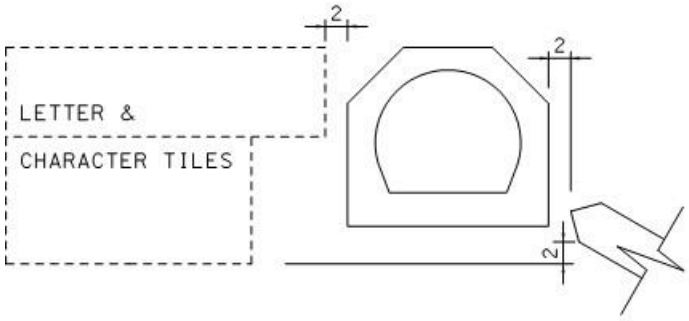
1. SAME FORMAT FOR ADVANCE DIRECTION SIGN WHERE ONLY THE ADVANCE DIRECTION SIGN AND A DIRECTION SIGN ARE EMPLOYED.
2. FOR DOUBLE SIDE ARM, A DISTANCE INDICATION MAY BE ADDED FOR THE SECOND EXIT AS NECESSARY.

DIAGRAM 3.5.5.3 : LOCATION OF TUNNEL SYMBOL FOR DIAGRAMS 3.5.5.1 & 3.5.5.2

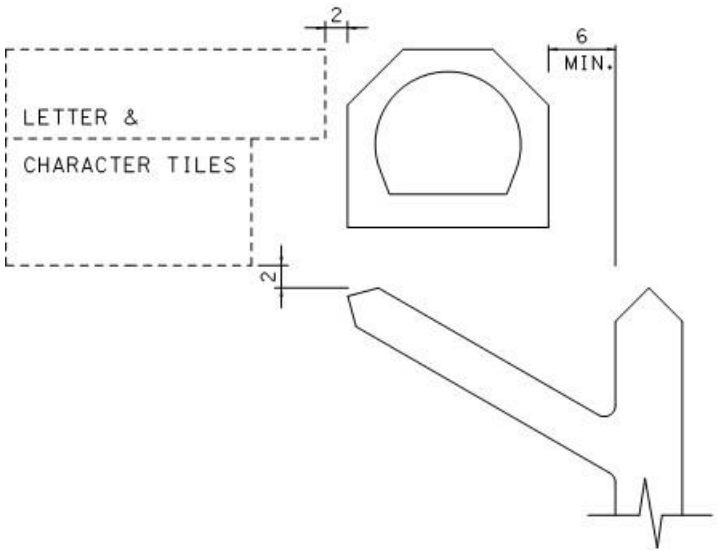
DIMENSIONS IN STROKE WIDTHS



FINAL ADVANCE DIRECTION SIGN,
DIAGRAM 3.5.5.2 ROUTE AHEAD
PASSES THROUGH TUNNEL



FINAL ADVANCE DIRECTION SIGN,
DIAGRAM 3.5.5.2 SIDE ROUTE
PASSES THROUGH TUNNEL



ADVANCE DIRECTION SIGN,
DIAGRAM 3.5.5.1 SIDE ROUTE
PASSES THROUGH TUNNEL

DIAGRAM 3.5.5.4 : ADVANCE DIRECTION SIGN FOR CROSSROADS

DIMENSIONS IN STROKE WIDTHS

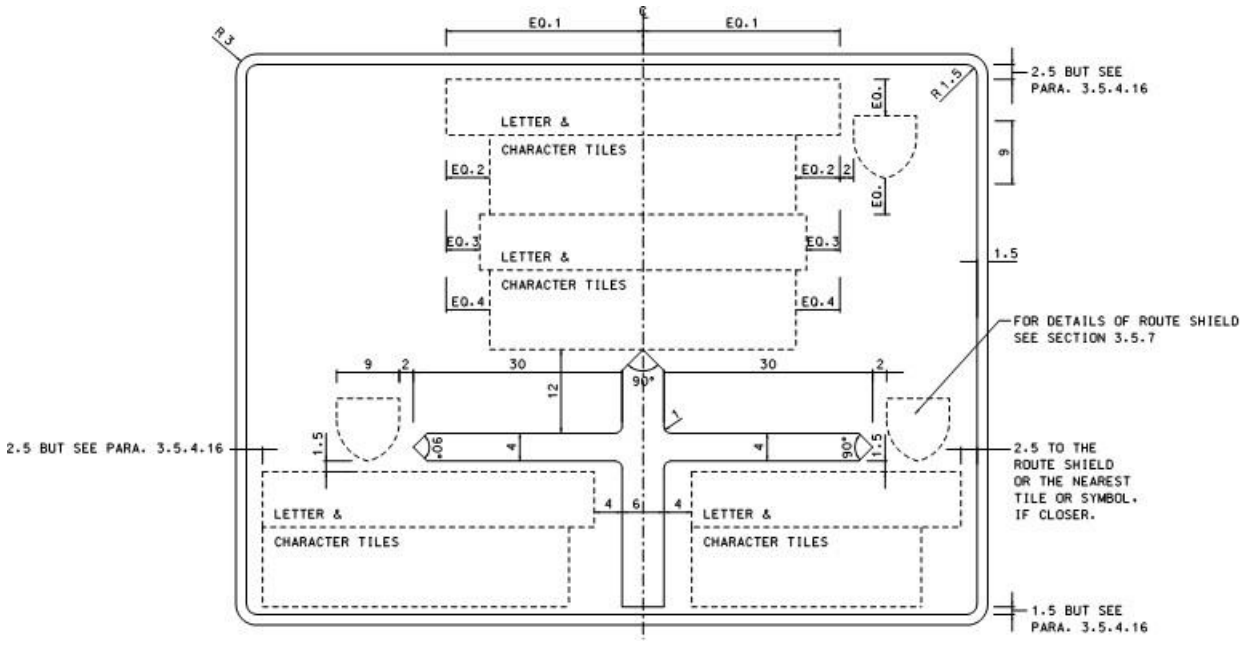


DIAGRAM 3.5.5.5 : LOCATION OF TUNNEL SYMBOL WITH REGARD TO DIAGRAM 3.5.5.4

DIMENSIONS IN STROKE WIDTHS

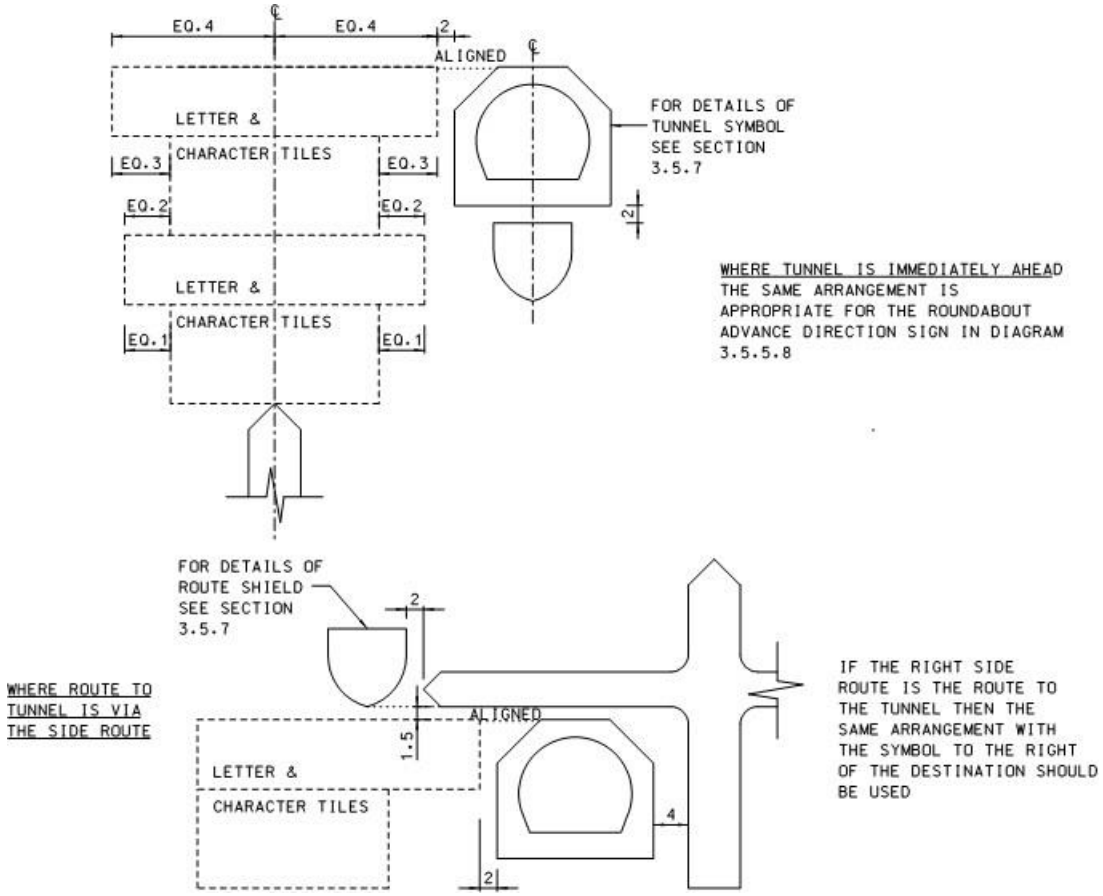
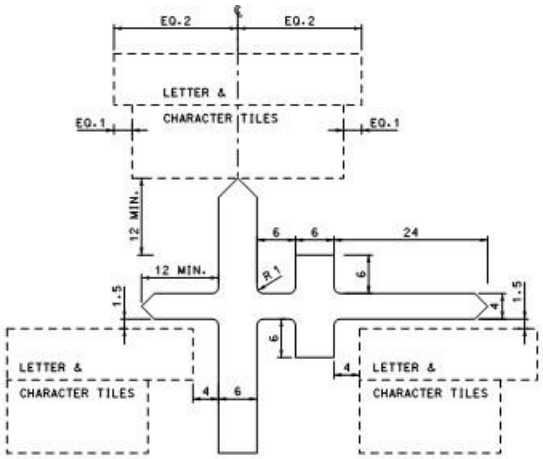
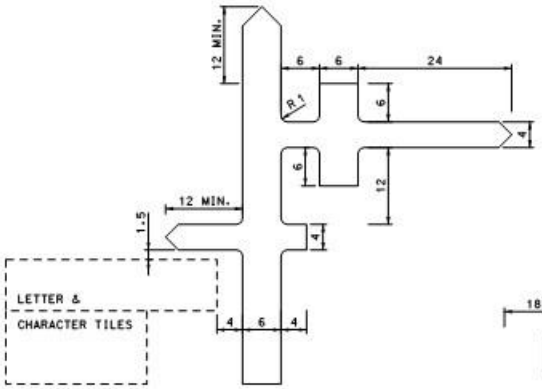


DIAGRAM 3.5.5.6 : ROUTE SYMBOL ARRANGEMENTS

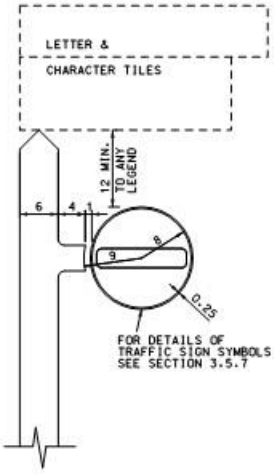
DIMENSIONS IN STROKE WIDTHS



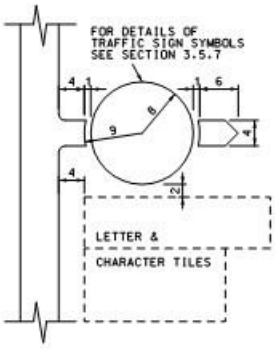
MAP TYPE SYMBOL FOR AT GRADE JUNCTION ALONG A DUAL CARRIAGEWAY ROAD



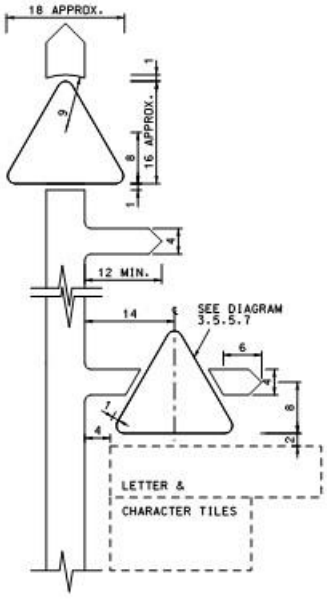
MAP TYPE SYMBOL FOR AT GRADE STAGGERED JUNCTION ALONG A DUAL CARRIAGEWAY WAY



ROUTE SYMBOL INCORPORATING TS 115. NO ENTRY



ROUTE SYMBOL INCORPORATING OTHER REGULATORY SIGNS



ROUTE SYMBOL INCORPORATING WARNING SIGN

DIAGRAM 3.5.5.7 : TRIANGULAR WARNING SIGN SYMBOL

DIMENSIONS IN STROKE WIDTHS

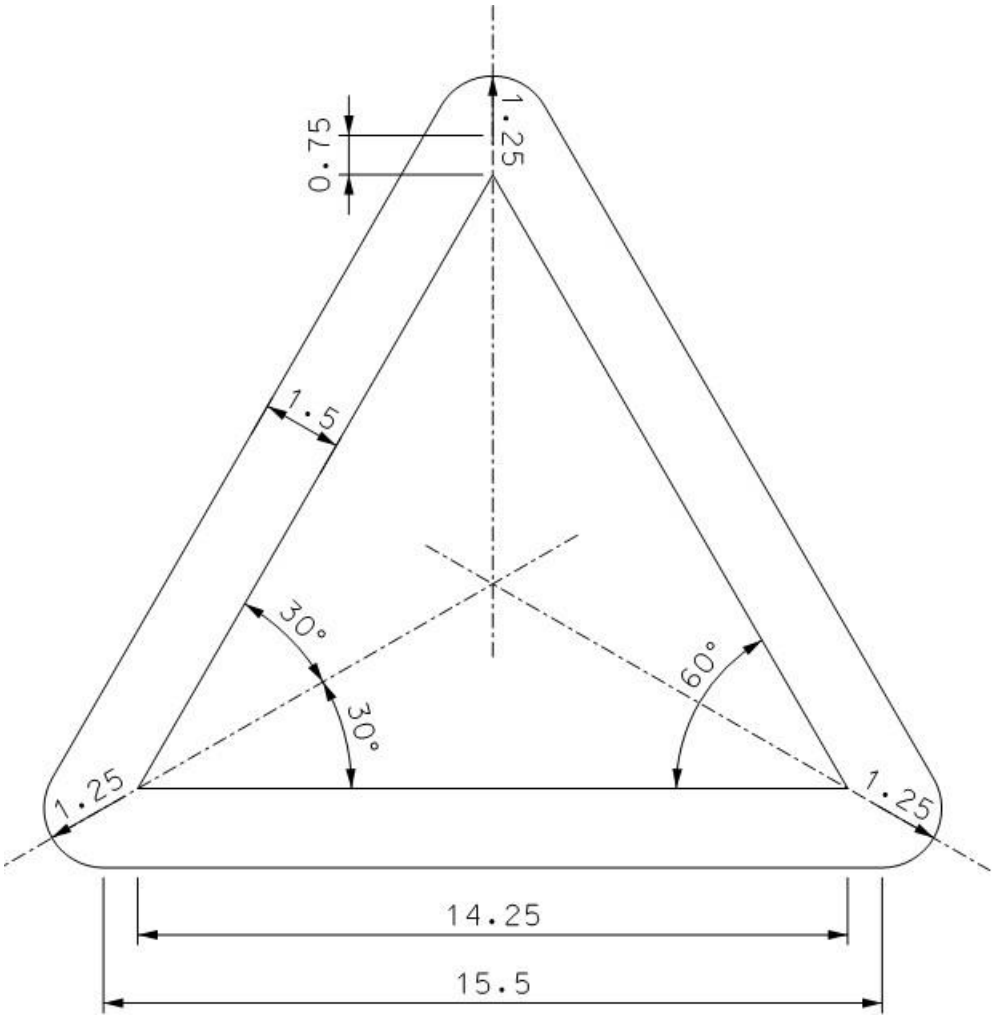
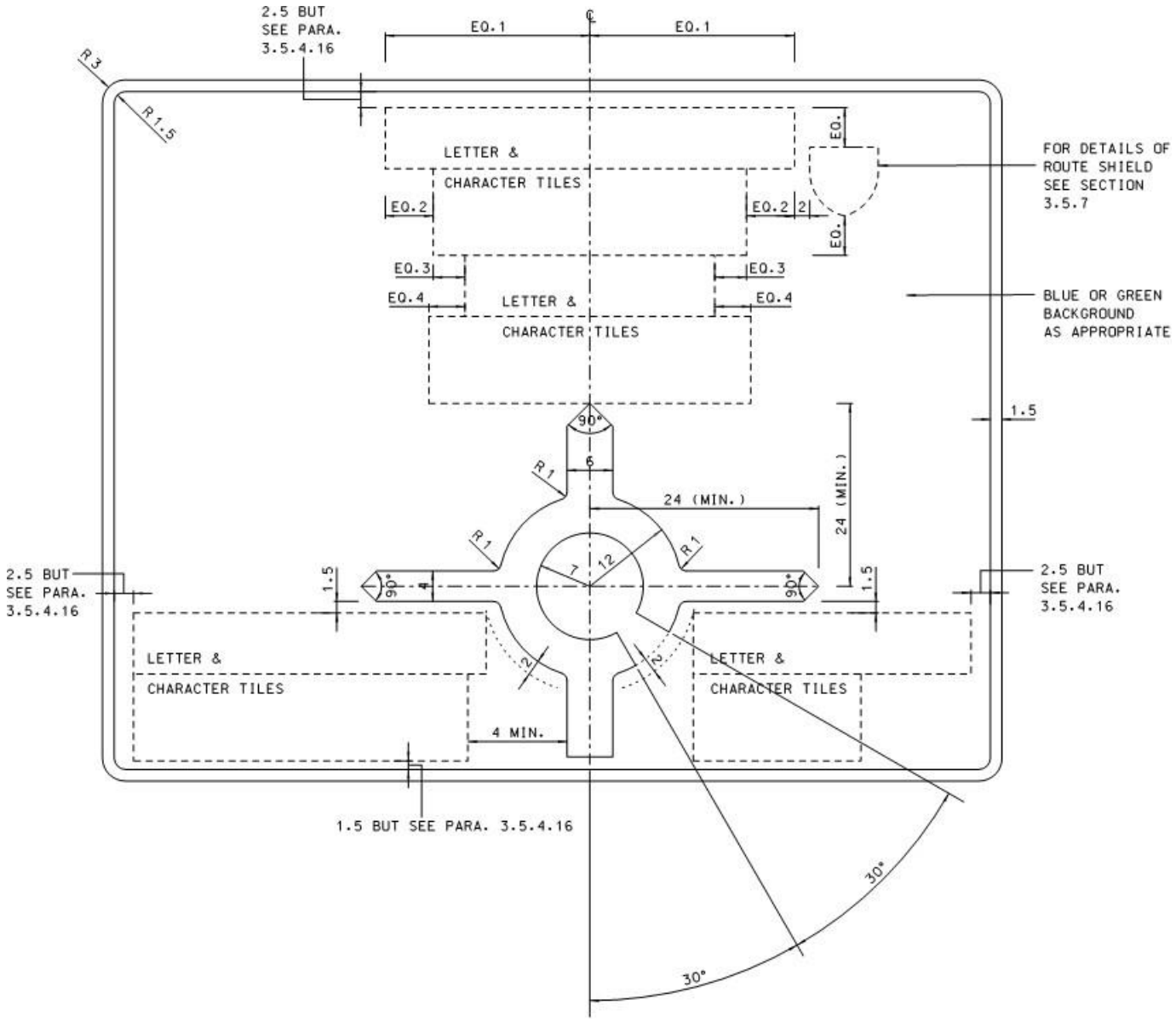


DIAGRAM 3.5.5.8 : ADVANCE DIRECTION SIGN 4-ARM ROUNDABOUT

DIMENSIONS IN STROKE WIDTHS

(i) CONVENTIONAL ROUNDABOUT



(ii) SPIRAL ROUNDABOUT

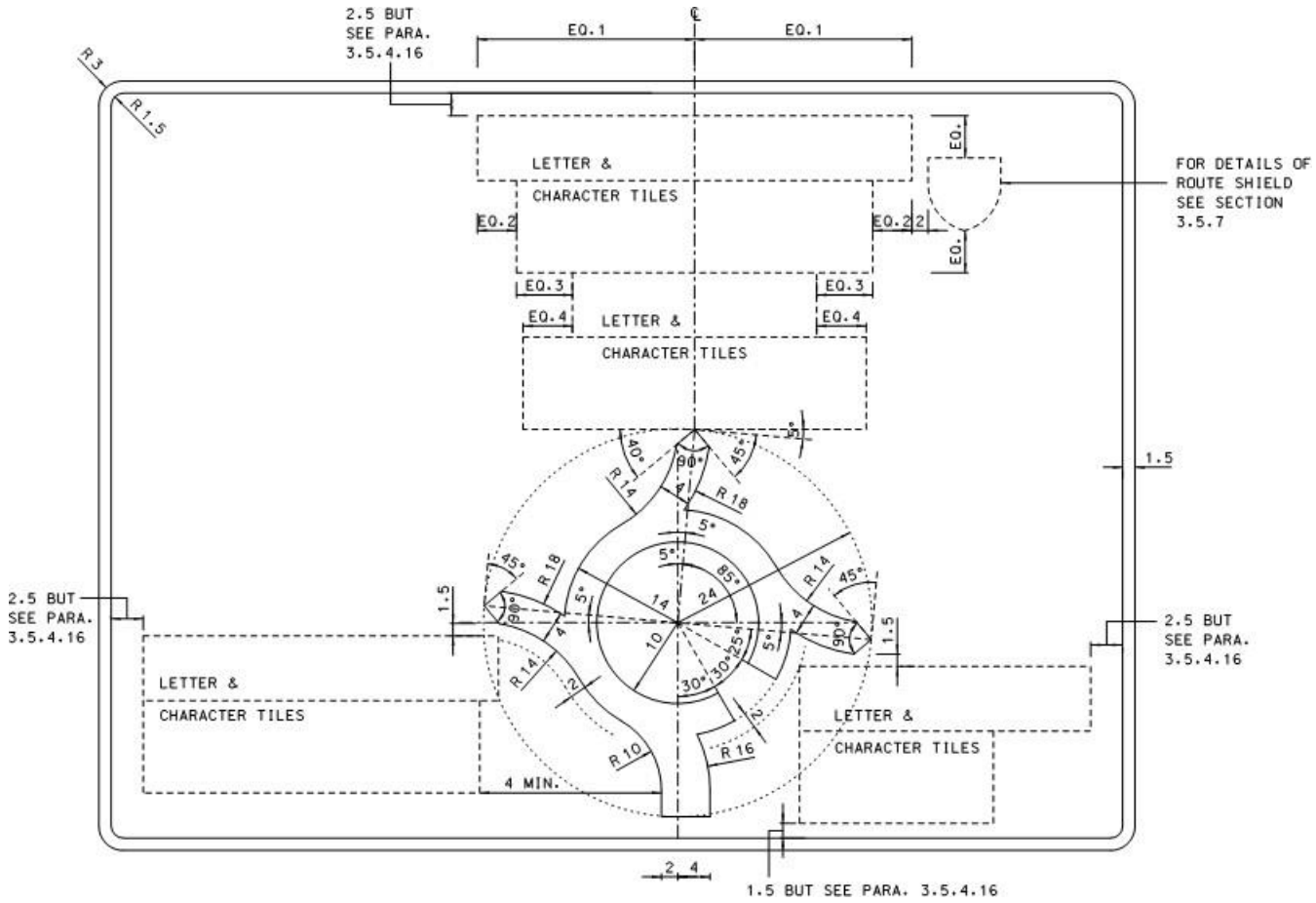
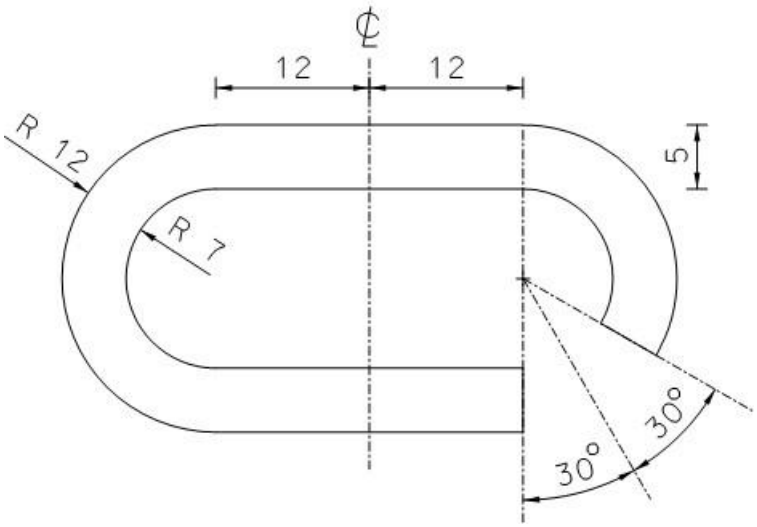


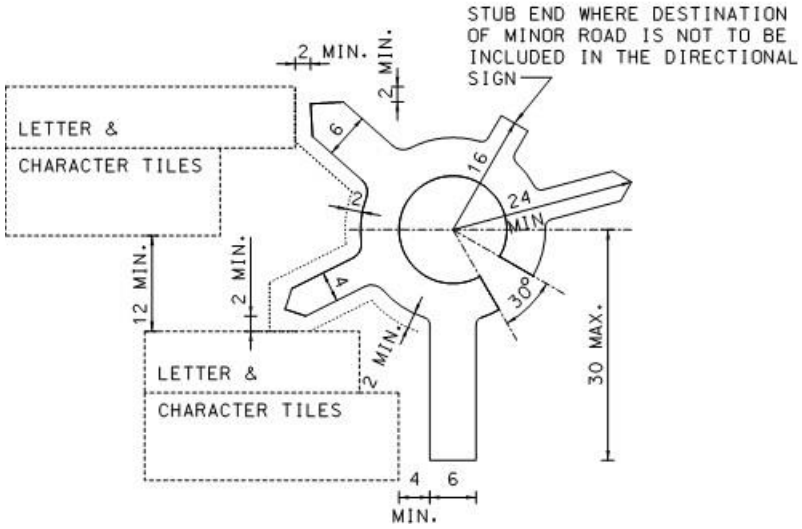
DIAGRAM 3.5.5.9 : ALTERNATIVE ROUNDABOUT SYMBOLS

DIMENSIONS IN STROKE WIDTHS

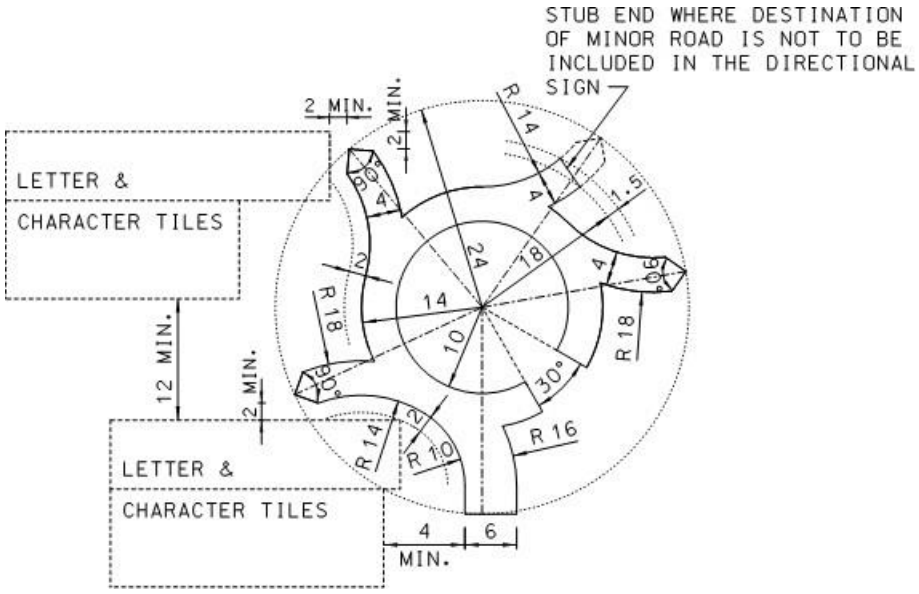
(i) OVAL-SHAPED ROUNDABOUT



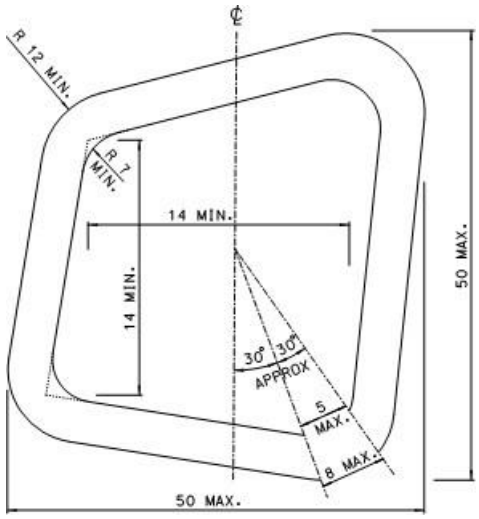
(ii) MULTI-ARM ROUNDABOUT (CONVENTIONAL)



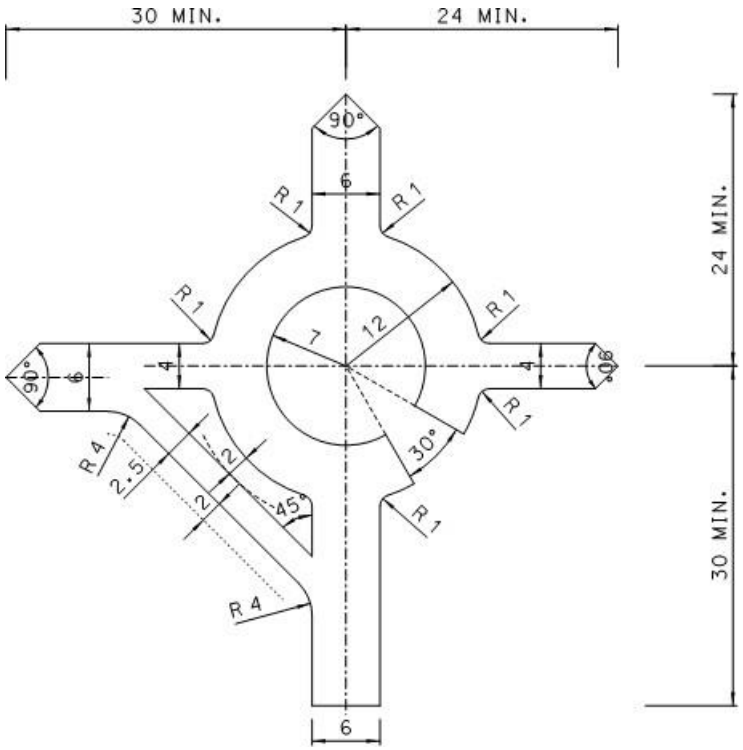
(iii) MULTI-ARM ROUNDABOUT (SPIRAL)



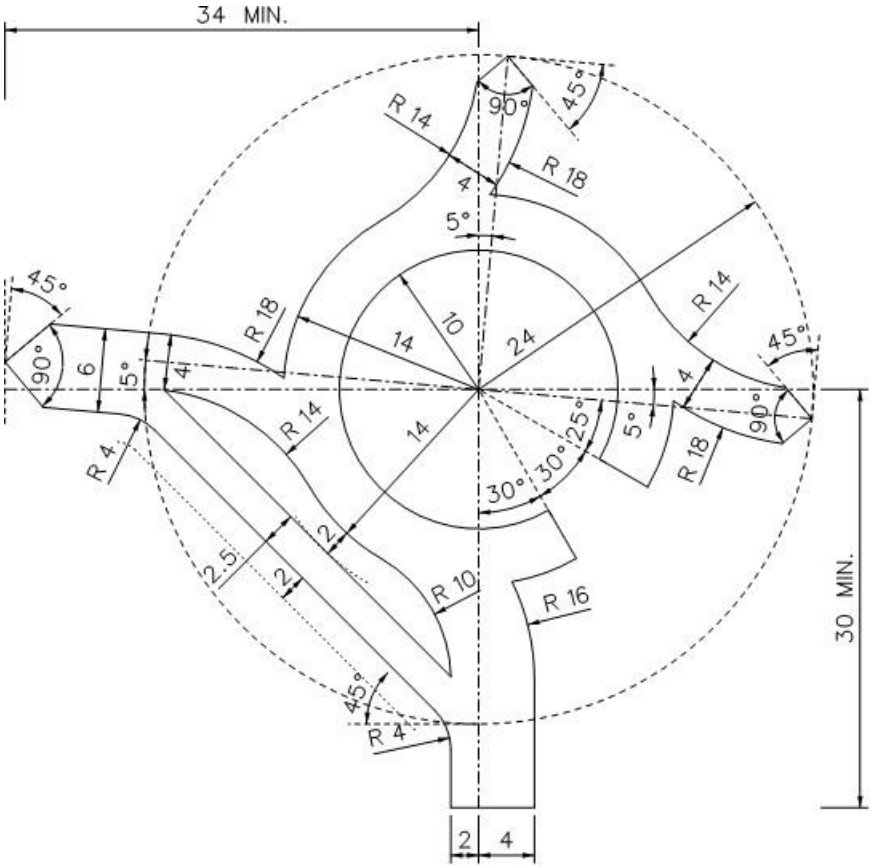
(iv) IRREGULAR ROUNDABOUT



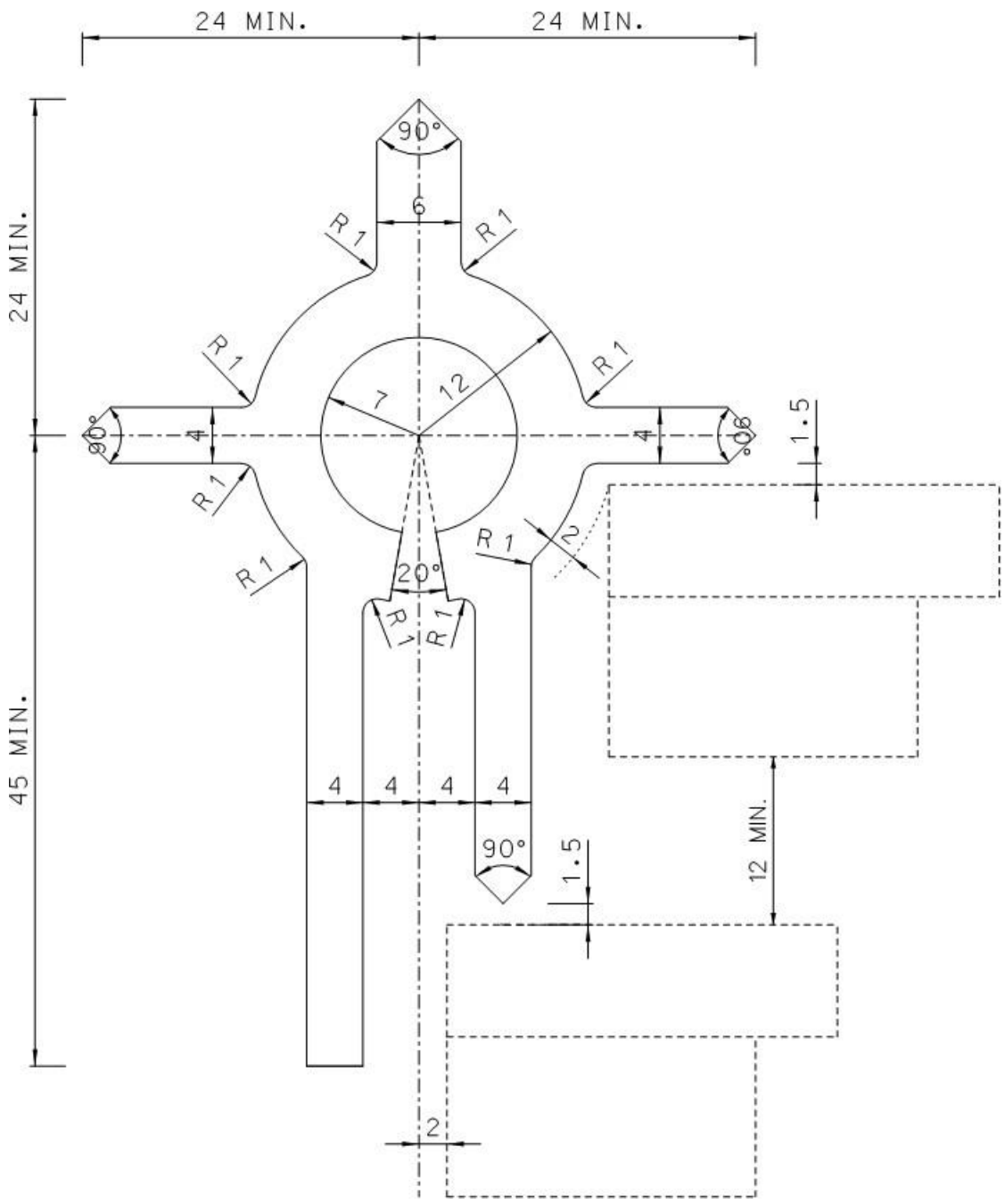
(v) CONVENTIONAL ROUNDABOUT WITH AUXILIARY LANE



(vi) SPIRAL ROUNDABOUT WITH AUXILIARY LANE

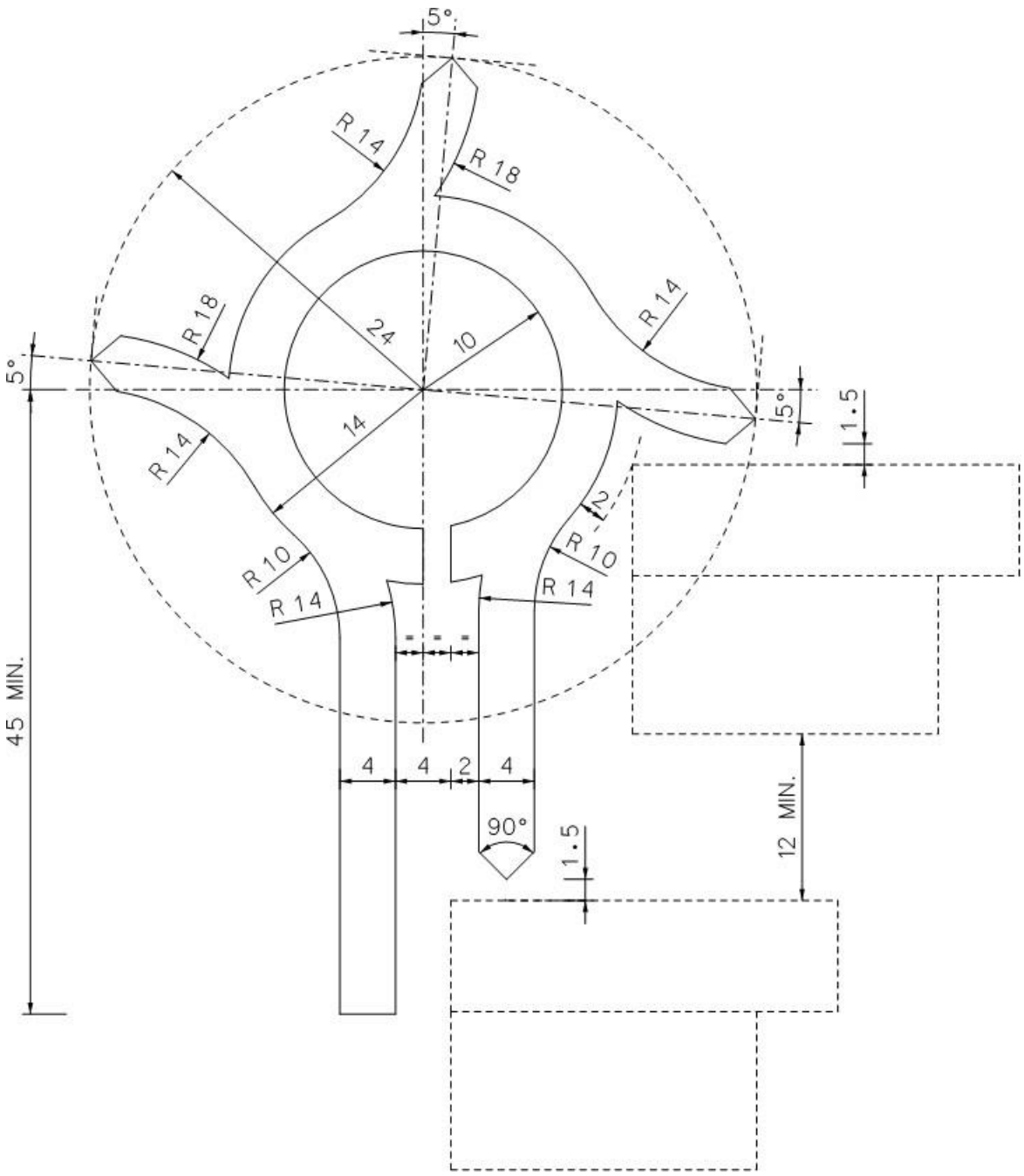


(vii) CONVENTIONAL ROUNDABOUT WITH U-TURN DESTINATION INDICATED



NOTE : TO BE USED ONLY IN SPECIAL CIRCUMSTANCES OR WITH JUSTIFICATIONS

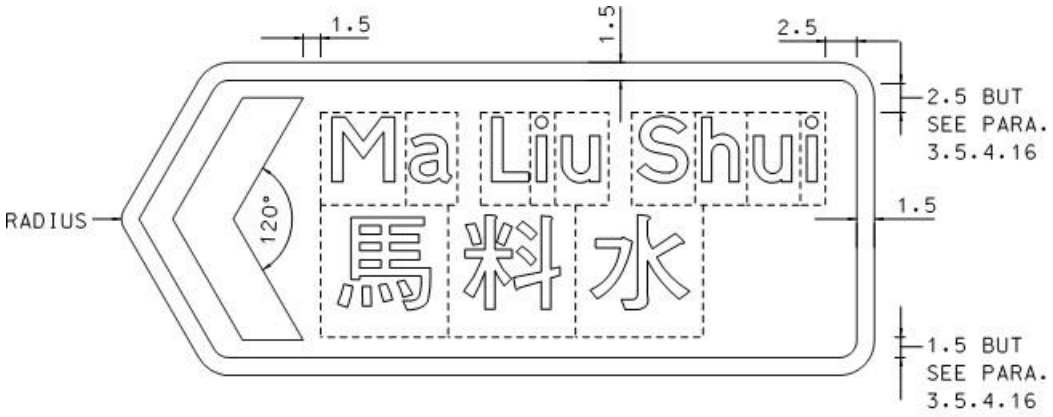
(viii) SPIRAL ROUNDABOUT WITH U-TURN DESTINATION INDICATED

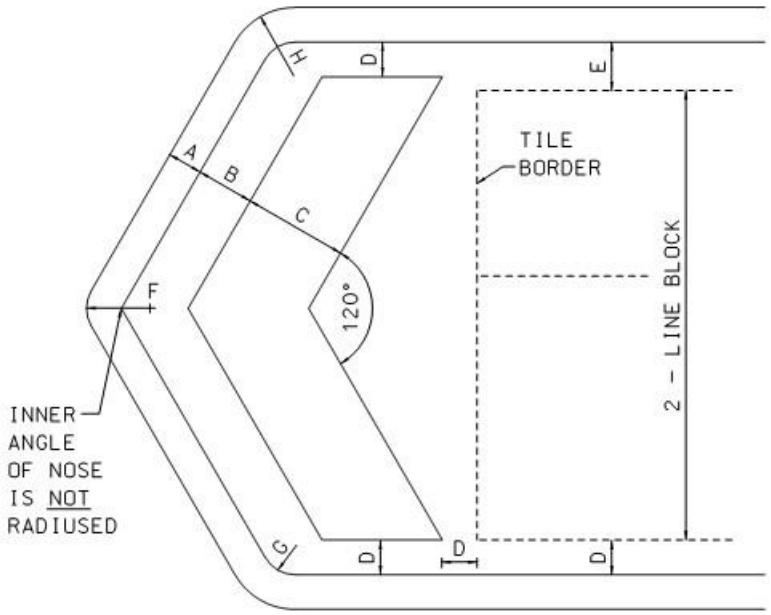


NOTE : TO BE USED ONLY IN SPECIAL CIRCUMSTANCES OR WITH JUSTIFICATIONS

DIAGRAM 3.5.5.10 : FLAG TYPE DIRECTION SIGN

DIMENSIONS IN STROKE WIDTHS





STROKE WIDTHS FOR CHEVRON DETAIL

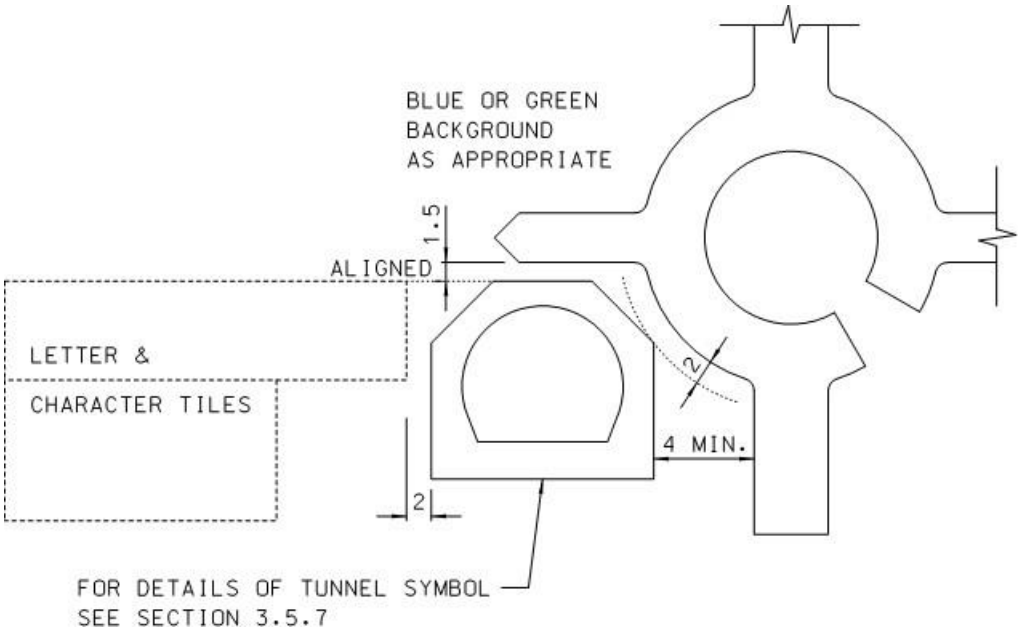
	2 LINE LEGEND	4 OR MORE LINE LEGEND
A	1.5	1.5
B	2.5	3.5
C	4.5	6
D	1.5	1.5
E	2.5	2.5
F	1.5	1.5
G	1.5	1.5
H	3	3

NOTE : EXPRESSWAY LOGO NOT TO BE INCLUDED ON FLAG TYPE DIRECTION SIGN

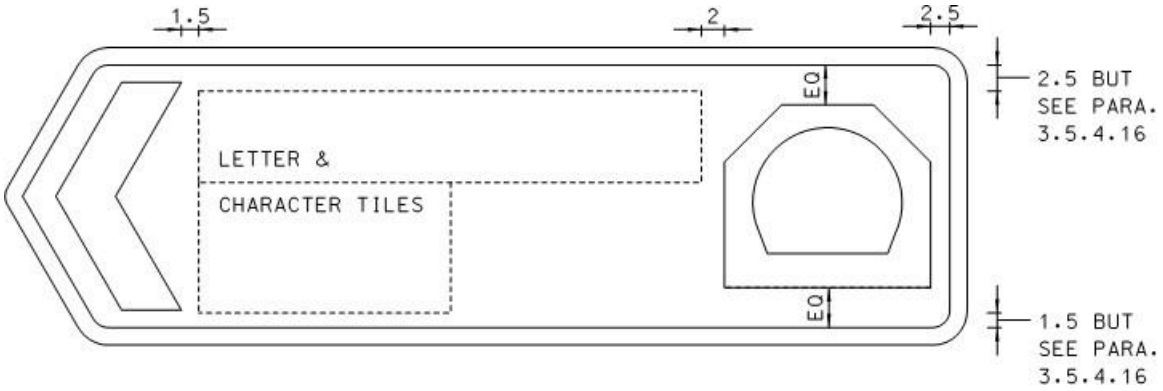
DIAGRAM 3.5.5.11 : LOCATION OF TUNNEL SYMBOL WITH REGARD TO DIAGRAMS 3.5.5.8, 3.5.5.9 AND 3.5.5.10

DIMENSIONS IN STROKE WIDTHS

(i) SIDE ROAD DESTINATION OFF A ROUNDABOUT



(ii) LOCATION OF TUNNEL SYMBOL ON A FLAG TYPE SIGN



(iii) COMBINED TUNNEL SYMBOL AND ROUTE SHIELD

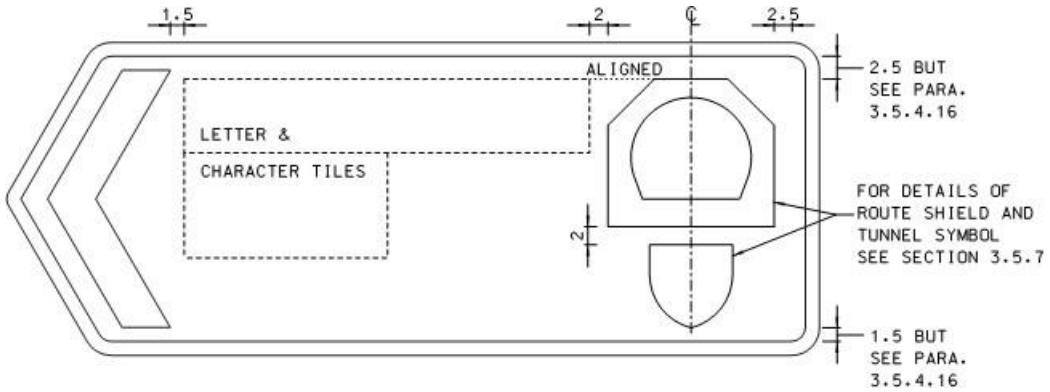
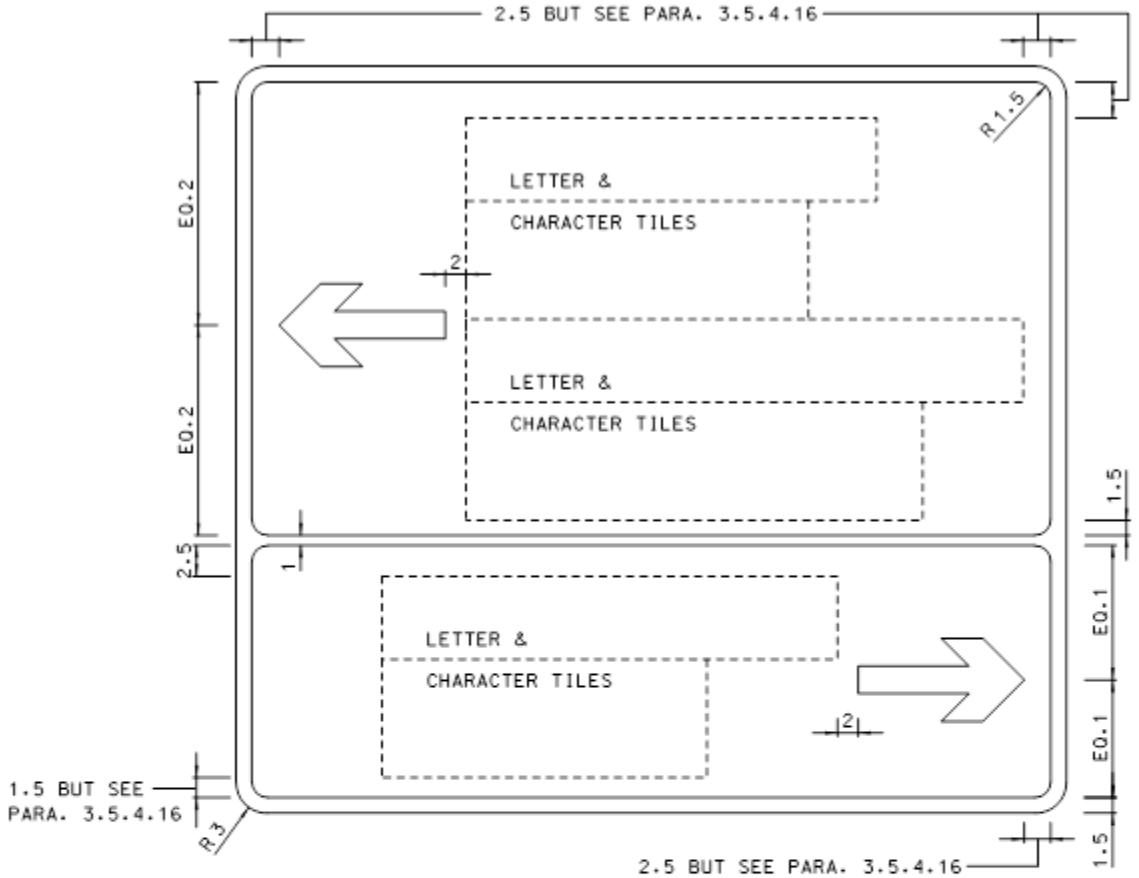


DIAGRAM 3.5.5.12 : STACK TYPE ADVANCE DIRECTION AND DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS



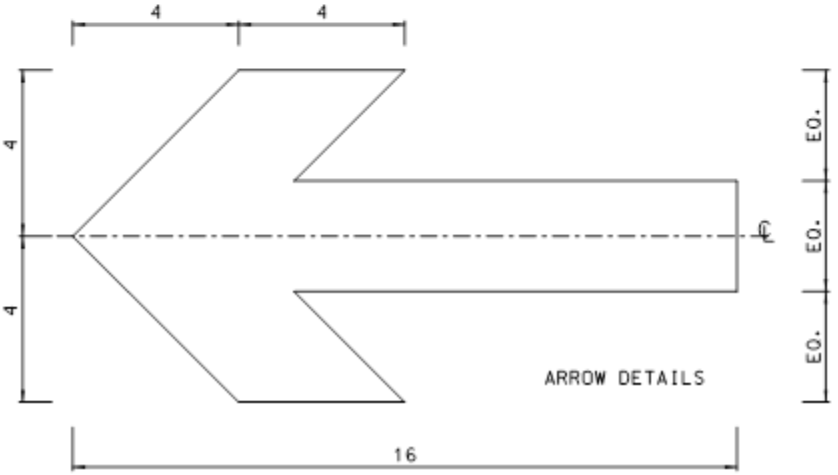
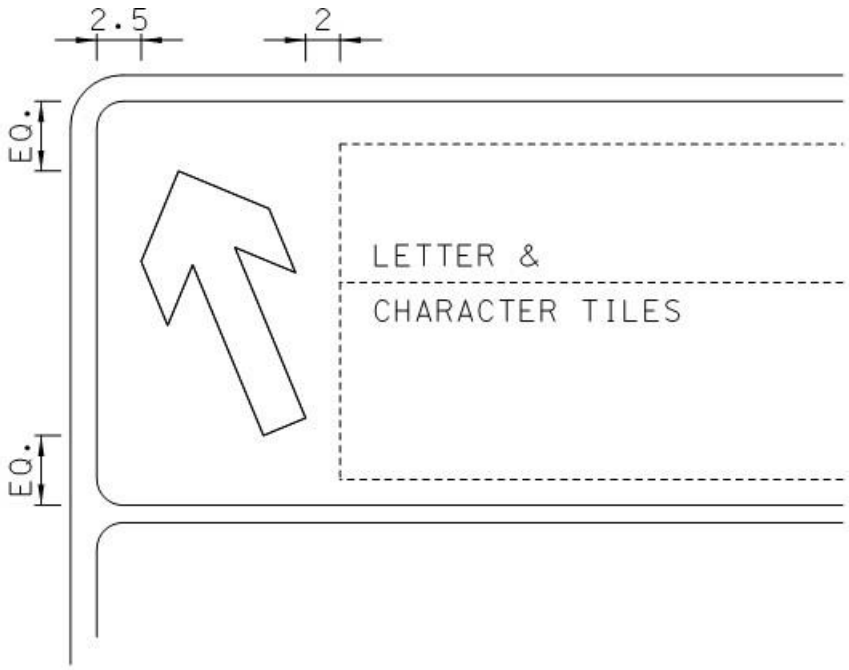


DIAGRAM 3.5.5.13 : STACK TYPE DIRECTION OR ADVANCE DIRECTION SIGN - INCLINED ARROW DESTINATION TO LEFT

DIMENSIONS IN STROKE WIDTHS



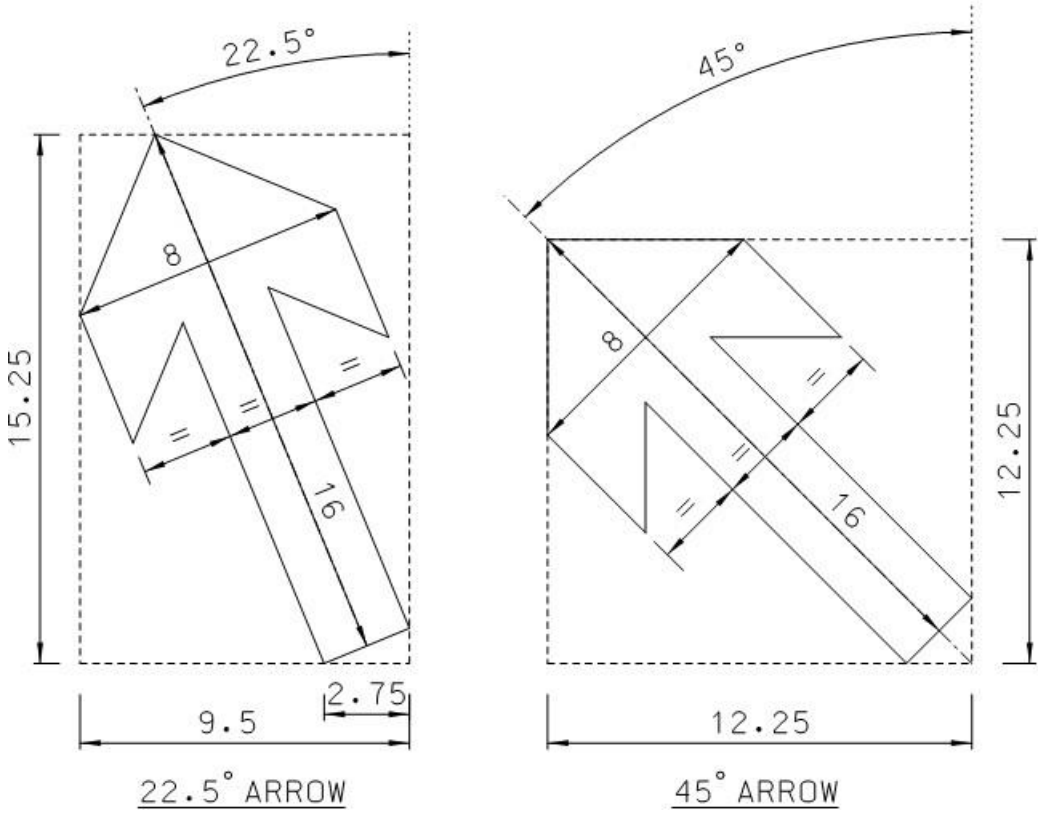
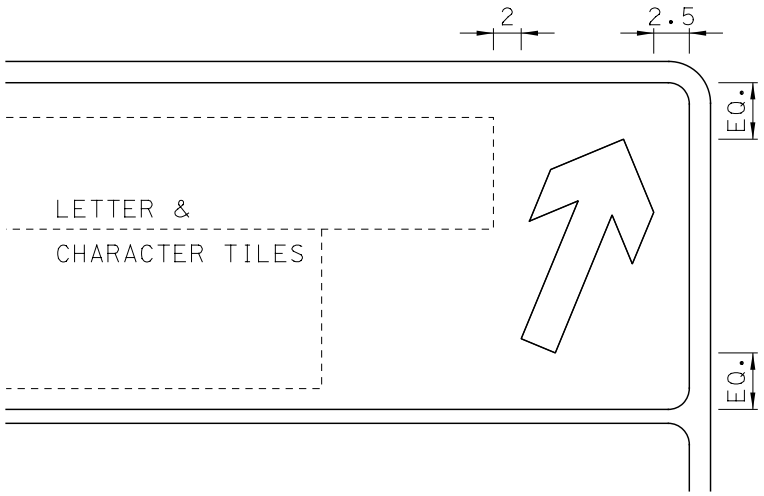


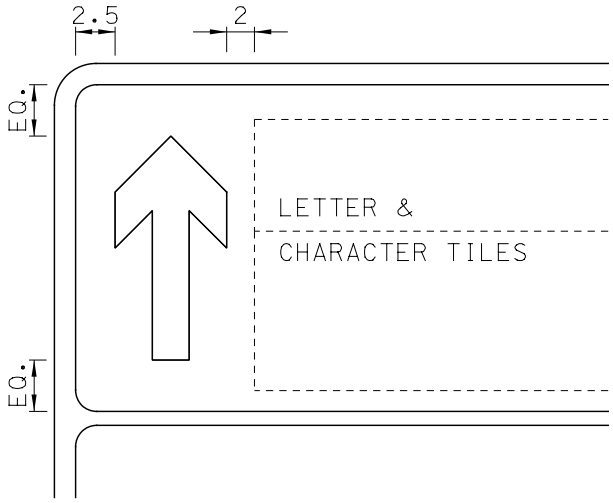
DIAGRAM 3.5.5.14 : STRAIGHT AHEAD AND INCLINED RIGHT ARROWS FOR DIRECTION AND ADVANCE DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS



BOTH 22½° AND 45° ARROWS MAY BE USED THOUGH FOR DIRECTION SIGN AT SLIP ROADS FROM DUAL CARRIAGEWAYS THE 22½° SHOULD BE USED. THE DIMENSIONS OF EITHER ARE AS SHOWN IN DIAGRAM 3.5.3.13

DIRECTION TO RIGHT



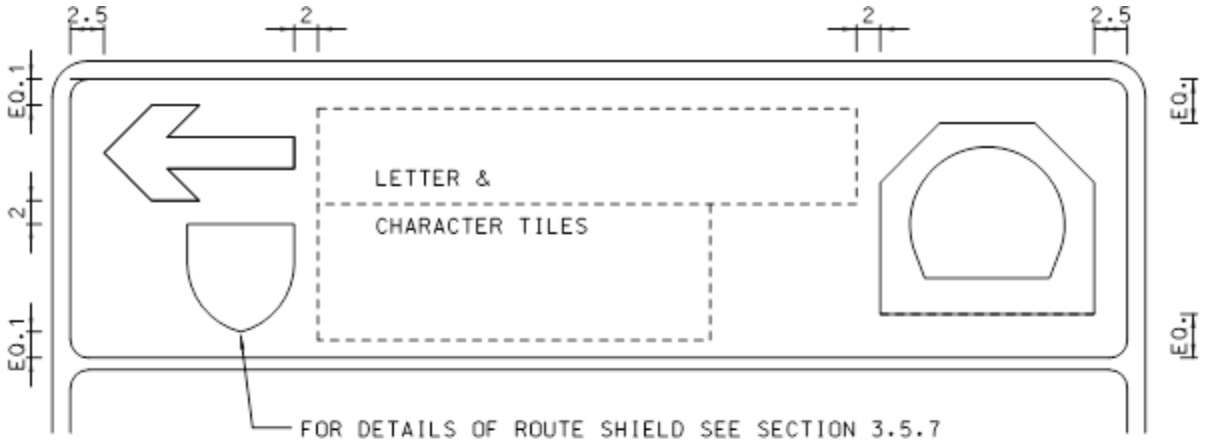
WHEN THE DIRECTION IS STRAIGHT AHEAD THE ARROW IS ALWAYS PLACED TO THE LEFT OF THE SIGN. ARROW DIMENSIONS ARE AS SHOWN IN DIAGRAM 3.5.5.12

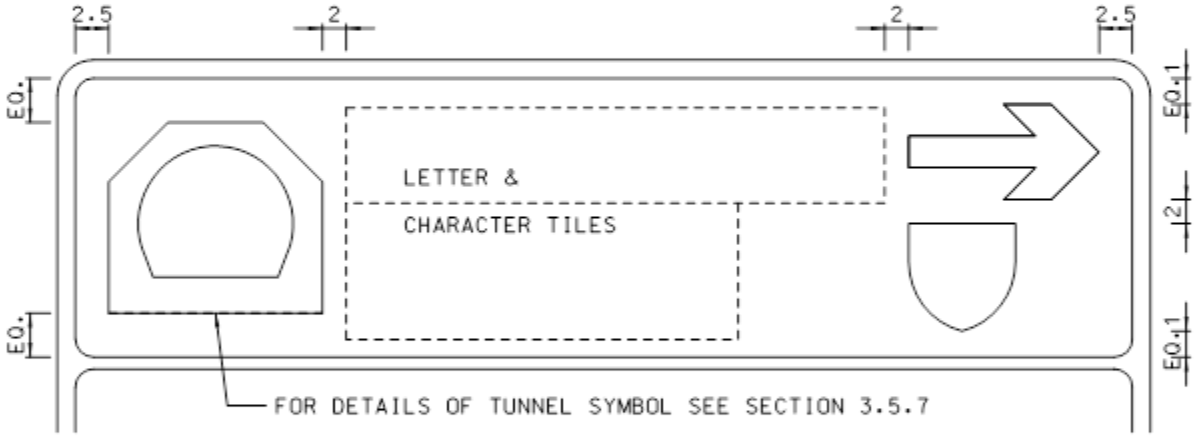
DIRECTION STRAIGHT AHEAD

NOTE : FOR PLACEMENT OF STRAIGHT AHEAD ARROW, SEE FURTHER PARAGRAPH 3.5.5.28 AND TABLE 3.5.5.2

DIAGRAM 3.5.5.15 : ROUTE SHIELD AND TUNNEL SYMBOL POSITION FOR STACK TYPE DIRECTION AND ADVANCE DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS





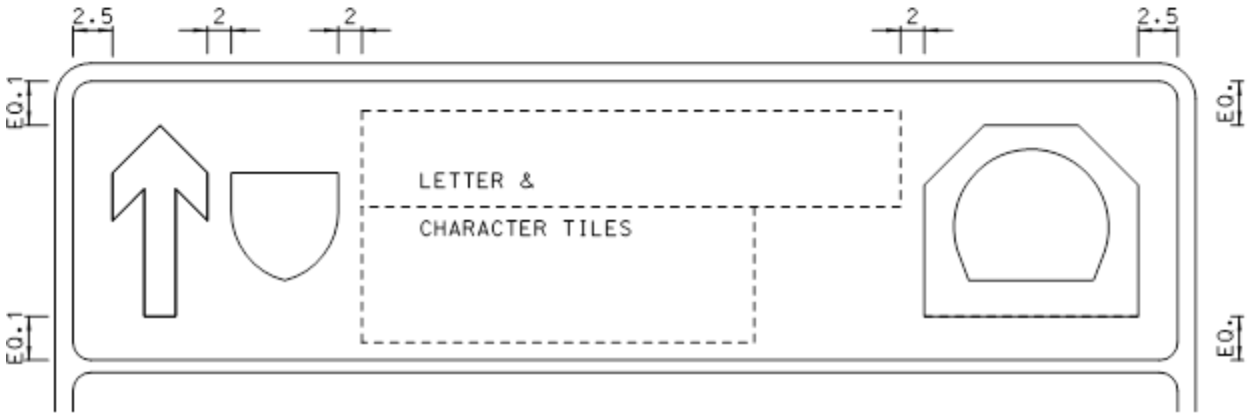
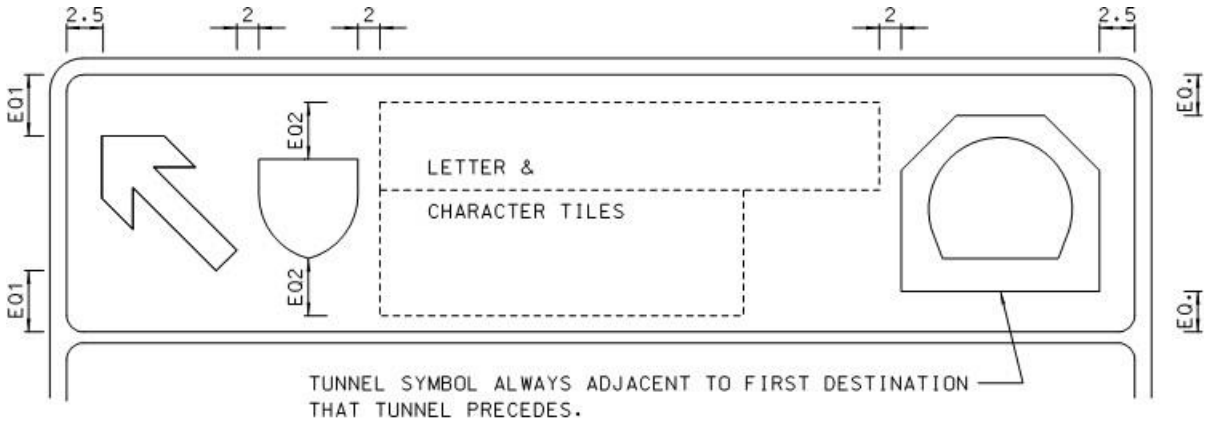


DIAGRAM 3.5.5.16 : ROUTE SHIELD AND TUNNEL SYMBOL POSITIONS FOR STACK TYPE DIRECTION AND ADVANCE DIRECTION SIGNS WITH INCLINED ARROWS

DIMENSIONS IN STROKE WIDTHS



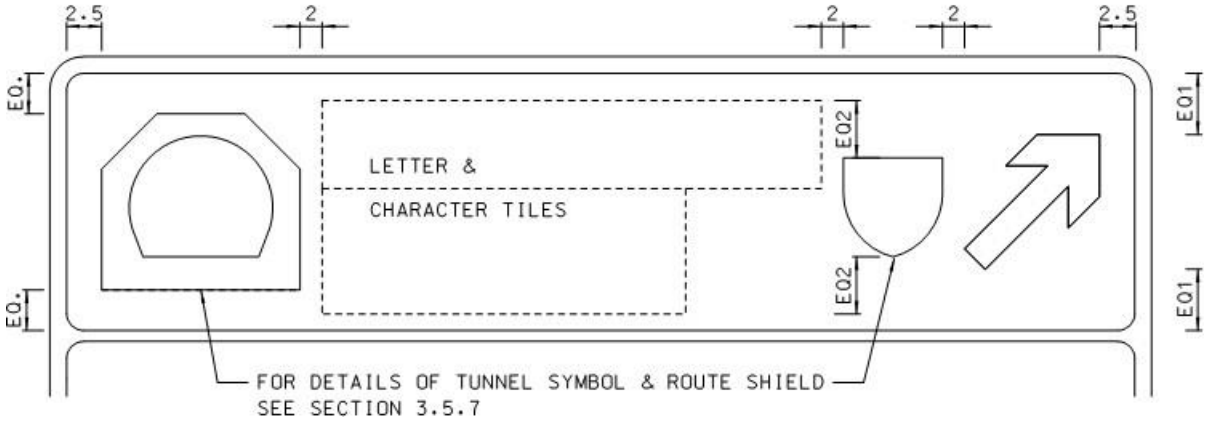
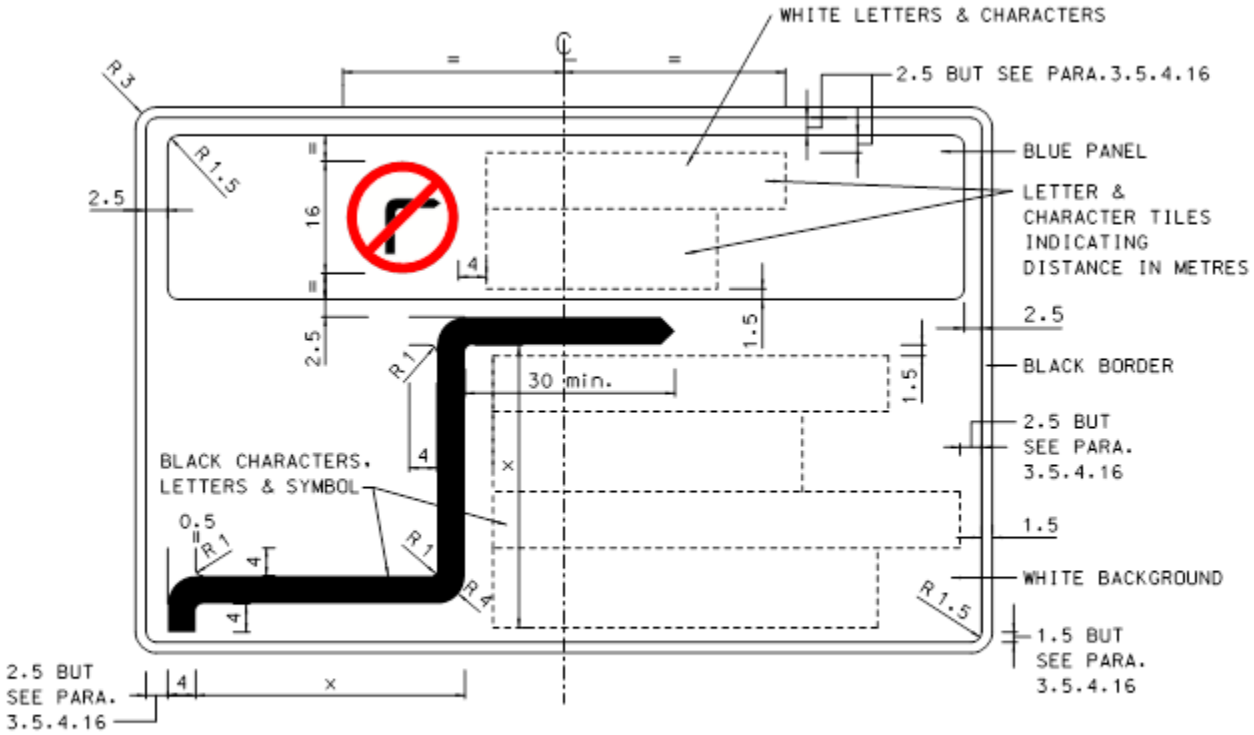
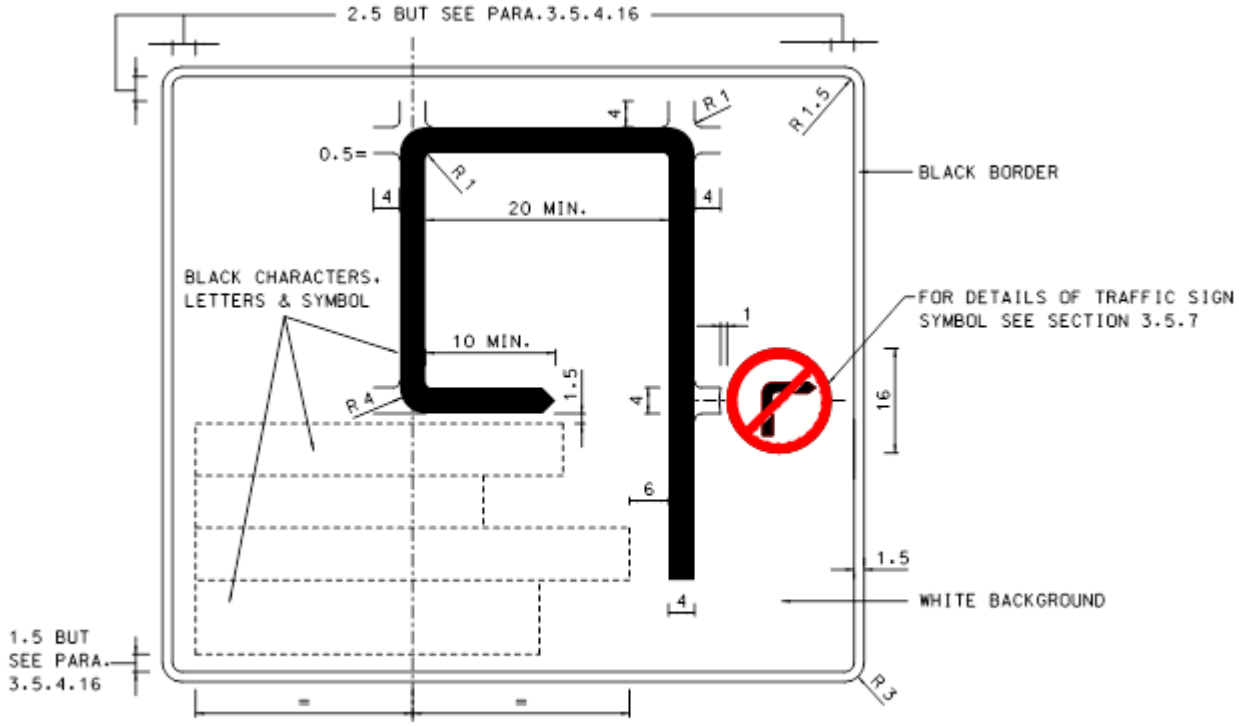


DIAGRAM 3.5.5.17 : LOCAL ADVANCE DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS





OTHER ROUTE LAYOUTS MAY BE USED TO SUIT THE PARTICULAR CIRCUMSTANCE, AND THESE SHOULD FOLLOW THE SAME DESIGN PRINCIPLE.

DIAGRAM 3.5.5.18: ROUTE CONFIRMATORY SIGNS

DIMENSIONS IN STROKE WIDTHS

ROUTE CONFIRMATORY SIGN SHOWING ROUTE SHIELD SYMBOL

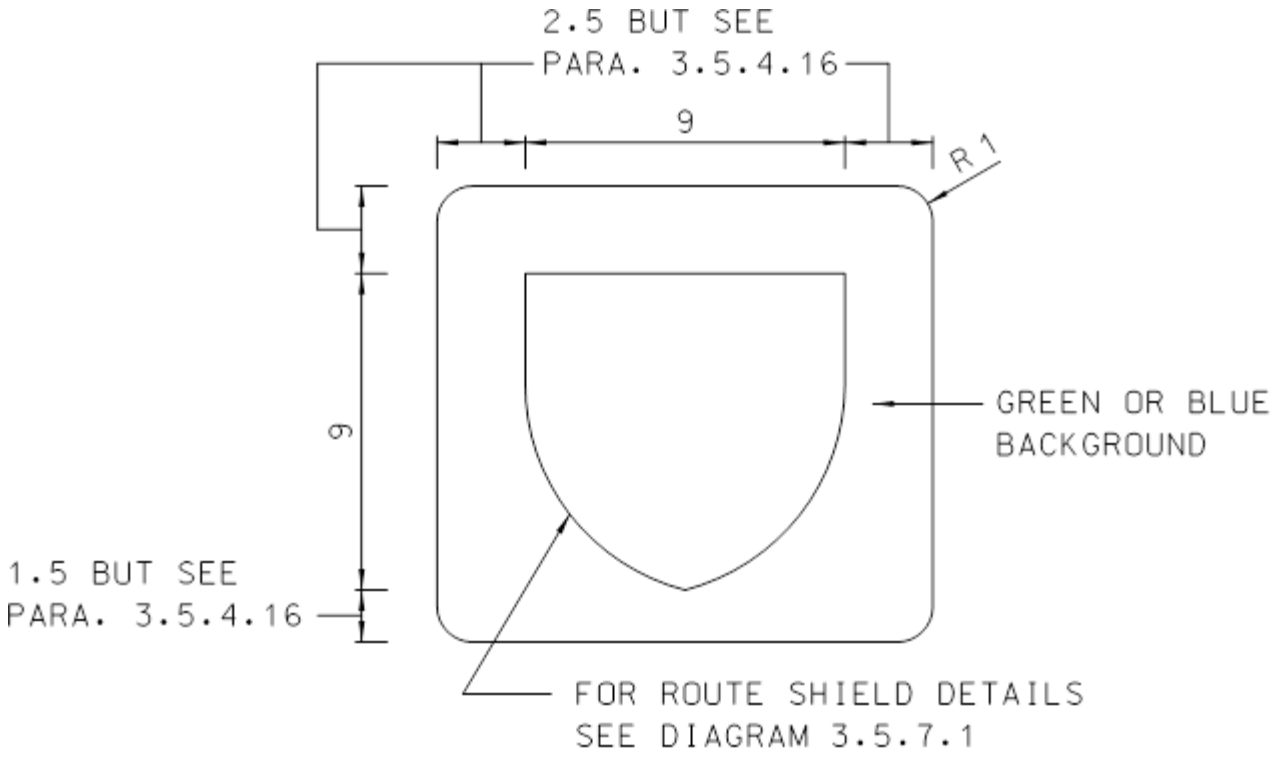
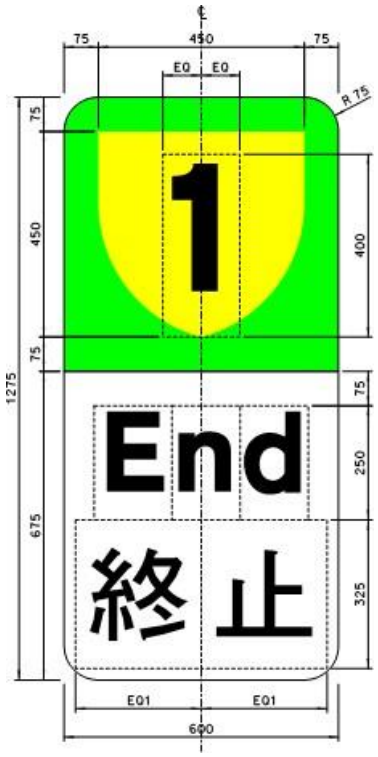


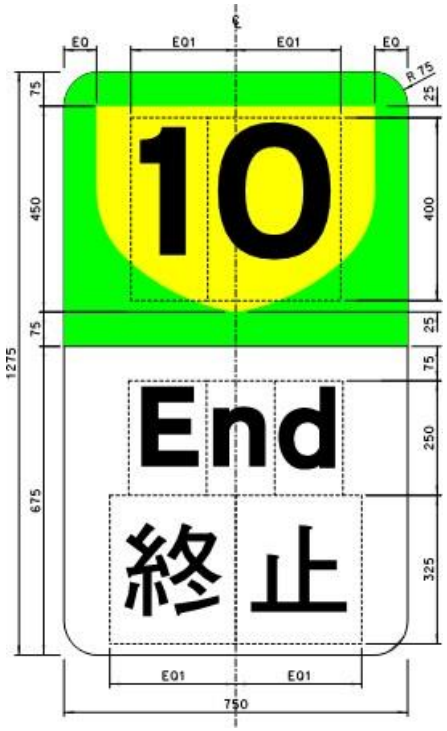
DIAGRAM 3.5.5.19 : SIGN PLATES FOR END OF STRATEGIC ROUTE NETWORK

DIMENSIONS IN MILLIMETRES

(i) ROUTES 1 to 8



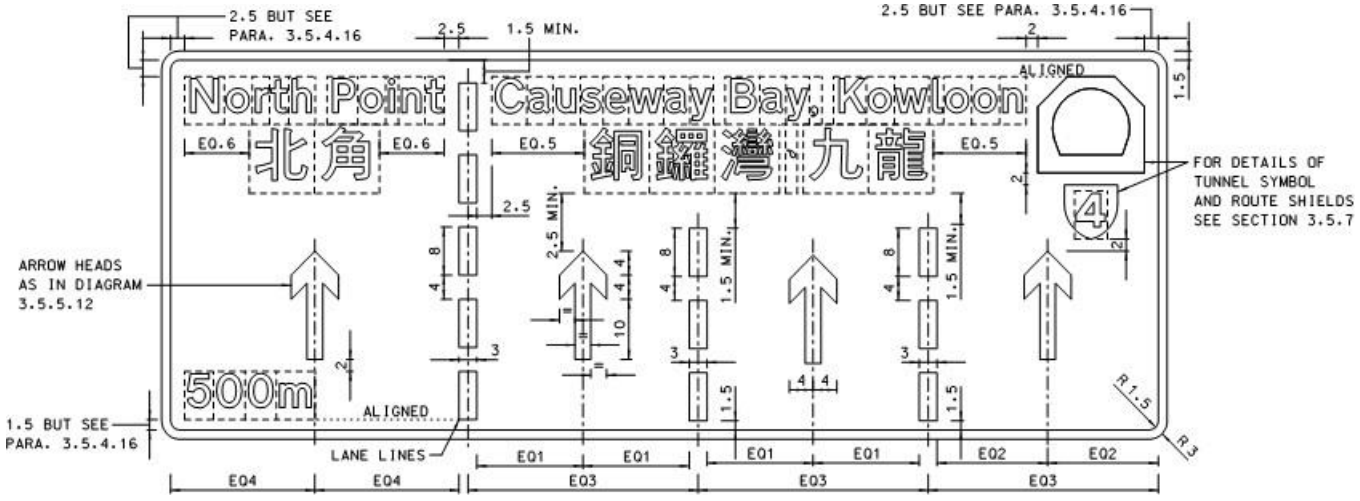
(ii) ROUTES 10 to 19



NOTE : BLUE BACKGROUND SHOULD BE USED ON NON-EXPRESSWAYS

DIAGRAM 3.5.5.20 : ROADSIDE ADVANCE DIRECTION SIGN AND FINAL ADVANCE DIRECTION SIGN FOR "LANE DROPS"

DIMENSIONS IN STROKE WIDTHS



NOTES

1. THE "500m" DISTANCE INDICATION MAY BE VARIED TO SUIT INDIVIDUAL CIRCUMSTANCES AND SHOULD BE OMITTED FOR SIGNS LOCATED LESS THAN 200m AHEAD OF THE JUNCTION.
2. IF THE SIGN DOES NOT HAVE DISTANCE INDICATION, THE LOWER BORDER SHOULD BE LOCATED1.5 S/W BELOW THE ARROW BASE.
3. THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.
4. FOR TWO OR MORE LANES SERVING THE SAME DESTINATIONS, A WHITE HORIZONTAL LINE MAY BE ADDED BELOW THE DESTINATIONS WHERE NECESSARY IF CONFUSION WILL LIKELY ARISE (SEE PARAGRAPH 3.5.6.14 AND DIAGRAM 3.5.6.7).

3.5.6 Gantry Directional Signs

3.5.6.1 Diagram 3.5.6.1 illustrates the basic design dimensions for a Gantry ADS (same design details for AIS, if provided, except with a different distance indication). Wherever possible, the depth of the sign (or combination of signs) should be limited to below 4500mm, with 5500mm as an absolute maximum. Depth of sign should be taken as the vertical distance from the top to bottom edge of the sign face, or combination of sign faces. As indicated in the Diagram normally the arrow indicating the turn-off will be at 45 degrees, but where the ADS is placed together with the DS of the preceding junction to form a combined sign for successive junctions or two or more junctions that need to be concurrently signed on the same sign assembly, the arrow should usually be at 22.5 degrees to the vertical, and this is illustrated in Diagram 3.5.6.14. Further details of the arrow symbols are illustrated in Diagram 3.5.5.13 as it is the same arrow design as that used for stack type signs.

3.5.6.2 Where there is an offside slip road, the ADS should be erected over the offside lane as illustrated in Diagram 3.4.2.2, and its design should be as shown in Diagram 3.5.6.2. Where the "500m" indication is not required, as in Diagram 3.5.6.1, the arrow should be spaced 2.5 s/w from the side border.

3.5.6.3 In most locations where gantry directional signs are used, the route over which it is erected will have a route number and an exit number for the slip road ahead, and Diagram 3.5.6.3 indicates the location of the route shield and exit number on a gantry ADS. Details of the route shield symbol and exit number are given in Section 3.5.7.

3.5.6.4 Diagram 3.5.6.3 also illustrates the location of the tunnel symbol on an ADS for both nearside and offside slip roads. Further details of the tunnel symbol can be found in Section 3.5.7.

3.5.6.5 As mentioned in the note to Diagrams 3.5.6.1 and 3.5.6.2 where the route is an Expressway, it is only necessary to include the Expressway symbol on one part of the sign. However, where the sign is a combined ADS and DS, then the symbol must be included on the DS part, but not on the ADS part. This is further illustrated in Diagram 3.5.6.14.

3.5.6.6 For "lane drops", the ADS (same for AIS, if provided, but with a different distance indication) should accord with the design details in Diagram 3.5.6.4.

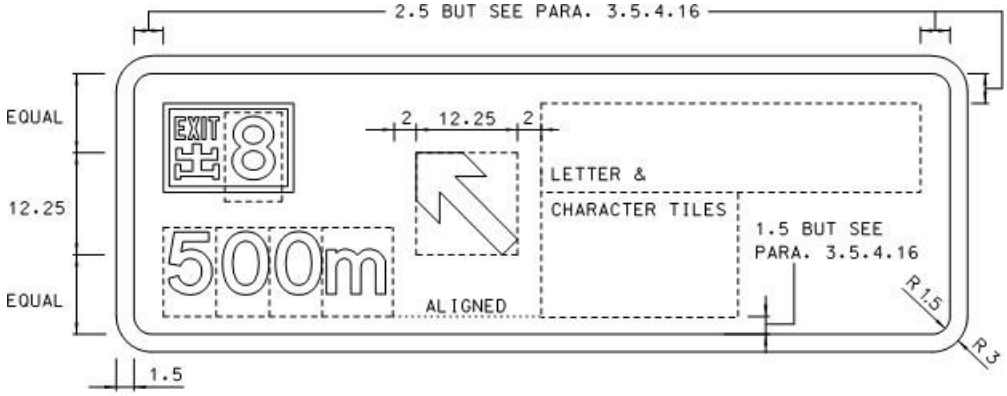
3.5.6.7 The normal location for the legend, as shown in Diagram 3.5.6.4 (i), is centrally positioned over the downward pointing arrow, which is itself always positioned over the centre of the traffic lane to which it refers. This is somewhat contrary to the design of other signs where the left-hand edge of the tiles for the English letters and Chinese characters are aligned. However, the central positioning does provide for most situations a clearer indication of the destination for that lane, and therefore should normally be used. Moreover, the overall sign width should be adjusted so that the downward pointing arrow is also centred horizontally with equal spacing on both sides of the sign to give a more balance view unless the overall sign width exceeds the width of the traffic lane.

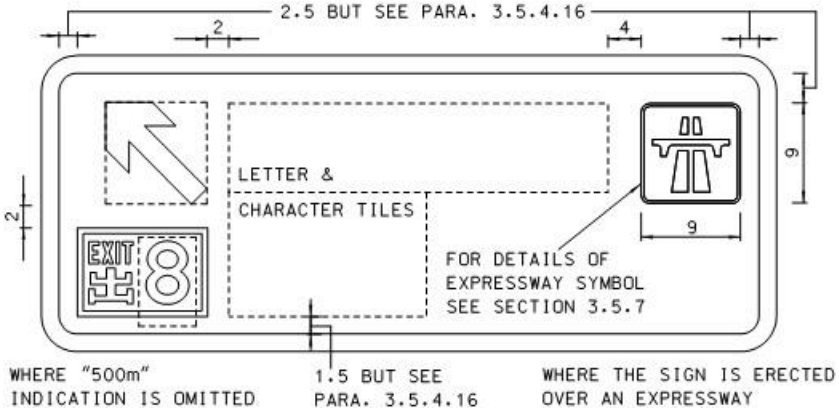
3.5.6.8 For “lane drop” ADS to accommodate long legends, the sign may be extended over the adjacent marginal strip and traffic lanes, providing the downward pointing arrow remains centrally positioned over the correct lane. However, there is a limit to how far a sign can extend before causing confusion as to which traffic lane it refers to and therefore it is suggested that any such extensions should not be greater than 25% of the traffic lane width, which for a 3.65m lane would provide a sign width of some 4600mm, rounding up to the nearest 100mm.

DIAGRAM 3.5.6.1 : GANTRY ADVANCE DIRECTION SIGNS

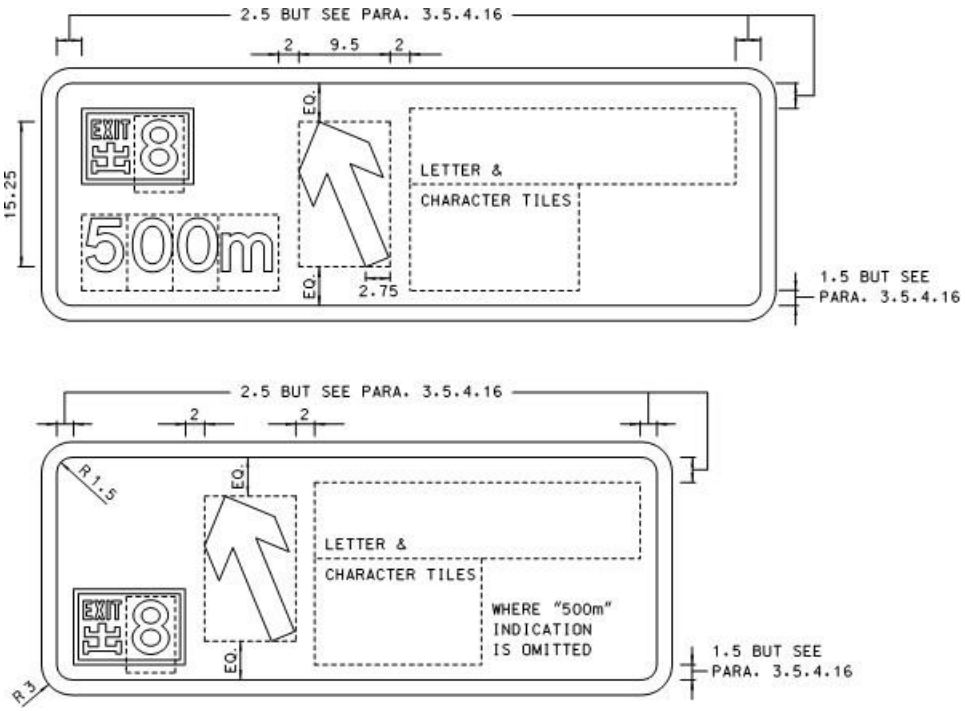
DIMENSIONS IN STROKE WIDTHS

(i) NORMAL - WITH 45° ARROW





(ii) WHEN PART OF A COMBINED ADVANCE DIRECTION AND DIRECTION SIGN - WITH 22.5° ARROW (SEE DIAGRAM 3.5.6.14 FOR SIGN ARRANGEMENT)



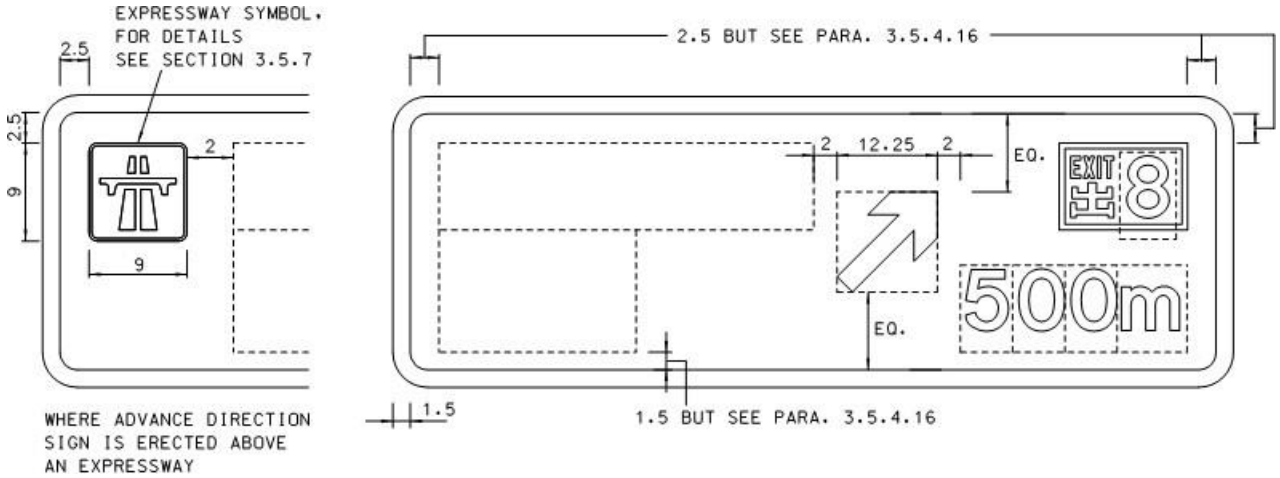
NOTES

1. IF ON AN EXPRESSWAY, IT IS ONLY NECESSARY TO INCLUDE THE EXPRESSWAY SYMBOL ON ONE PART OF A SIGN ASSEMBLY. IT SHOULD NOT BE INCLUDED ON THE ADVANCE DIRECTION SIGN WHEN IT IS PART OF A COMBINED ADVANCE DIRECTION AND DIRECTION SIGN.
2. ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16
3. SEE DIAGRAM 3.5.5.13 FOR DETAILS OF ARROWS

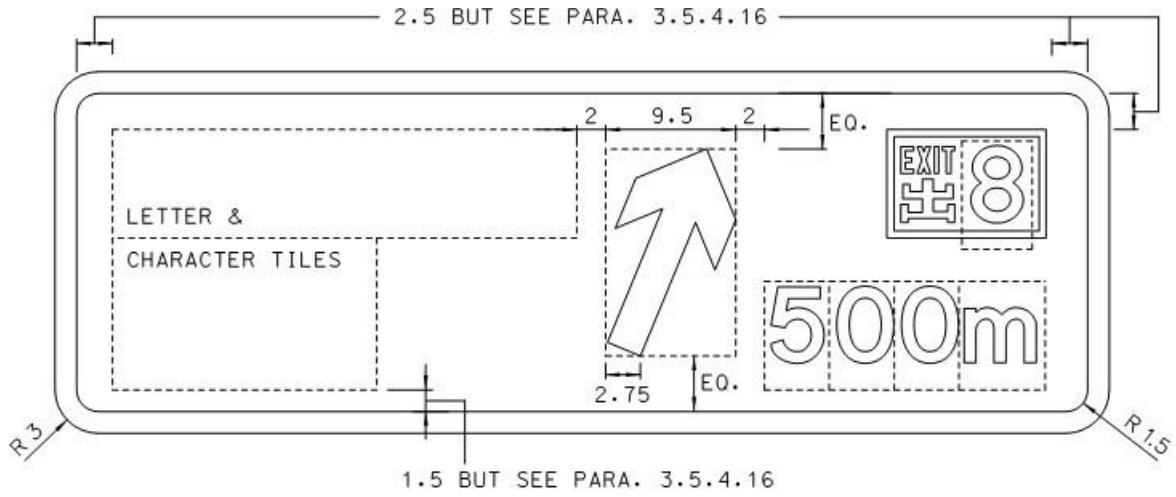
DIAGRAM 3.5.6.2 : OFFSIDE GANTRY ADVANCE DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) NORMAL - WITH 45° ARROW



(ii) WHEN PART OF A COMBINED ADVANCE DIRECTION AND DIRECTION SIGN – WITH 22.5° ARROW (SEE DIAGRAM 3.5.6.14 FOR SIGN ARRANGEMENT)



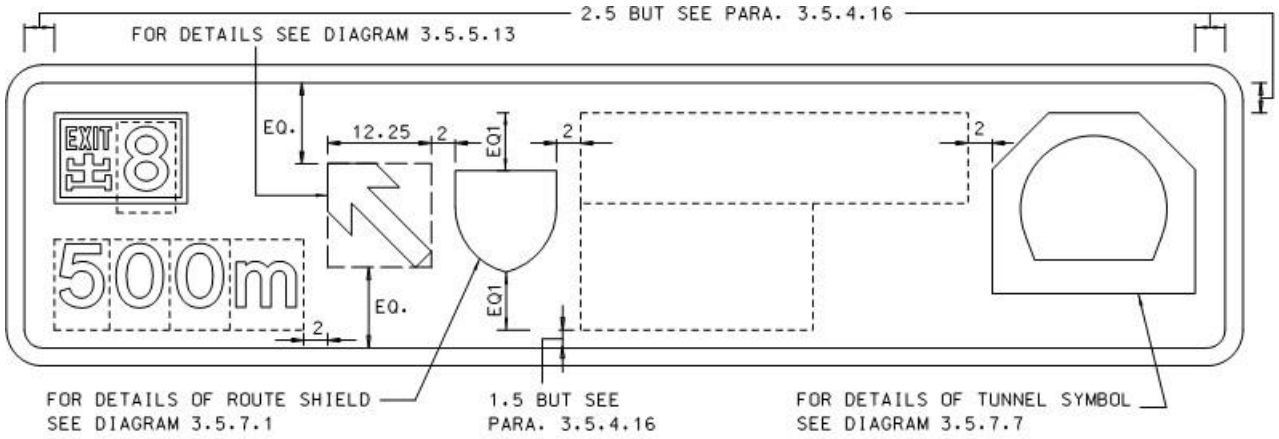
NOTES

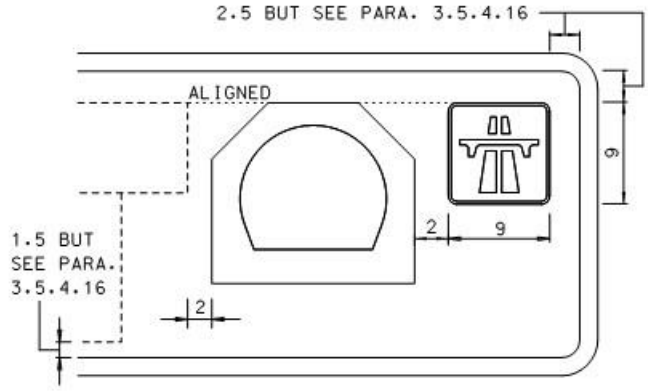
1. IF ON AN EXPRESSWAY, IT IS ONLY NECESSARY TO INCLUDE THE EXPRESSWAY SYMBOL ON ONE PART OF A SIGN ASSEMBLY. IT SHOULD NOT BE INCLUDED ON THE ADVANCE DIRECTION SIGN WHEN IT IS PART OF A COMBINED ADVANCE DIRECTION AND DIRECTION SIGN
2. ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16
3. SEE DIAGRAM 3.5.5.13 FOR DETAILS OF ARROWS

DIAGRAM 3.5.6.3 : THE USE OF ROUTE SHIELDS, EXIT NUMBERS AND TUNNEL SYMBOLS WITH GANTRY ADVANCE DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) NEARSIDE ADVANCE DIRECTION SIGN





WHERE ADVANCE DIRECTION SIGN IS ERECTED OVER AN EXPRESSWAY, FOR DETAILS SEE SECTION 3.5.7

(ii) OFFSIDE ADVANCE DIRECTION SIGN

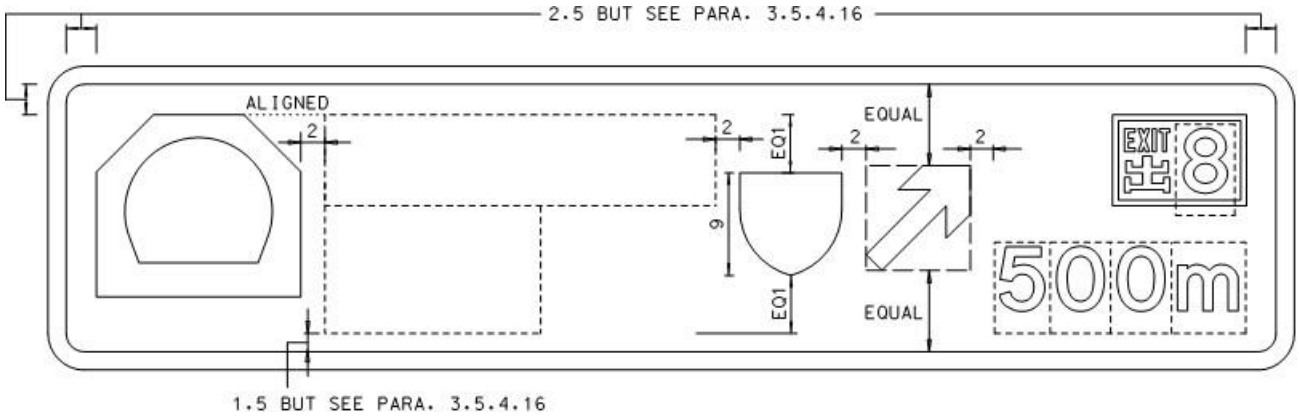
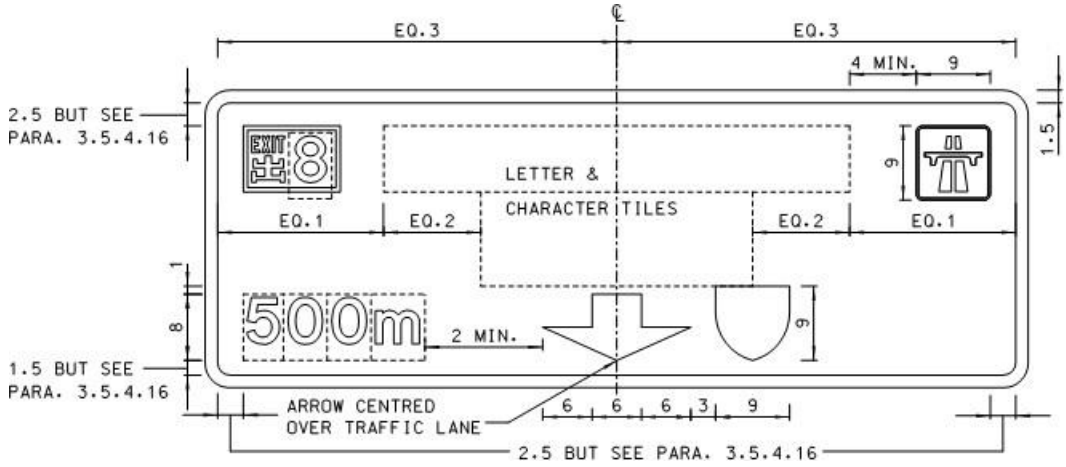


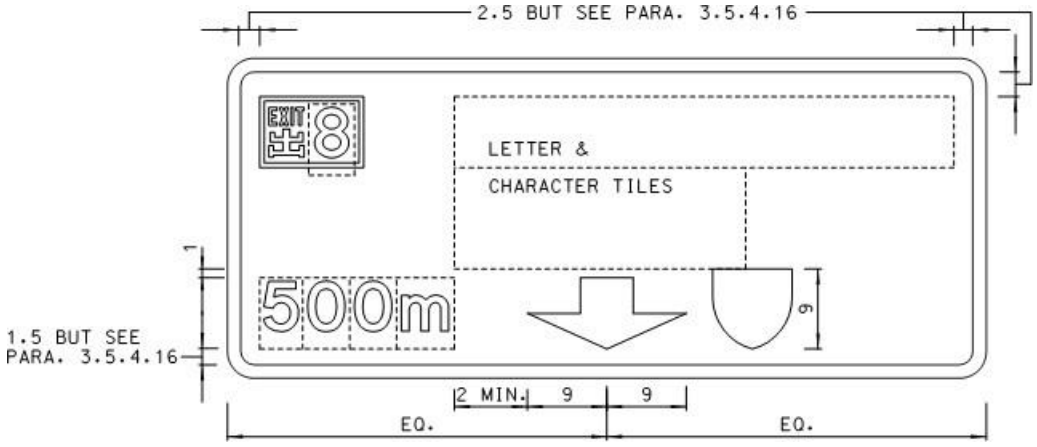
DIAGRAM 3.5.6.4 : "LANE DROP" ADVANCE DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

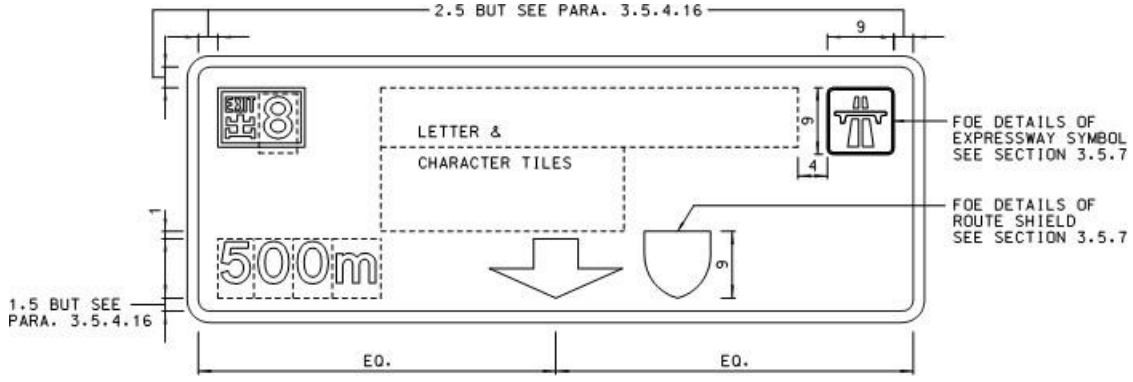
(i) NORMAL



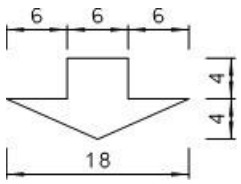
(ii) ALTERNATIVE WHERE LONG PLACE NAMES ARE REQUIRED



(iii) ALTERNATIVE WHERE EXPRESSWAY SYMBOL IS REQUIRED



(iv) ARROW DIMENSIONS



NOTES

1. THE DOWNWARD POINTING ARROWS MUST BE POSITIONED OVER THE CENTRE OF THE TRAFFIC LANE TO WHICH IT REFERS. SEE FURTHER PARAGRAPHS 3.5.6.7 TO 3.5.6.9
2. IN DIAGRAM (iii), THE EXPRESSWAY SYMBOL MAY BE PLACED AT THE BOTTOM RIGHT-HAND CORNER WHERE NECESSARY

3.5.6.9 However, in allowing the width of a sign to be extended, as mentioned in paragraph 3.5.6.8, this will not at times be sufficient for very long legends. For these situations, some additional space can be achieved as shown in Diagram 3.5.6.4 (ii) and (iii), by aligning the left-hand edges of the English and Chinese tiles. The downward pointing arrow, however, must be positioned above the centre of the traffic lane to which it refers, which will result in the legend not being centrally located above the arrow.

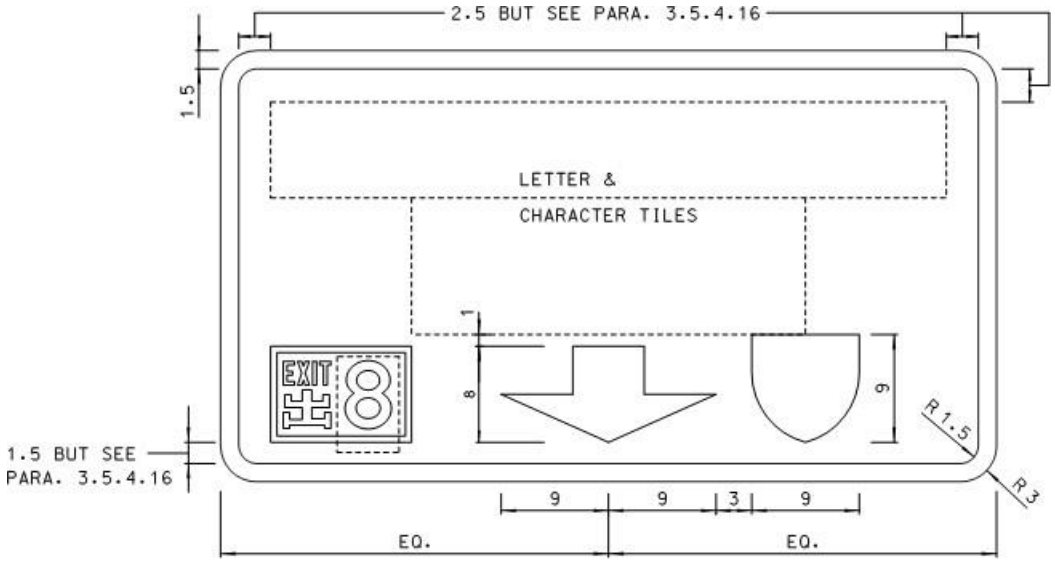
3.5.6.10 Even with use of the alternative designs mentioned in paragraph 3.5.6.9, it is likely that at times the width of the sign will need to be wider than the lane width, but generally as mentioned in paragraph 3.5.6.8 the extension should not exceed 25% of the lane width. Further reduction in the length of at least the English part of the legend can be made by the use of abbreviations, as advised in Section 3.7.5.

3.5.6.11 Where the "500m" indication is to be omitted from the "lane drop" ADS, the design of the sign should be in accordance with Diagram 3.5.6.5. This Diagram also illustrates design detail where the Expressway symbol needs to be incorporated, and an alternative arrangement where long place names are required is also shown. It should be noted that there should be a minimum spacing of 4 s/w between the nearest tile legend and the Expressway symbol.

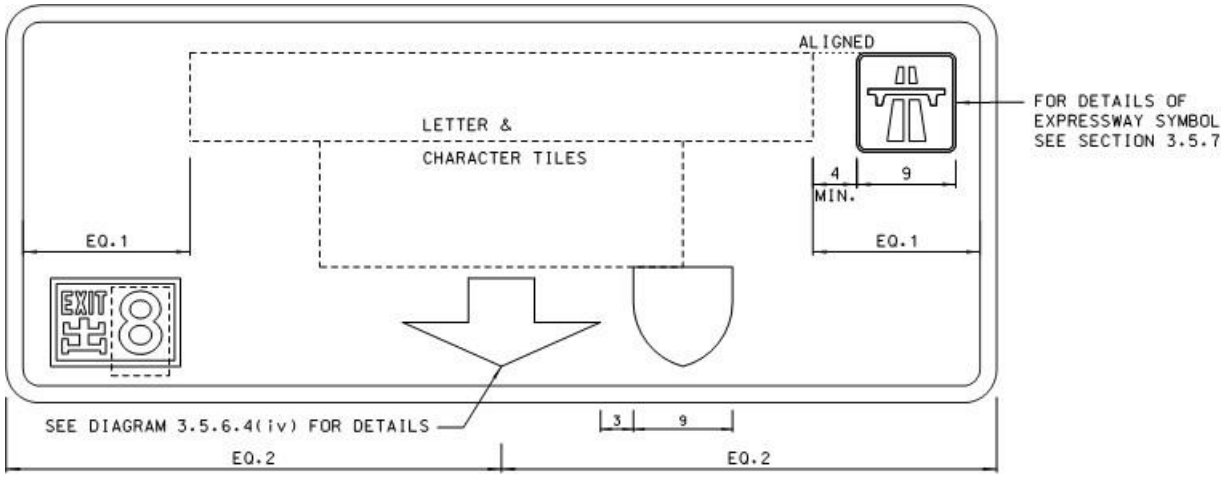
DIAGRAM 3.5.6.5 : "LANE DROP" ADVANCE DIRECTION SIGN WITHOUT "500m" INDICATION

DIMENSIONS IN STROKE WIDTHS

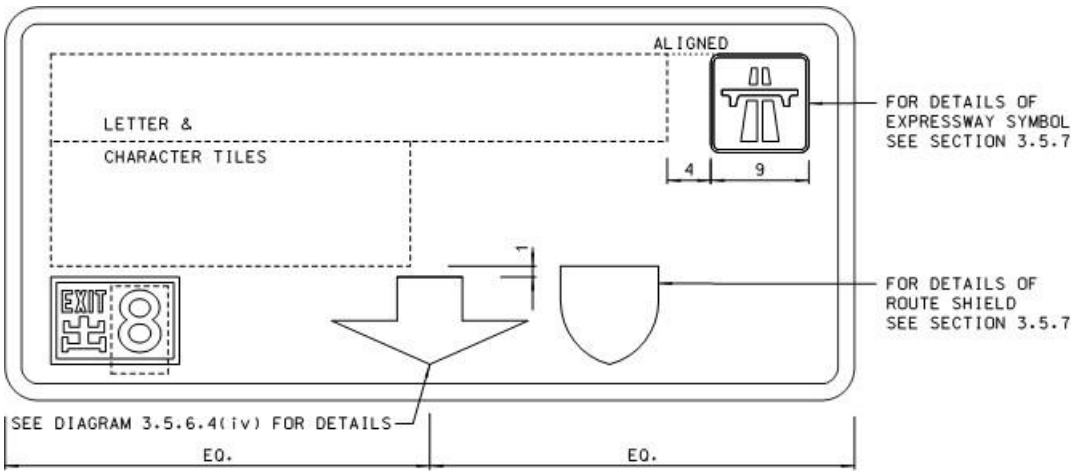
(i) NORMAL



(ii) WHERE ERECTED OVER AN EXPRESSWAY



(iii) ALTERNATIVE ARRANGEMENT FOR LONG PLACE NAME IN ORDER TO REDUCE WIDTH OF SIGN



NOTE : SEE PARAGRAPHS 3.5.6.7 TO 3.5.6.9. IN DIAGRAMS (ii) and (iii), THE EXPRESSWAY SYMBOL MAY BE PLACED AT THE BOTTOM RIGHT-HAND CORNER WHERE NECESSARY

3.5.6.12 Where a tunnel symbol is required to be incorporated into an ADS erected over an Expressway, but see also Section 3.5.7 in respect of the use of tunnel symbols, as shown in Diagram 3.5.6.6 (i) to reduce the overall width of the sign, the Expressway symbol may be located beneath the tunnel symbol rather than in the normal top right-hand position. However, where the "500m" indication is not to be included in the sign, the Expressway symbol should revert to its normal position as shown in Diagram 3.5.6.6 (ii) provided that the remaining space could accommodate the legends. If both the "500m" indication and the Expressway symbol are not required, the format of the sign should be as in Diagram 3.5.6.6 (iii).

3.5.6.13 Diagram 3.5.6.7 illustrates the design format for a FADS. The downward pointing arrows must be located over the centre of each of the traffic lanes to which they refer, and the oblique arrow should be at an angle of 45 degrees. The legends should be arranged so that for the slip road the left-hand edge of the tiles for the English letters and Chinese characters coincide, and for the mainline the legend is centrally located.

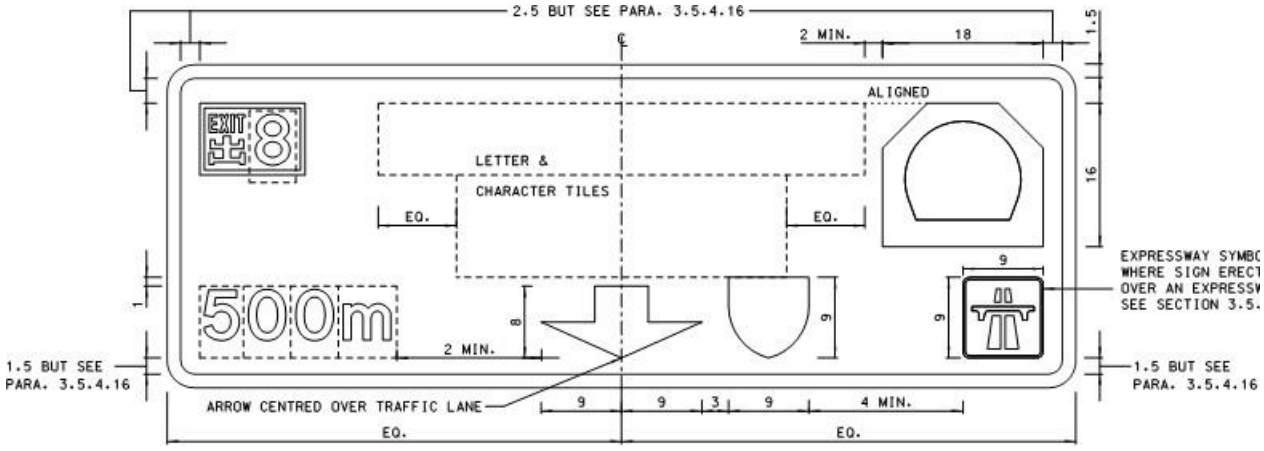
3.5.6.14 Great care is also required in the placement of the words on the mainline sign so that a misleading message is not given. In particular, where two or more lanes equally well serve the destination or destinations on the mainline, (and this will be the case in most circumstances) care should be taken to avoid locating a particular destination over a particular arrow, and thereby possibly inferring that motorists destined for that particular destination should move into the lane underneath the associated arrow. The same principle applies to destination type logos such as tunnels and airport which should also not be located directly above a particular lane destination arrow. If, after adopting the best arrangement for destination names, there may still be an inference that a particular destination is associated with a particular lane, a horizontal line should be added to the sign between the destination names and the lane indication arrows. This horizontal line would help impart the desired message that all lanes equally well serve each destination. Details of the horizontal line are shown in Diagram 3.5.6.7 for the FADS and in Diagram 3.5.6.12 (i) for the DS. Other diagrams in this Chapter do not show the additional horizontal line, but its inclusion should be considered for all FADS and DS on a case by case and need basis.

3.5.6.15 Where the sign is over an expressway, the symbol for this should normally be located in the top right-hand corner of the sign within the space between the legend and the border, such that there is a minimum of 4 s/w between the legend and the symbol. In the case where it is necessary to use both a long legend for the mainline part and to incorporate the Expressway symbol, as shown in Diagram 3.5.6.8 (i), the legend may be arranged so that the left-hand edge of the Chinese and English tiles coincide.

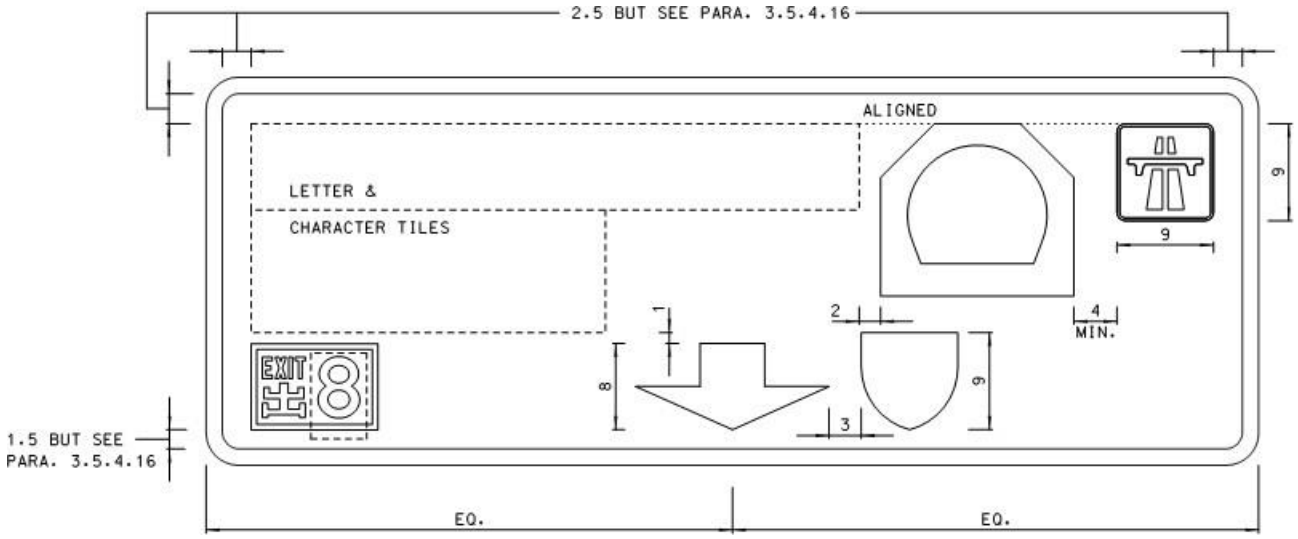
DIAGRAM 3.5.6.6 : "LANE DROP" ADVANCE DIRECTION SIGN WITH TUNNEL SYMBOL

DIMENSIONS IN STROKE WIDTHS

(i) WITH "500m" INDICATION AND EXPRESSWAY SYMBOL



(ii) WITHOUT "500m" INDICATION BUT WITH EXPRESSWAY SYMBOL



(iii) WITHOUT "500m" INDICATION AND EXPRESSWAY SYMBOL

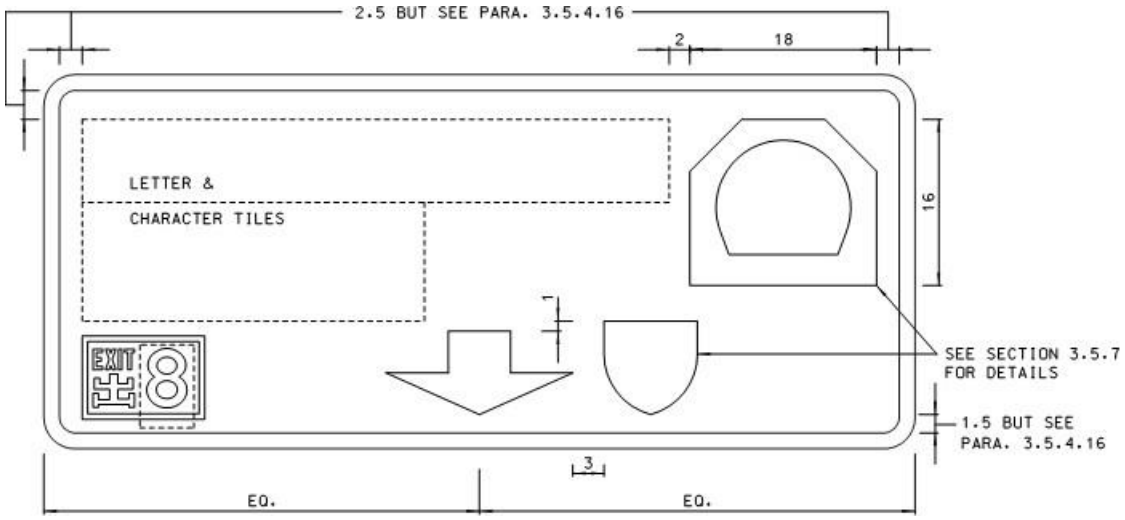


DIAGRAM 3.5.6.7 : FINAL ADVANCE DIRECTION SIGN DESIGN DETAILS

DIMENSIONS IN STROKE WIDTHS

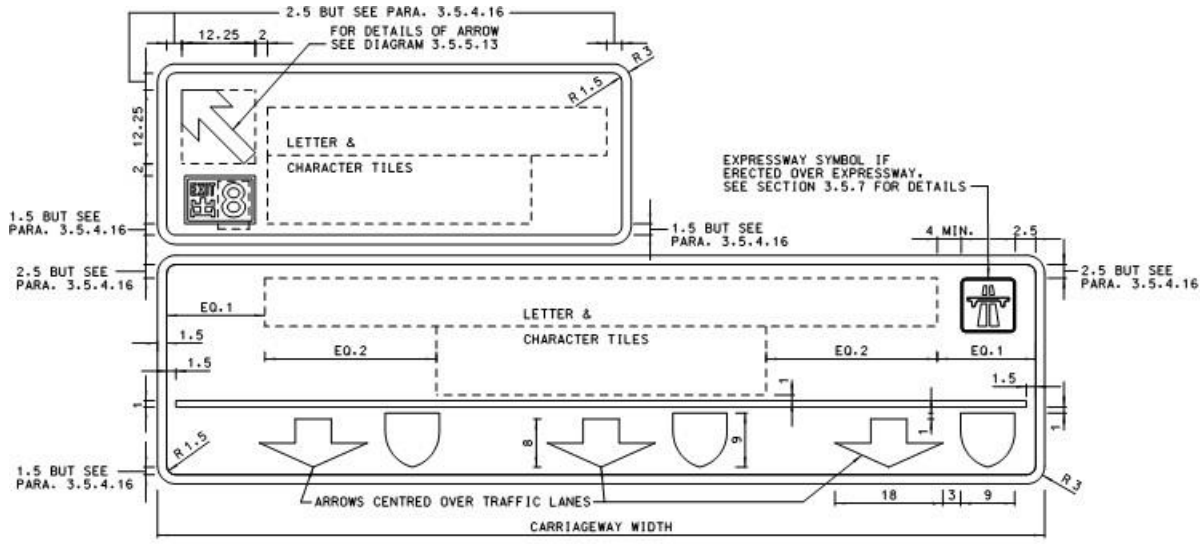
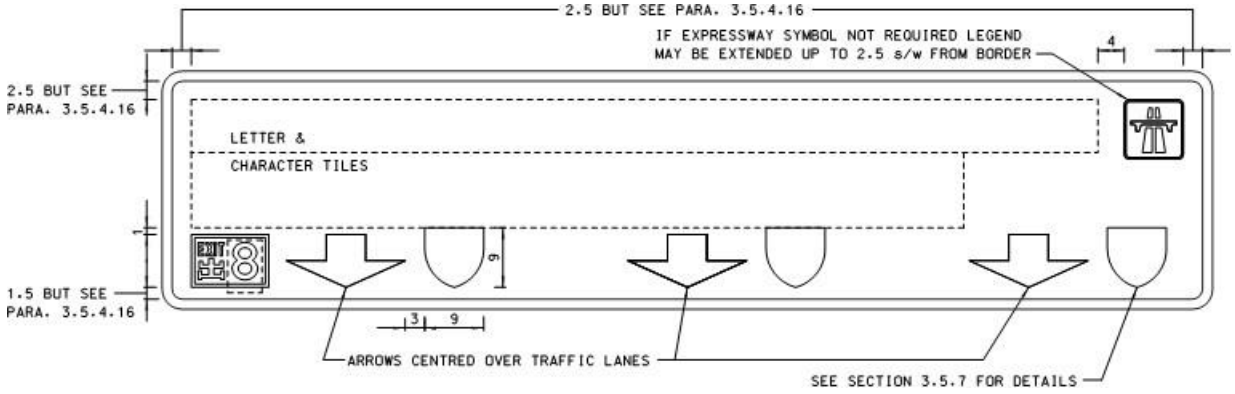


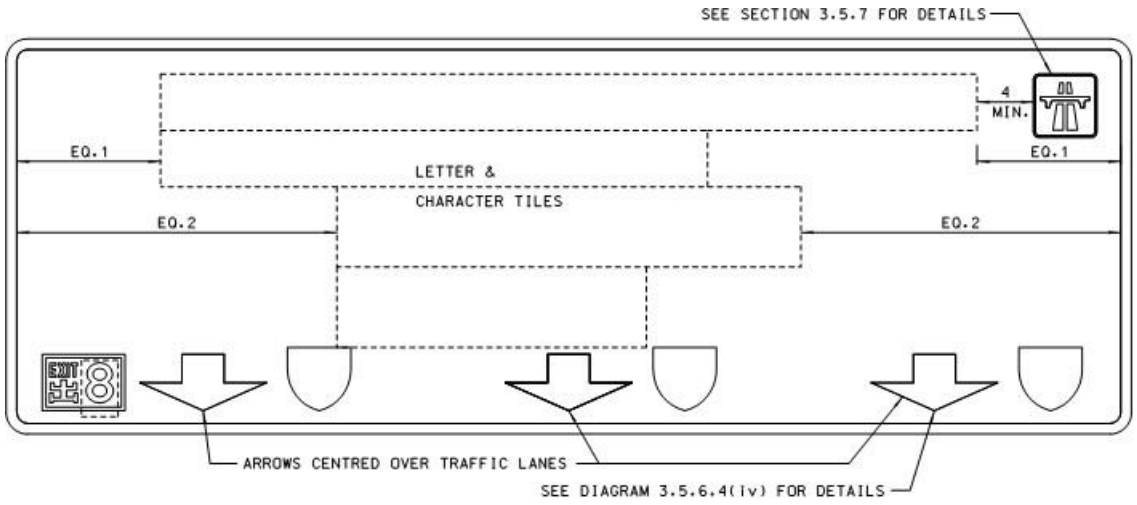
DIAGRAM 3.5.6.8 : ALTERNATIVE ARRANGEMENTS FOR MAINLINE PART OF FINAL ADVANCE DIRECTION SIGN

DIMENSIONS IN STROKE WIDTHS

(i) LEGEND ALIGNED TO THE LEFT AND RANGED TO THE RIGHT



(ii) LEGENDS STACKED ONE ABOVE THE OTHER



3.5.6.16 There are limits to the width that the mainline part of the FADS can extend to but the adjacent marginal strips may be utilised to provide additional space for very long legends. However, in some cases even this extension will not be sufficient and for these situations it will be necessary to arrange the English letters and Chinese characters each in two lines, as indicated in Diagram 3.5.6.8 (ii). It is not recommended that more than two lines should be used for the English or Chinese, as firstly it will be difficult to comprehend and secondly the additional size of the sign would considerably increase its cost. Therefore, if either the English or Chinese legend or both cannot be accommodated in two lines, they must be shortened or if necessary omitting some of the place names. As can be seen in Diagram 3.5.6.8 (ii), both the English and Chinese should be arranged so that each first line is centrally positioned, and for each second line, the left-hand edge of the tiles coincides with the left-hand edge of the tile on the upper line.

3.5.6.17 Subject to Section 3.5.7, where the tunnel symbol is required to be shown in a FADS, for either the slip road or mainline part of the sign it should generally be positioned as indicated in Diagram 3.5.6.9. As can be seen for the slip road, the tunnel symbol should be located to the right of the legend to which it applies, though in the case of an offside slip road the whole sign should be reversed and the tunnel symbol will be to the left of the legend, as illustrated in Diagram 3.5.6.3 (ii). With regard to the mainline part of the sign, the tunnel symbol should be located to the right of the legend, and the legend, the space between the legend and the tunnel symbol, and the tunnel symbol, should be treated as one block and centrally located within the sign. The Chinese character block will normally be centrally positioned beneath the English letter block as indicated in the Diagram. All downward pointing arrows must be located above the centre of the traffic lane to which they refer.

3.5.6.18 For “lane drop” FADS the format, for either nearside or offside “lane drops”, should be as shown in Diagram 3.5.6.10. It should be noted that where erected over an Expressway, the Expressway symbol need only be located on the mainline part of the sign.

DIAGRAM 3.5.6.9 : LOCATION OF TUNNEL SYMBOL ON FINAL ADVANCE DIRECTION SIGN

DIMENSIONS IN STROKE WIDTHS

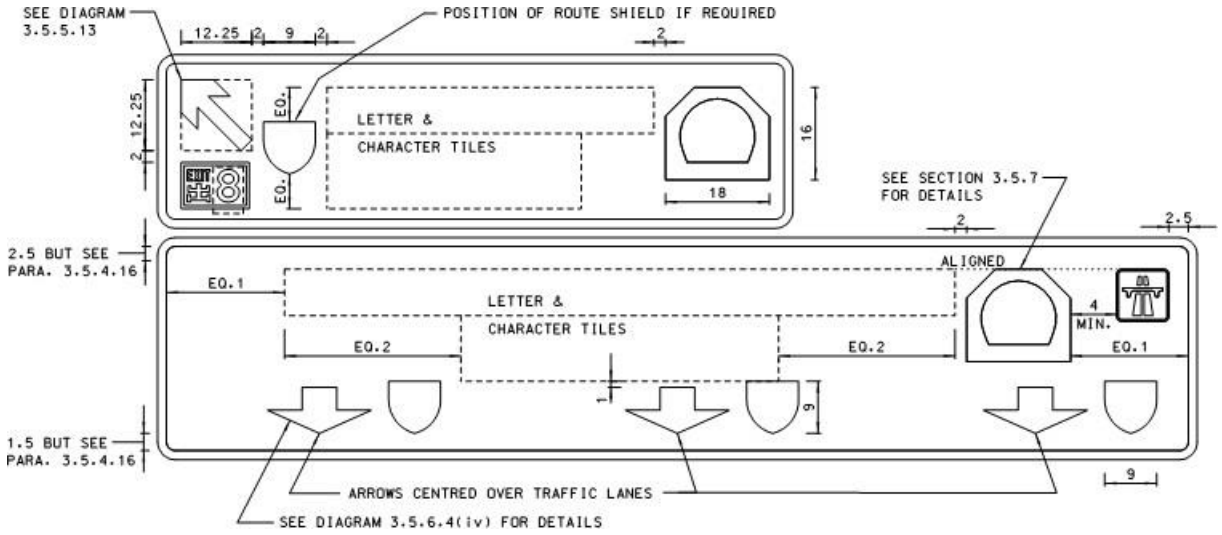
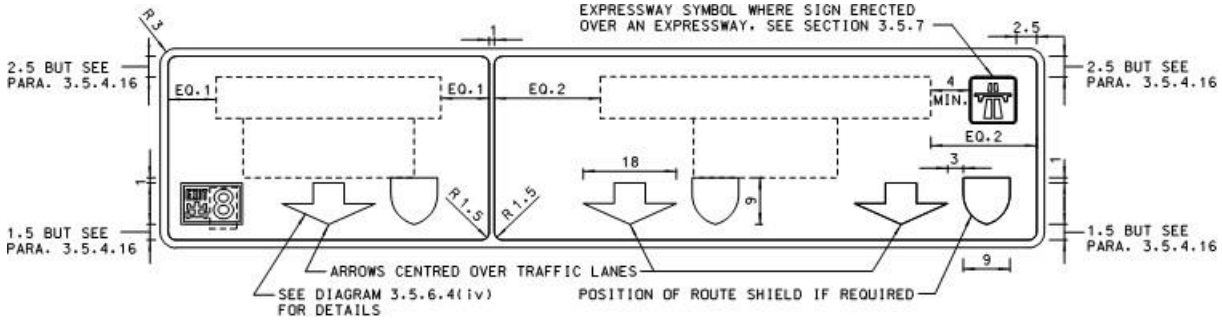


DIAGRAM 3.5.6.10 : "LANE DROP" FINAL ADVANCE DIRECTION SIGN

DIMENSIONS IN STROKE WIDTHS

(i) NEARSIDE "LANE DROP"



(ii) OFFSIDE "LANE DROP"

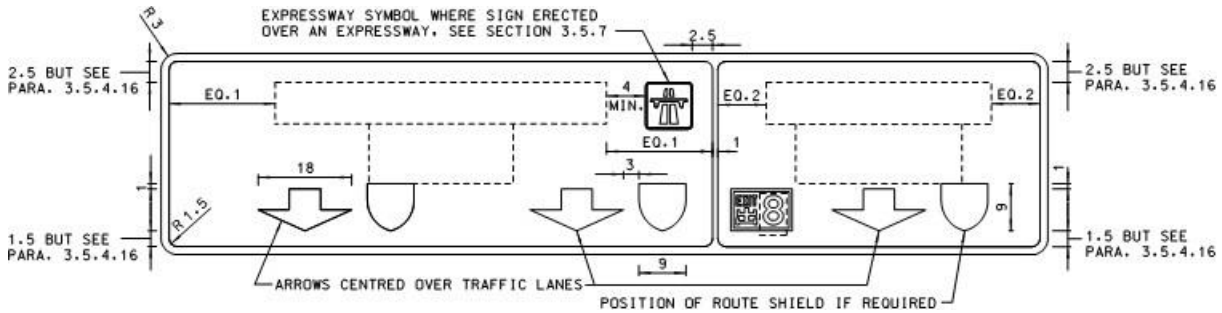


DIAGRAM 3.5.6.11 : "LANE DROP" FINAL ADVANCE DIRECTION SIGN INCORPORATING TUNNEL SYMBOL

DIMENSIONS IN STROKE WIDTHS

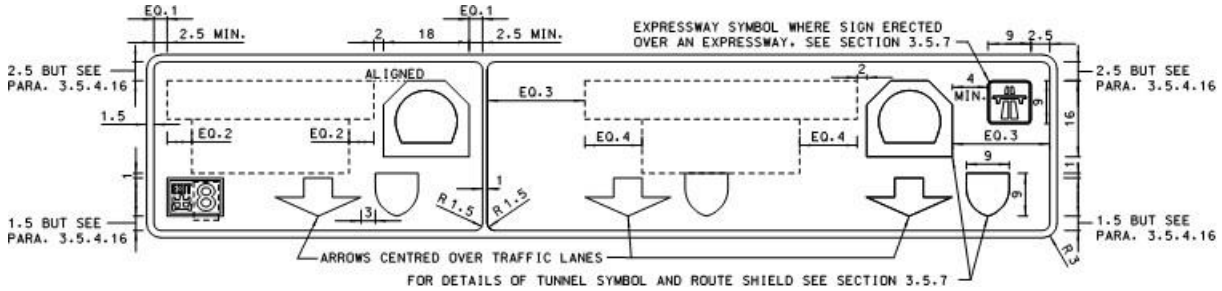
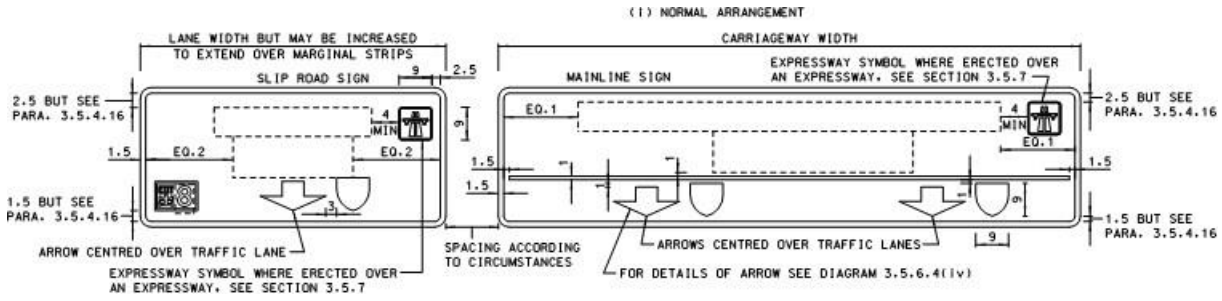


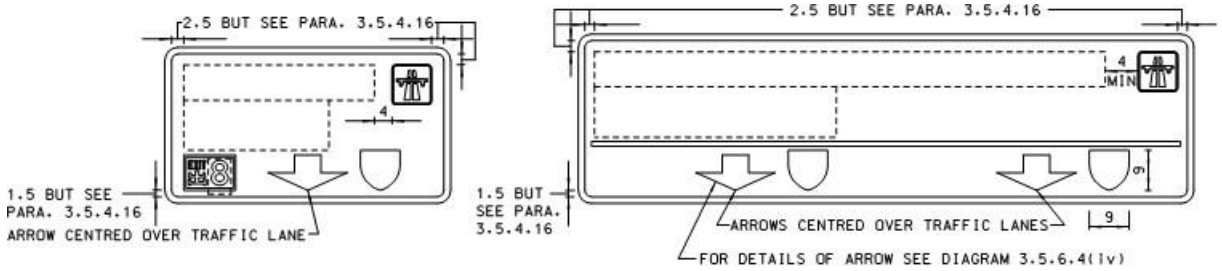
DIAGRAM 3.5.6.12 : GANTRY DIRECTION SIGN ARRANGEMENT

DIMENSIONS IN STROKE WIDTHS

(i) NORMAL ARRANGEMENT



(ii) ALTERNATIVE ARRANGEMENT WHERE LONG PLACE NAMES ARE REQUIRED, OR WHERE WIDTH IS LIMITED



3.5.6.19 Care will be needed, particularly where there are only two mainline lanes, that the legends are kept as short as possible. For although some extension of the sign to the right and the left can be obtained if there are adjacent marginal strips, this will be limited, and the border separating the "lane drop" part of the sign from the mainline part must be erected to coincide with the actual traffic lane road marking separating the "lane drop" from other parts of the carriageway. Where long legends are unavoidable, arrangements as suggested in other parts of this Section may be used to obtain greater utilisation of the space available. The downward pointing arrows however must always be located over the centre of the traffic lanes to which they refer.

3.5.6.20 Where a tunnel symbol needs to be incorporated into either part of a “lane drop” FADS, see Section 3.5.7 in respect of this, the format should follow that shown in Diagram 3.5.6.11. If it is an offside “lane drop”, then exactly the same position for the tunnel symbol as that for a nearside “lane drop” should be used.

3.5.6.21 The normal format for DS should be as shown in Diagram 3.5.6.12 (i) with the legends centrally located. It should be noted that as the sign for the slip road will be separated from that for the mainline, often being erected on a different gantry structure, where erected over an Expressway, the Expressway symbol should be shown on the sign to indicate that the slip road is still part of the Expressway. Diagram 3.5.6.12 (i) also incorporates an additional horizontal line between the destination names and the lane indication arrows and more information concerning this feature is given in paragraph 3.5.6.14.

3.5.6.22 Because of the necessity of including the Expressway symbol on DS over Expressways, difficulty may be experienced in providing space for the symbol if the legends are centrally located. Therefore, Diagram 3.5.6.12 (ii) indicates another arrangement where the legend, the space between the legend and the symbol, and the symbol, may be treated as one block and the block is centrally located within the sign. Alternatively, the legend can be ranged from the left-hand border of the particular sign and the Expressway symbol located in the top right-hand corner with a minimum of 4 s/w between it and the legend. There will be little difference in either arrangement as space will be limited and whatever appears most appropriate for the particular circumstances may be chosen.

3.5.6.23 Diagram 3.5.6.13 indicates the format when the DS needs to incorporate a tunnel symbol and provides an alternative arrangement should a very long legend be required for the mainline part of the sign.

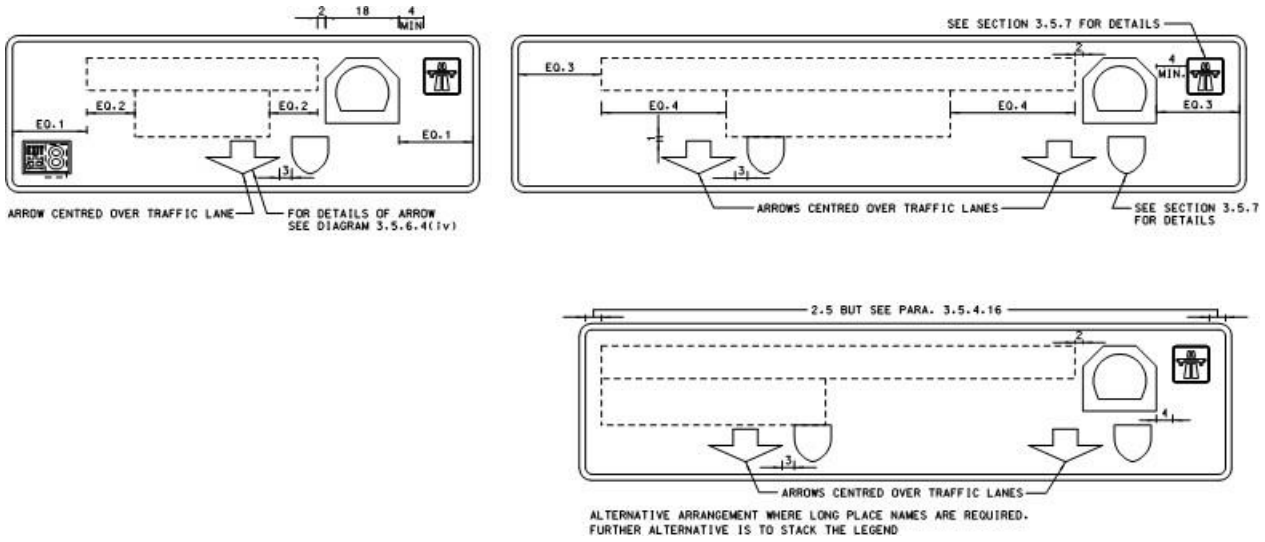
3.5.6.24 It is sometimes necessary to have the ADS (or AIS) combined with the DS of the preceding junction, and the format for these should be as shown in Diagram 3.5.6.14.

3.5.6.25 For combined ADS/DS, the arrow in the ADS for the junction ahead with deceleration lane should be at 22.5 degrees to the vertical, and not 45 degrees as in Diagram 3.5.6.14 (i). For combined AIS/DS, the inclined arrow may however be omitted where necessary if confusion will likely arise.

3.5.6.26 Although having junctions on bends or having bends near junctions should be avoided wherever possible, this does sometimes occur. It has been stressed throughout this Section that downward pointing arrows should always be located such that they are over the centre of the traffic lane to which they refer. Unfortunately, where a gantry directional sign is erected over a bend if the downward pointing arrows are located over the centre of the traffic lane, it can appear on the approach that the arrows refer to an adjacent lane. This can be very confusing to drivers, and in these locations therefore it will be necessary to adjust the orientation of the sign or the position of the arrows or both, to avoid this occurring. No actual advice can be given as to adjustment details as every situation will have to be considered independently on a trial and error basis. But it is important that any adverse optical effects do not occur, and in this respect the best method is to avoid having junctions situated near or on bends, and also locating signs before or at suitable distance after bends.

DIAGRAM 3.5.6.13 : LOCATION OF TUNNEL SYMBOL ON GANTRY SIGNS

DIMENSIONS IN STROKE WIDTHS



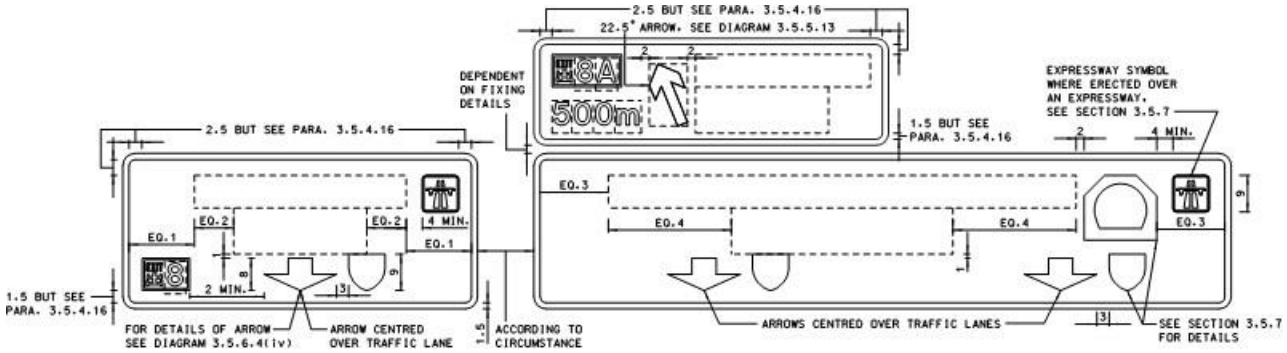
NOTES

1. ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16
2. WHERE SPACE IS LIMITED OR LONG PLACE NAMES ARE REQUIRED, LEGENDS MAY BE STACKED ONE ABOVE THE OTHER AS SHOWN IN DIAGRAM 3.5.6.8 (ii)

DIAGRAM 3.5.6.14 : COMBINED DIRECTION AND ADVANCE DIRECTION SIGN FORMATS

DIMENSIONS IN STROKE WIDTHS

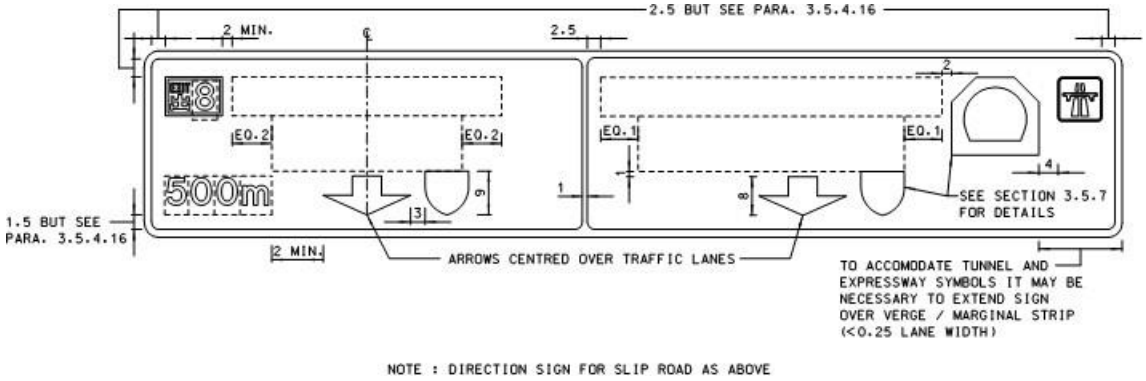
(i) WHERE JUNCTION AHEAD HAS DECELERATION LANE DIVERGE



NOTES

1. ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16
2. WHERE SPACE IS LIMITED OR LONG PLACE NAMES ARE REQUIRED, LEGENDS MAY BE STACKED ONE ABOVE THE OTHER AS SHOWN IN DIAGRAM 3.5.6.8 (ii)

(ii) FOR "LANE DROP"

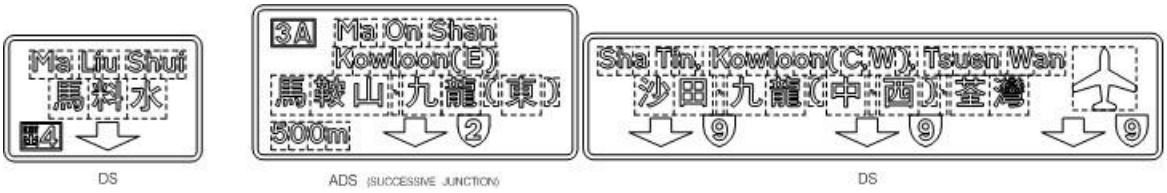


NOTE : DIRECTION SIGN FOR SLIP ROAD AS ABOVE

NOTES

1. DIRECTION SIGN FOR SLIP ROAD NOT SHOWN, IT IS THE SAME AS THE ONE IN (i) ABOVE
2. ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16
3. WHERE SPACE IS LIMITED OR LONG PLACE NAMES ARE REQUIRED, LEGENDS MAY BE STACKED ONE ABOVE THE OTHER AS SHOWN IN DIAGRAM 3.5.6.8 (ii)

(iii) EXAMPLE



3.5.6.27 For gantry directional signs combined with lane control signals, the downward pointing arrows may be omitted where appropriate if the lane control signals are on at all times.

3.5.7 Symbols

3.5.7.1 A number of different symbols are required to be used on Directional Signs and the purpose of this Section is to provide details as to the design of these symbols, and how and when they are to be used.

Route Shield

3.5.7.2 Diagrams 3.5.7.1 indicates the design details for route shields, the actual size of the route shield being related to the x-height of the sign on which it is to be displayed.

3.5.7.3 The previous practice of using 'N', 'S', 'E' and 'W' within the route shield has been discontinued.

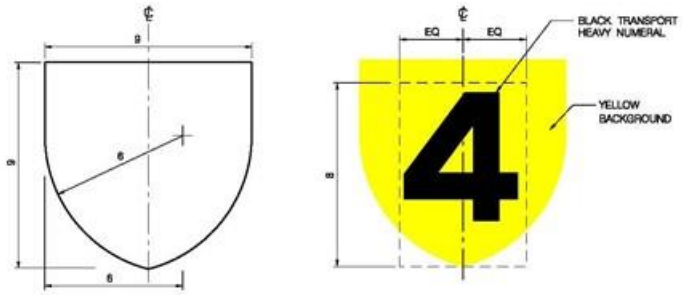
3.5.7.4 Under the "Transport in Hong Kong" in TD's Homepage, it shows the current Strategic Route Map together with a description of the strategic routes assigned with route numbers, exit numbers and their associated destination along the routes.

3.5.7.5 It should be noted that the actual alignment of individual major routes will vary according to whether the higher standard road to replace an existing road has been constructed or not. Where a route is to be diverted from an existing route to a newly constructed road, the procedure should be that signs along the existing road should continue to show the appropriate route numbers until shortly before the opening of the new route. This period will depend on particular circumstances and the number of signs involved but should not be longer than four weeks and should preferably be only one week. Directional signs being erected on the new route should contain the appropriate route number so that on the day of opening, the new alignment of the route will be evident. It will often be necessary to make suitable modifications to the signs on the existing route with the appropriate parts of the signs being covered until the new route is opened, so as to ensure confusion does not arise.

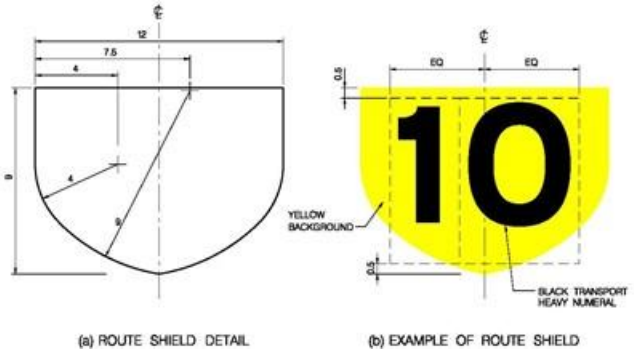
DIAGRAM 3.5.7.1: ROUTE SHIELDS

DIMENSIONS IN STROKE WIDTHS

(i) ROUTES 1 TO 9



(ii) ROUTES 10 TO 19



3.5.7.6 In addition to destination names, route shields should be placed on directional signs for all major routes in the Strategic Road Network (SRN) which have specific route numbers assigned to them (see details of SRN in Chapter 2 of Volume 10), and on the directional signs for the immediate junction of a non-major route joining a major route, as illustrated in Diagram 3.5.7.2 (i). To promote the use of SRN for travel to other districts, route shields together with the destination names may also be used on the directional signs for one to two preceding junctions to lead motorists further away to the SRN, as illustrated in Diagram 3.5.7.2 (ii).

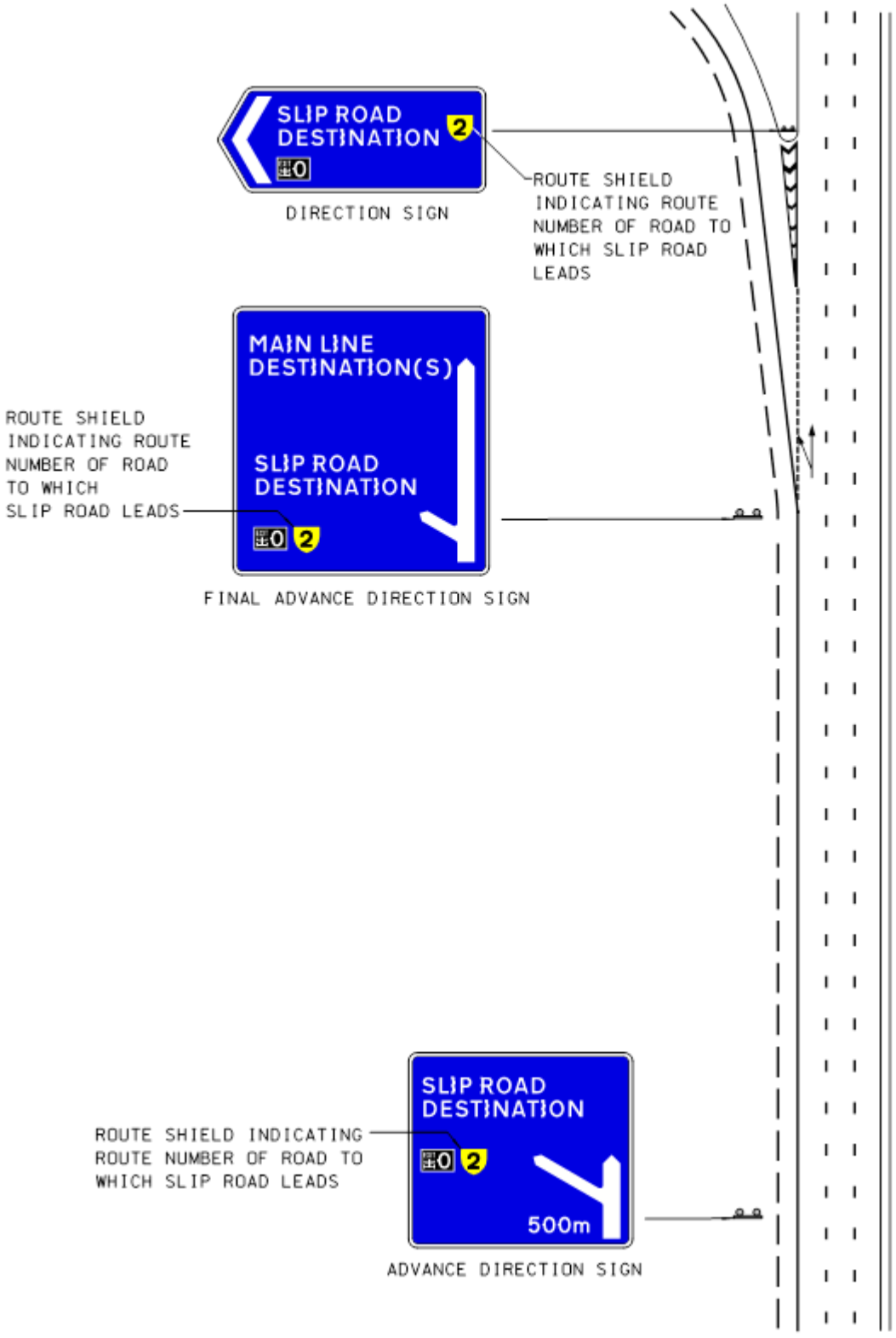
3.5.7.7 At junctions of major routes in the SRN both having route numbers, the route numbers should be indicated on the AIS (if any), the ADS, the FADS and the DS as shown in Diagrams 3.5.7.3 to 3.5.7.5.

3.5.7.8 Where a carriageway of a major route diverges into two carriageways of equal status both of which have route numbers, both route numbers should be shown on the AIS (if any), the ADS, the FADS and the DS as indicated in Diagram 3.5.7.6.

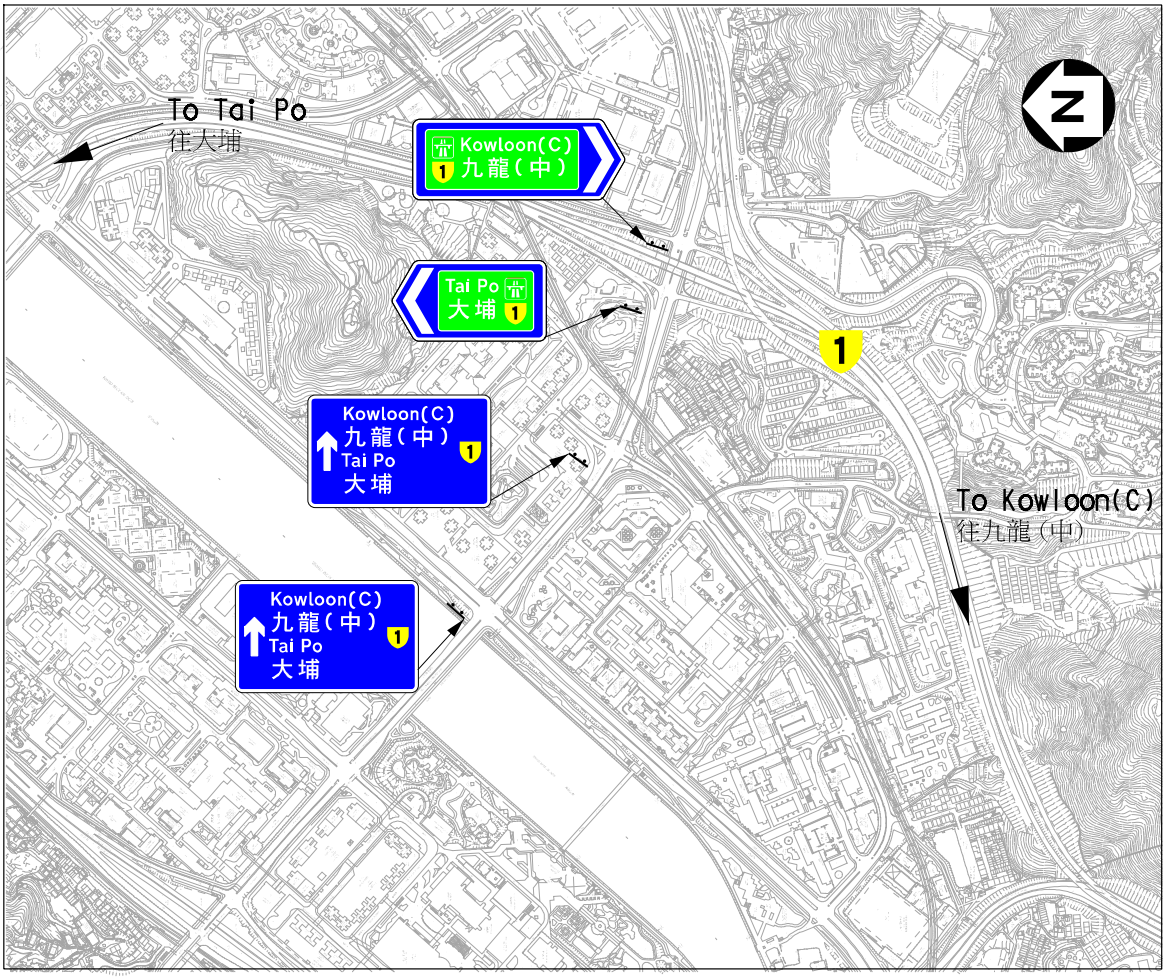
3.5.7.9 The actual location of a route shield on any directional sign should be in accordance with the advice given in Sections 3.5.5 and 3.5.6.

DIAGRAM 3.5.7.2 : USE OF ROUTE SHIELDS ON NON-MAJOR ROUTE JOINING A MAJOR ROUTE

(i) SIGNING TOWARDS A MAJOR ROUTE AT IMMEDIATE JUNCTION



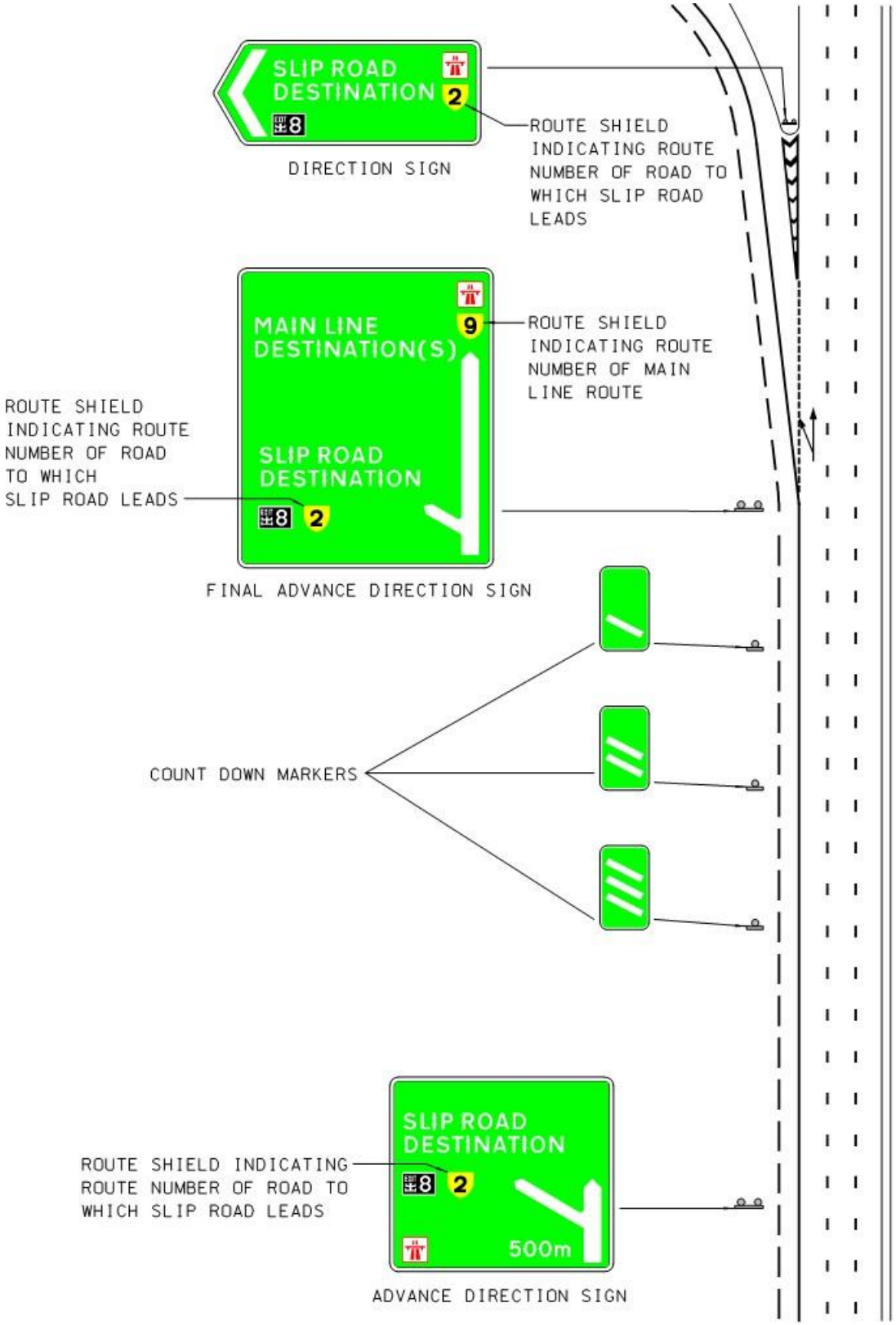
(ii) SIGNING ON A NON-MAJOR ROUTE TOWARDS A MAJOR ROUTE AT IMMEDIATE JUNCTION AND JUNCTIONS FURTHER AWAY



NOTES

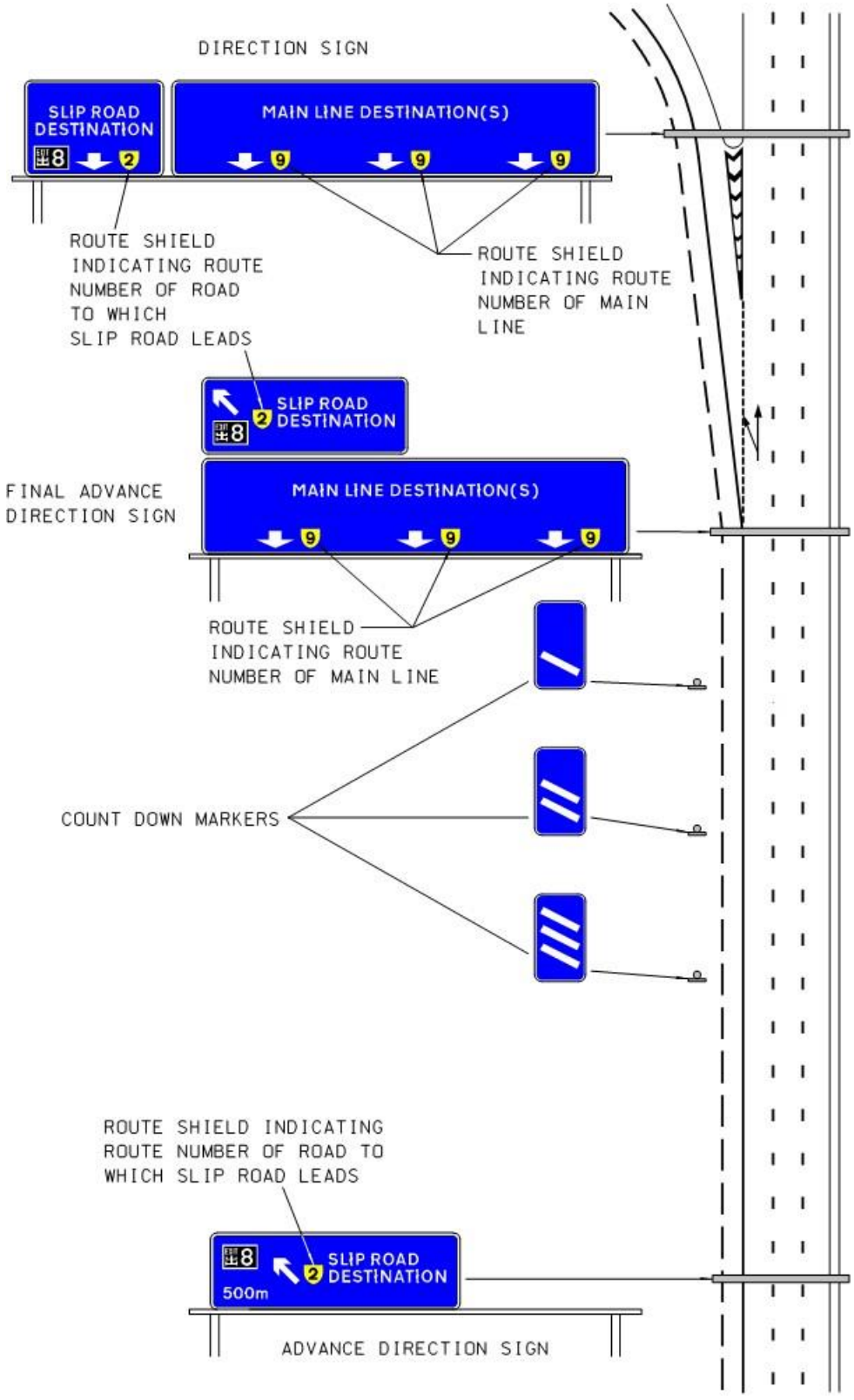
1. IF CONSIDERED NECESSARY AND APPROPRIATE, ROUTE SHIELDS TOGETHER WITH THE DESTINATION NAMES MAY ALSO BE USED ON THE DIRECTIONAL SIGNS FOR ONE TO TWO PRECEDING JUNCTIONS AS SHOWN IN THE DIAGRAM.
2. FOR SIMPLICITY AND ILLUSTRATION PURPOSE, THE DIAGRAM ONLY SHOWS THE DIRECTION SIGNS AT THE IMMEDIATE JUNCTION LEADING TO A MAJOR ROUTE AND THE TWO PRECEDING JUNCTIONS FOR TRAFFIC COMING FROM ONE DIRECTION, AND THE RELATED ADVANCE DIRECTION SIGNS, FINAL ADVANCE DIRECTION SIGNS (IF ANY) AND SIGNS FOR OTHER DESTINATIONS ARE NOT SHOWN.

DIAGRAM 3.5.7.3 : USE OF ROUTE SHIELDS ON ROADSIDE SIGNS FOR ADJOINING NUMBERED ROUTES



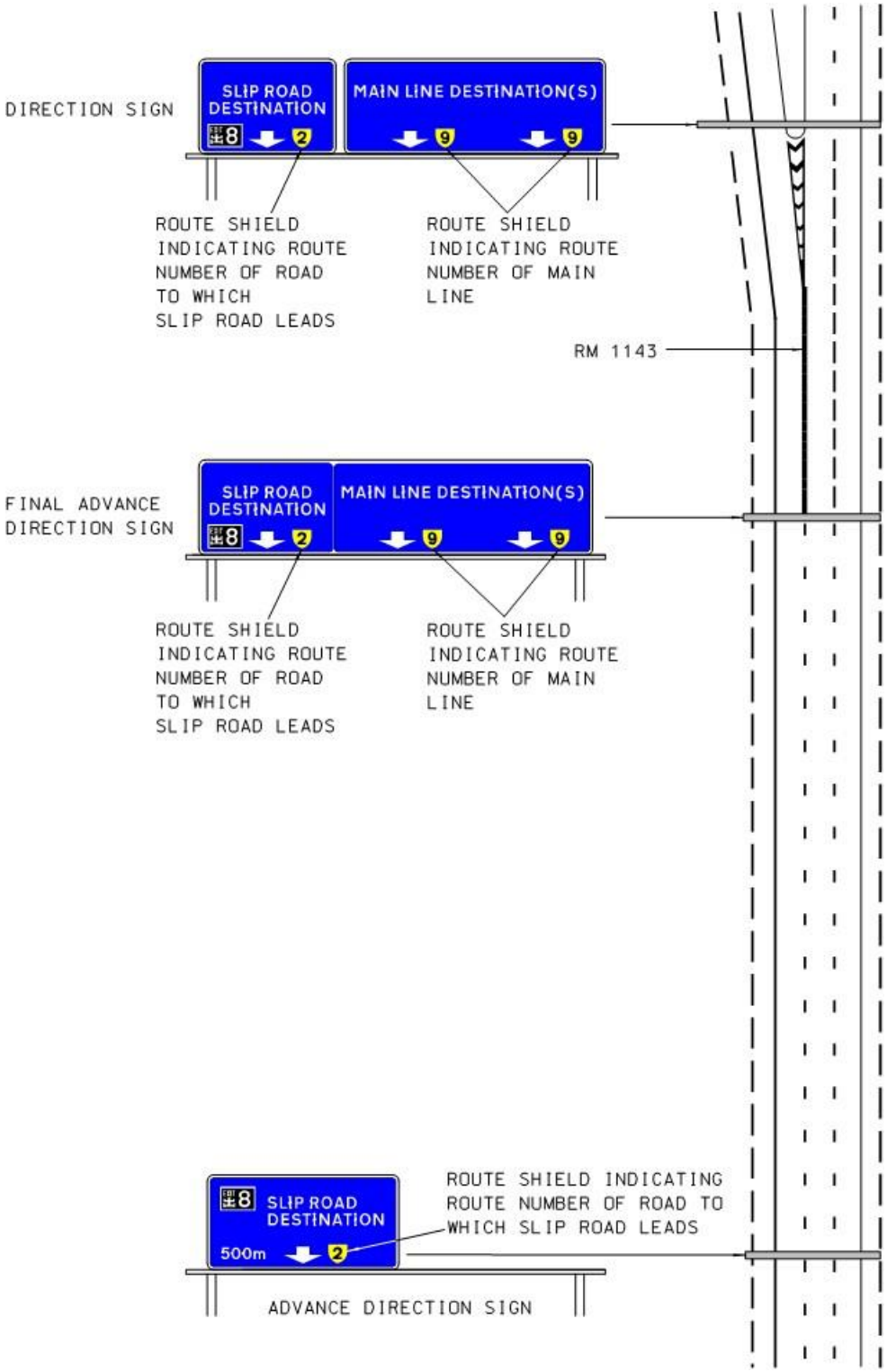
NOTE: ADVANCE INFORMATION SIGN (FORMAT SAME AS ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION) NOT SHOWN, SEE PARAGRAPH 3.4.2.4 FOR ITS PROVISION

DIAGRAM 3.5.7.4 : USE OF ROUTE SHIELDS ON GANTRY SIGNS AT TAPER DIVERGE FOR ADJOINING NUMBERED ROUTES



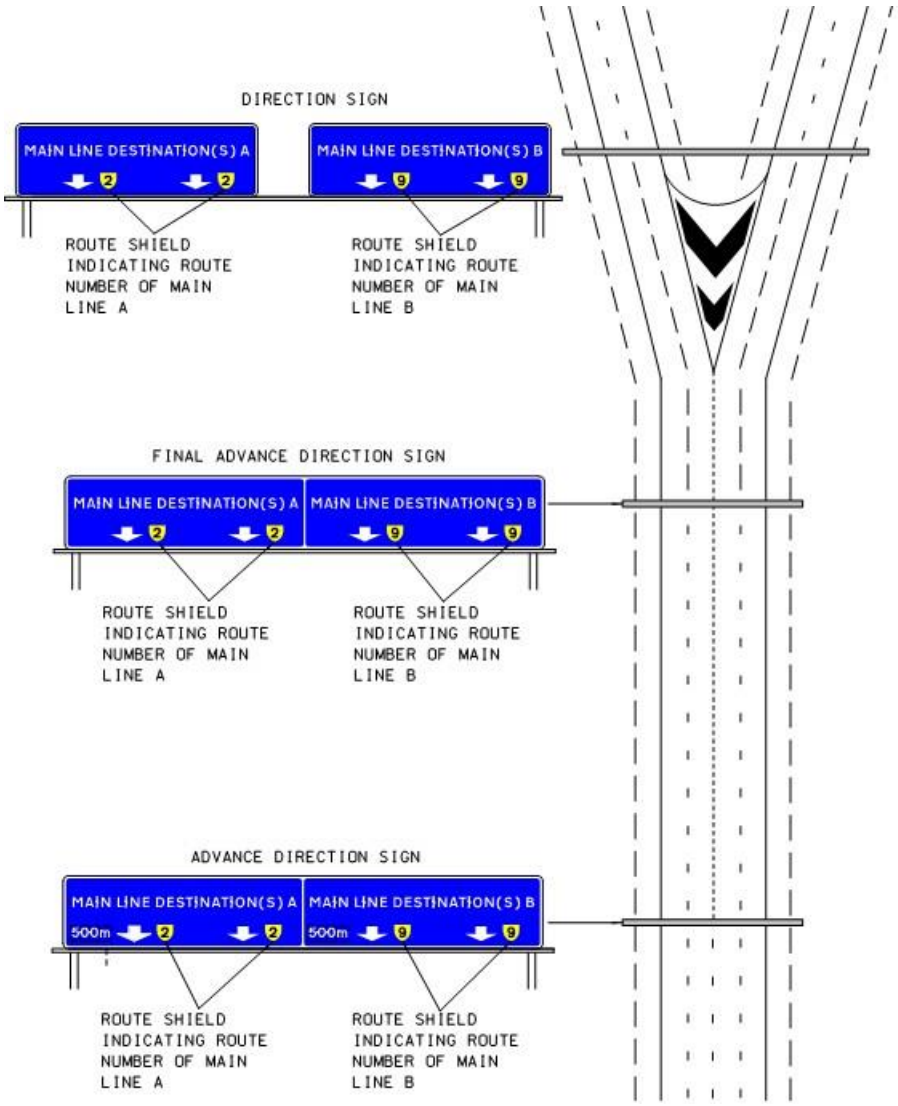
NOTE: ADVANCE INFORMATION SIGN (FORMAT SAME AS ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION) NOT SHOWN, SEE PARAGRAPH 3.4.2.4 FOR ITS PROVISION

DIAGRAM 3.5.7.5 : USE OF ROUTE SHIELDS ON GANTRY SIGNS AT "LANE DROPS" FOR ADJOINING NUMBERED ROUTES



NOTE : ADVANCE INFORMATION SIGN (FORMAT SAME AS ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION) NOT SHOWN, SEE PARAGRAPH 3.4.2.4 FOR ITS PROVISION

DIAGRAM 3.5.7.6 : USE OF ROUTE SHIELDS ON GANTRY SIGNS WHERE CARRIAGEWAY DIVERGES



NOTE: ADVANCE INFORMATION SIGN (FORMAT SAME AS ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION) NOT SHOWN, SEE PARAGRAPH 3.2.4.2 FOR ITS PROVISION

Tunnel Symbol

3.5.7.10 The tunnel symbol shown in Diagram 3.5.7.7 (i) is used on directional signs to indicate a tunnel area designated in accordance with the Road Tunnels (Government) Ordinance (Cap. 368), or any other tunnel area similarly designated by some other tunnel ordinances, such as the Tai Lam Tunnel and Yuen Long Approach Road Ordinance (Cap. 474). Tunnel names may be used in addition to the tunnel symbol on any Directional Sign, where in the particular circumstances the tunnel name is considered more appropriate than other destination names which can be accessed via the tunnel. See paragraphs 3.7.3.2 and 3.7.3.3.

3.5.7.11 The tunnel symbol is not appropriate to indicate any underpass, noise enclosure or similar situation which is not designated by a tunnel ordinance. Additionally, the tunnel symbol should only be used to indicate before the start of a designated tunnel area and not where for example there may be a series of tunnels in a tunnel area, each tunnel. In this example, the tunnel symbol should not be shown on any directional signs located after the start of the tunnel area.

3.5.7.12 Previously, the tunnel symbol was only used on the ADS, the FADS (if any) and the DS, as appropriate, for the last junction where a driver if taking the tunnel route would be committed to passing through that tunnel; that is there are no other exits from which the driver could leave the route leading to the tunnel. However, it is now accepted that more extensive use of the tunnel symbol can be useful and greater flexibility in its use is permitted to alert drivers that they are heading for a tunnel. Despite this, because of the increasing number of road tunnels, it is important that the tunnel symbol should not be too widely used as the final result could cause confusion rather than assistance to motorists. In this respect, the following guidelines should be followed: -

(i) The tunnel symbol should always be used on the AIS (if any), ADS, FADS and DS at the last junction prior to the tunnel, as discussed above.

(ii) It will normally be appropriate to begin the use of the tunnel symbol one junction (with another road of the same or higher category) in advance of the last junction (i.e. point of entry).

(iii) Once the tunnel symbol has been used, it should be repeated on all subsequent signs on route to the tunnel.

(iv) A sign may include two tunnel symbols indicating the direction to two different tunnels where necessary and appropriate for the condition.

Diagrams 3.5.7.8 and 3.5.7.9 illustrate typical signing arrangements where a tunnel symbol should be used. The tunnel symbol may also be combined with the "tunnel closed" or "tunnel congestion" display on a variable message sign or a variable "tunnel closed" sign. For the use and design of the "tunnel closed" signs, refer to Section 4.5.5 of Chapter 4.

3.5.7.13 The actual size of the tunnel symbol will be related to the x-height of the sign on which it is used, and should be constructed in accordance with the stroke width dimensions indicated in Diagram 3.5.7.7 (i).

3.5.7.14 The actual location of the tunnel symbol on any directional sign should generally be in accordance with the advice given in Sections 3.5.5 and 3.5.6, see Diagrams 3.5.5.3, 3.5.5.5, 3.5.5.11, 3.5.5.15, 3.5.5.16, 3.5.5.20, 3.5.6.3, 3.5.6.6, 3.5.6.9, 3.5.6.11, 3.5.6.13 and 3.5.6.14.

3.5.7.15 The exception to the advice given in Section 3.5.6 and paragraph 3.5.6.17 in particular, in respect of the tunnel symbol being placed to the right of the destination block, will occur with gantry signs when two destinations occur on the same line and two symbols, for example the tunnel symbol and the airport symbol need to be shown. In these situations, it can be more helpful to drivers if the symbol associated with a particular destination is adjacent to that destination rather than both symbols being, as indicated in Diagram 3.5.7.17, to the right of the destination block. Diagram 3.5.7.10 illustrates a better arrangement where it is more descriptive to have the different symbols on either side of the destination block.

3.5.7.16 When used on Temporary Direction Signs having a yellow background, the tunnel symbol should be black in colour.

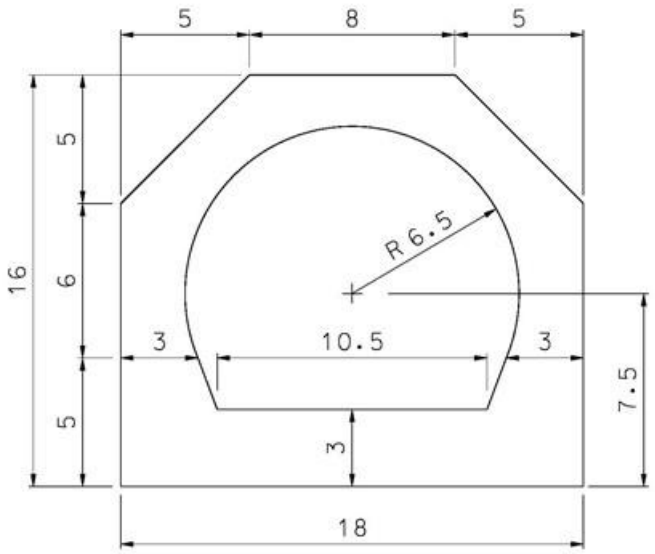
Harbour Tunnel Symbols

3.5.7.17 There are three different symbols for the Western Harbour Crossing, the Cross-Harbour Tunnel and the Eastern Harbour Crossing respectively which are shown in Diagram 3.5.7.7 (ii). An example is shown in Diagram 3.5.7.7 (iii). These symbols should suitably be incorporated into directional signs to guide traffic towards these facilities. The harbour tunnel symbol may be used on its own without the corresponding destination names such as "Hong Kong (W)", "Kowloon (E)", etc. This will reduce the complexity of signs on remote approaches. To ensure consistency in signing, once the corresponding symbols and destination names are introduced, these should appear on all the downstream signs towards the corresponding harbour tunnel.

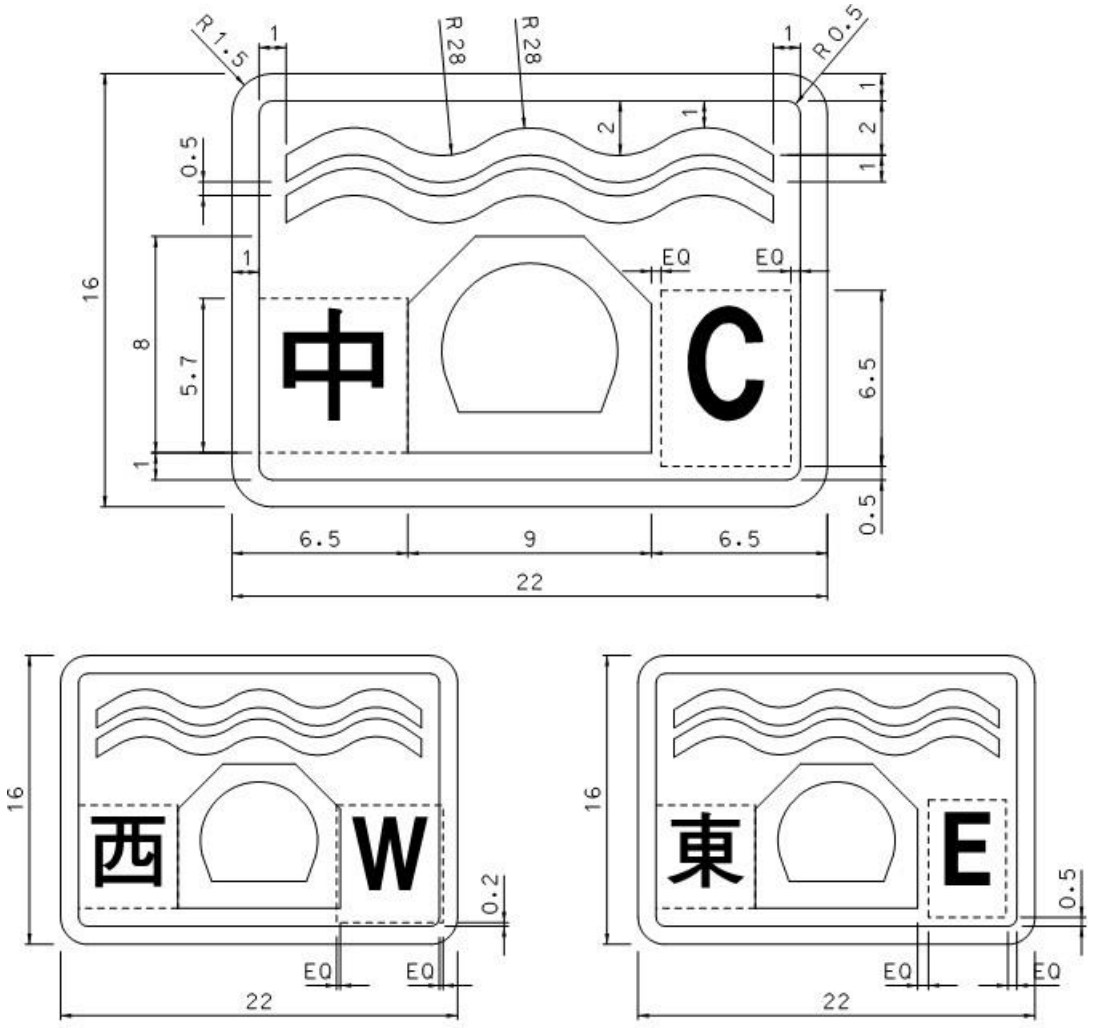
DIAGRAM 3.5.7.7 : TUNNEL AND HARBOUR TUNNEL SYMBOLS

DIMENSIONS IN STROKE WIDTHS

(i) TUNNEL SYMBOL



(ii) HARBOUR TUNNEL SYMBOLS



(ii) EXAMPLE OF HARBOUR TUNNEL SYMBOL

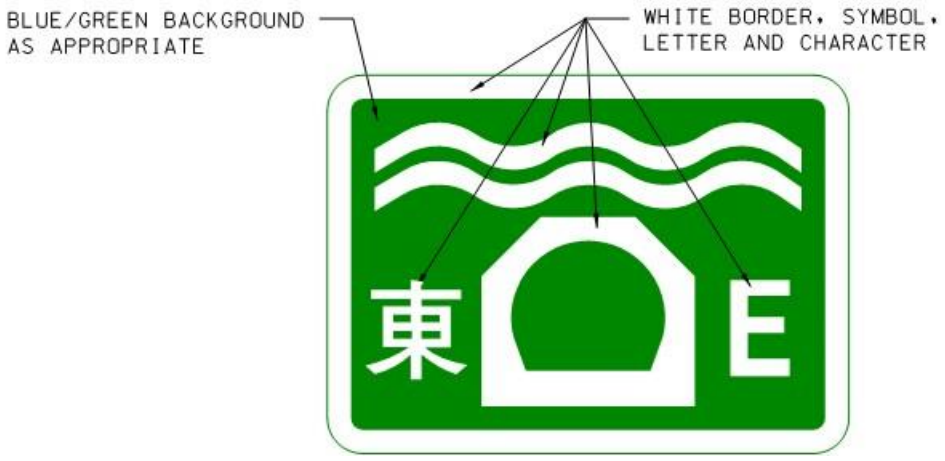
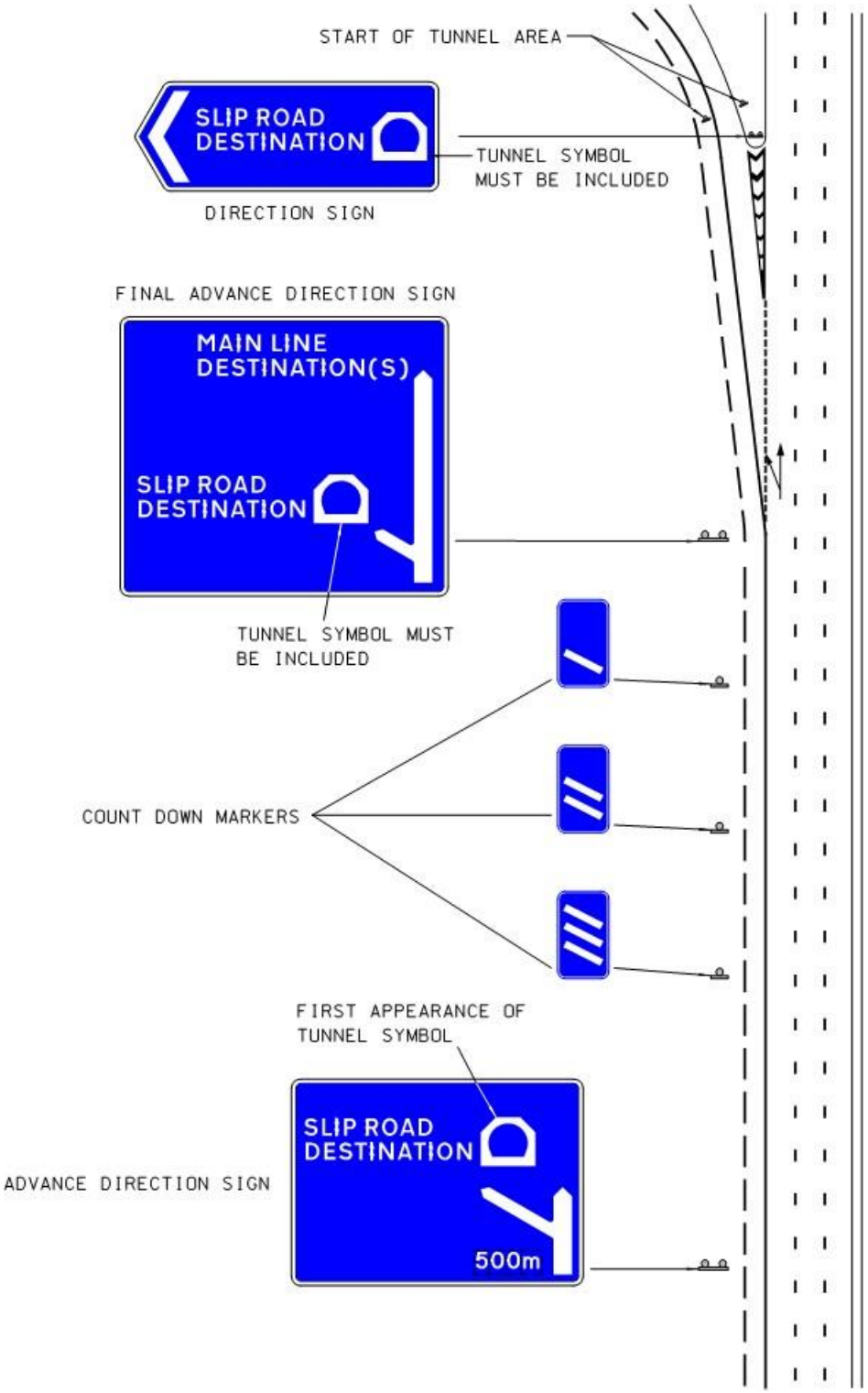


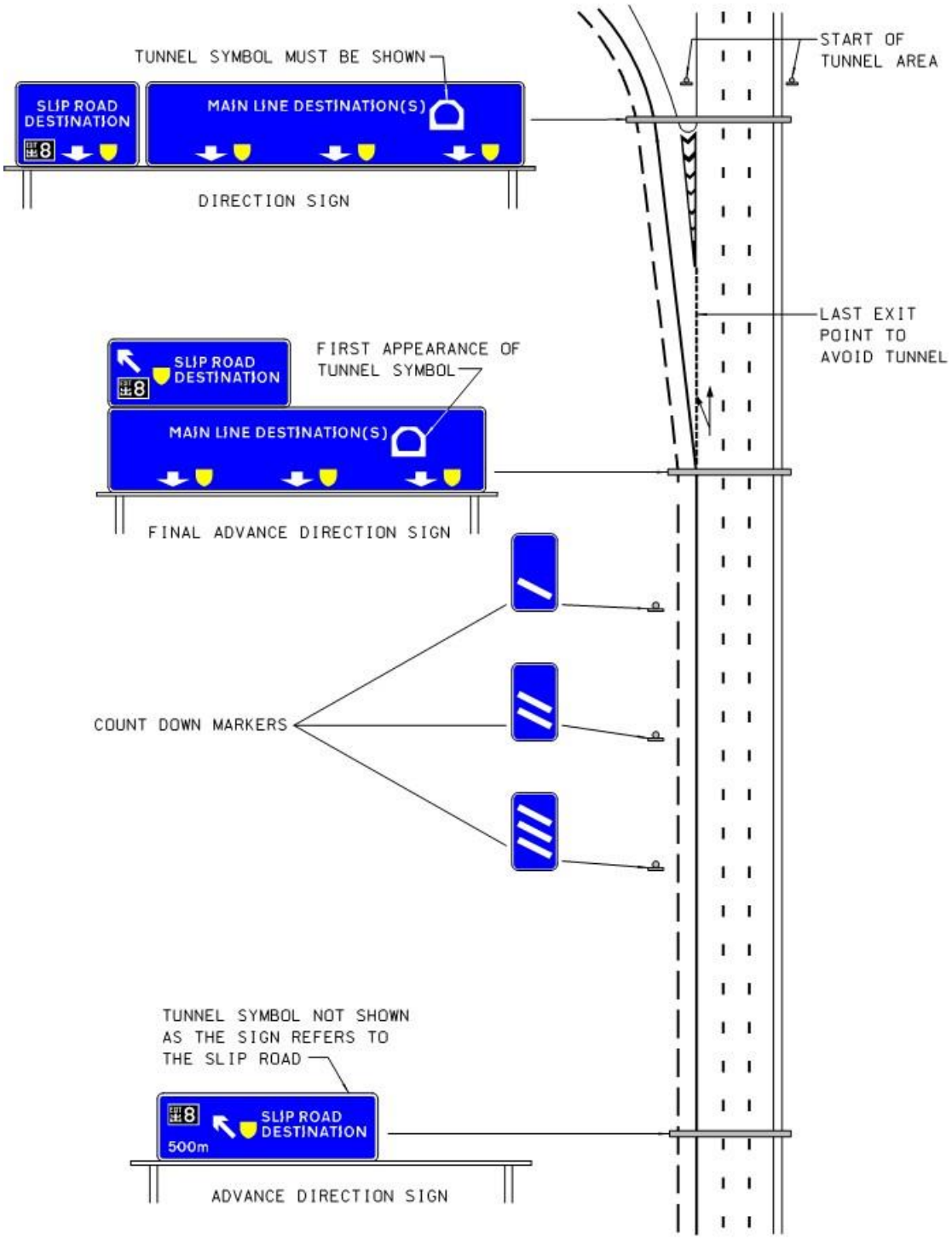
DIAGRAM 3.5.7.8 : DIRECTIONAL SIGNING WHERE SLIP ROAD FORMS START OF TUNNEL AREA OR THE LAST POINT OF ACCESS TO A TUNNEL



NOTES

1. WHERE GANTRY SIGNS ARE USED, THE TUNNEL SYMBOL WILL BE LOCATED ON THOSE PARTS OF THE SIGNS (INCLUDING ADVANCE INFORMATION SIGN IF PROVIDED) REFERRING TO THE SLIP ROAD.
2. SEE THE GUIDELINES IN PARAGRAPH 3.5.7.12 ON EXTENDED USE OF THE TUNNEL SYMBOLS.
3. ADVANCE INFORMATION SIGN NOT SHOWN, SEE PARAGRAPH 3.2.4.2 FOR ITS PROVISION.

DIAGRAM 3.5.7.9 : DIRECTIONAL SIGNING WHERE THE MAINLINE FORMS THE APPROACH TO THE TUNNEL AREA

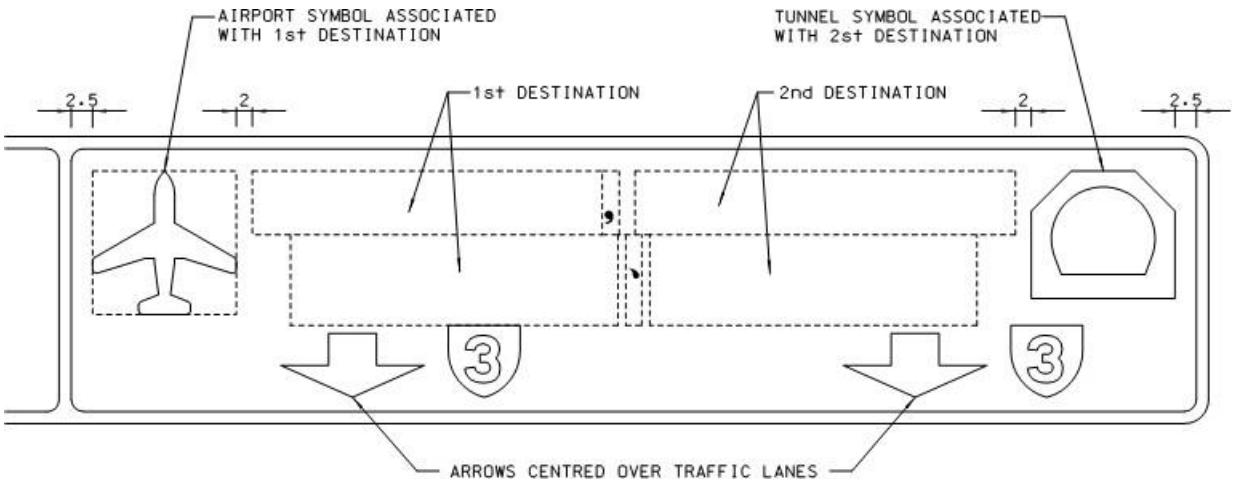


NOTES

1. SHOULD ROADSIDE FLAG TYPE DS BE USED, THE TUNNEL SYMBOL WILL ONLY APPEAR ON THE FADS OR IF THERE IS NOT ONE, ONLY ON THE ADS FOR THE MAINLINE. THEREFORE, ADDITIONAL TUNNEL SYMBOL SIGNS SHOULD BE PROVIDED WELL IN ADVANCE TO ALERT THOSE DRIVERS NOT INTENDING FOR USING THE TUNNEL
2. SEE THE GUIDELINES IN PARAGRAPH 3.5.7.12 ON EXTENDED USE OF THE TUNNEL SYMBOL
3. ADVANCE INFORMATION SIGN NOT SHOWN, SEE PARAGRAPH 3.2.4.2 FOR ITS PROVISION

DIAGRAM 3.5.7.10 : ARRANGEMENT OF SYMBOLS ADJACENT TO ASSOCIATED DESTINATIONS ON THE SAME LINE

DIMENSIONS IN STROKE WIDTHS



NOTES

1. IF THE TUNNEL SYMBOL IS ASSOCIATED WITH THE FIRST DESTINATION AND AIRPORT THE SECOND, THE SYMBOLS SHOULD BE REVERSED AND IF BOTH ARE ASSOCIATED WITH THE FIRST DESTINATION, BOTH SHOULD BE ON THAT SIDE
2. ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16
3. THE SPACING BETWEEN THE BLOCK OR THE AIRPORT/TUNNEL SYMBOL AND THE UPPER BORDER IS 2.5 S/W SUBJECT TO ROUNDING

Expressway Symbol

3.5.7.18 The Expressway symbol shown in Diagram 3.5.7.11 is for use on Direction Signs (DS) and Route Confirmatory Signs (RCS) erected over or along Expressways, to confirm that the route is an Expressway. The location of this symbol on these signs should be in accordance with that shown in Sections 3.5.5 and 3.5.6. The same symbol is used for the signs to indicate the start and continuation of an Expressway and details in respect of these signs are contained in Chapter 2 of this Volume.

3.5.7.19 Because Expressways have a set of additional regulations specifically applying to them, which for example prohibit certain vehicles using that route, the Expressway symbol should be used on all the directional signs for the immediate junction leading to an Expressway. However, it should be noted that in these cases to differentiate that the road is not an Expressway, the symbol must be white on green and not red on white. The Expressway symbol and the destinations accessed via the Expressway should be contained within a green panel on the otherwise blue sign. Examples of the use of such green panels are shown in Diagrams 3.5.7.12 and 3.5.7.13.

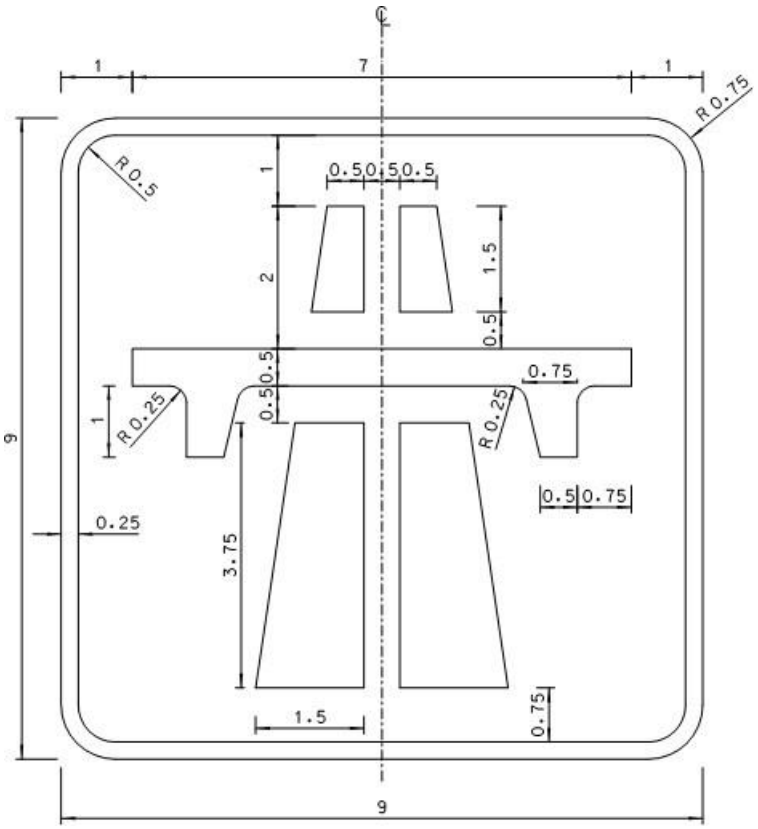
3.5.7.20 The location of the Expressway symbol when it is used in advance of the start of an Expressway, and to warn of that Expressway, should be located on the directional signs, as indicated in Diagrams 3.5.7.12 and 3.5.7.13. However, in the situation where two Expressways join, only the red symbol need be used on the signs, in accordance with Sections 3.5.5 and 3.5.6, and an advance warning is not required.

3.5.7.21 Where a gantry DS is used, the format for the sign incorporating the warning of the Expressway should follow that shown in Diagram 3.5.7.13 (iii). However, if the sign also coincides with or is located very close to the start of the Expressway, then the DS should be in accordance with the advice given in Section 3.5.6, with the red coloured symbol being used.

DIAGRAM 3.5.7.11 : EXPRESSWAY SYMBOL

DIMENSIONS IN STROKE WIDTHS

(i) EXPRESSWAY SYMBOL



(ii) COLOUR FORMAT



(a) RED FORMAT USED ON EXPRESSWAY



(b) GREEN FORMAT USED ON APPROACH TO EXPRESSWAY

DIAGRAM 3.5.7.12: DIRECTION INDICATION TO EXPRESSWAY ON ROADSIDE SIGNS

DIMENSIONS IN STROKE WIDTHS (EXPRESSWAY SYMBOL – WHITE ON GREEN)

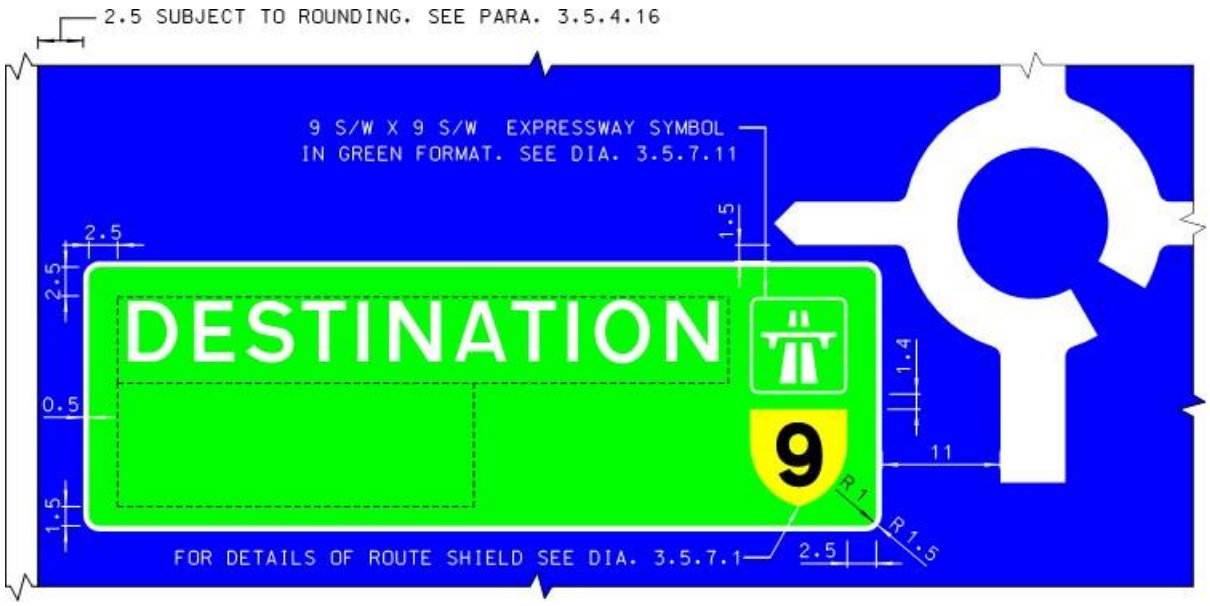
(i) FINAL ADVANCE DIRECTION SIGN



(ii) ADVANCE DIRECTION SIGNS



(iii) ROUNDABOUT ADVANCE DIRECTION SIGN



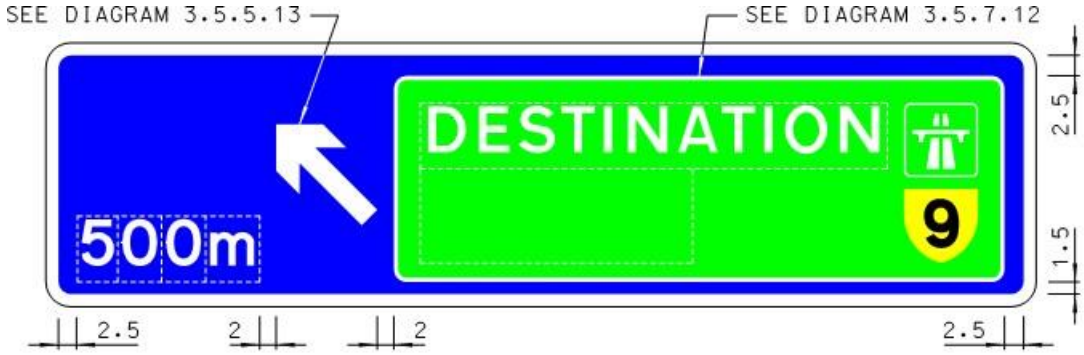
(iv) DIRECTION SIGN



DIAGRAM 3.5.7.13: DIRECTION INDICATION TO EXPRESSWAY ON GANTRY SIGNS

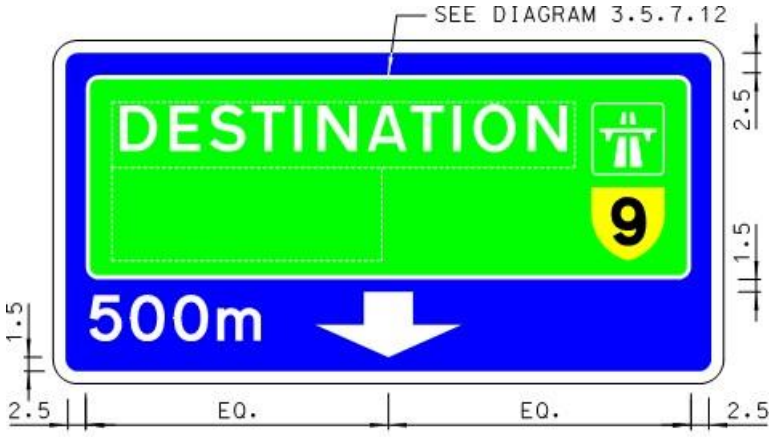
DIMENSIONS IN STROKE WIDTHS (EXPRESSWAY SYMBOL - WHITE ON GREEN)

(i) ADVANCE DIRECTION SIGN



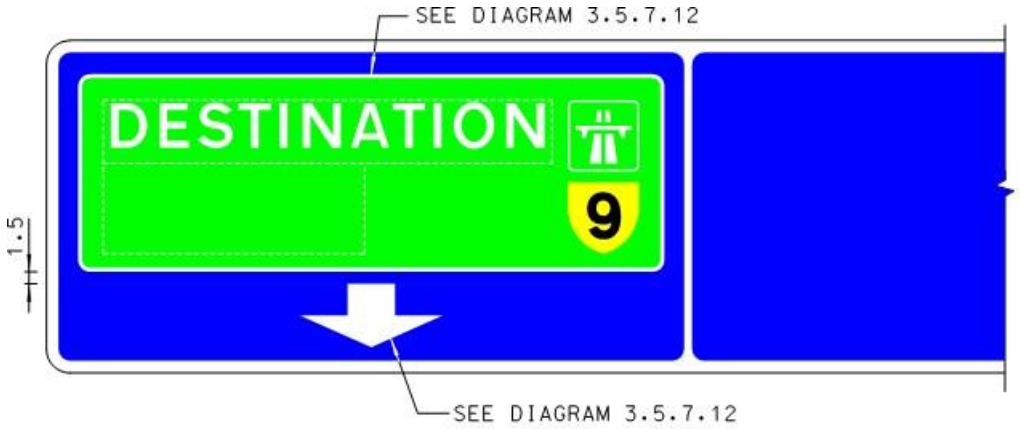
NOTE: A SIMILAR FORMAT WITHOUT THE DISTANCE INDICATION SHOULD BE USED FOR THE FINAL ADVANCE DIRECTION SIGN. OTHER DIMENSIONS AS IN DIAGRAM 3.5.6.1

(ii) "LANE DROP" ADVANCE DIRECTION SIGN



NOTE: OTHER DIMENSIONS AS IN DIAGRAM 3.5.6.4

(iii) "LANE DROP" FINAL ADVANCE DIRECTION SIGN



NOTE: THE SAME FORMAT MAY ALSO BE APPROPRIATE FOR THE DIRECTION SIGN (USE RED SYMBOL ON GREEN DIRECTION SIGN IF THE DIRECTION SIGN IS LOCATED WITHIN OR VERY NEAR TO THE START OF EXPRESSWAY). OTHER DIMENSIONS AS IN DIAGRAM 3.5.6.10

Airport Symbol

3.5.7.22 The airport symbol for directional signs should be as shown in Diagram 3.5.7.14. The symbol should normally be shown such that it points in the same direction as the associated arm or directional arrow as shown in Diagrams 3.5.7.15 and 3.5.7.16. However, the symbol must never point below the horizontal. Therefore, when used with downward pointing arrow on gantry signs, the symbol should always be vertically upright as shown in Diagram 3.5.7.16 (ii). Also, when used in map type signs for arms pointing below the horizontal, the symbol should be vertically upright for U-turn movement (bearing of arm direction 180 degrees) and point to right or left respectively for bearing of arm direction >90 but <180 degrees or >180 but <270 degrees as illustrated in Diagram 3.5.7.17.

3.5.7.23 The location of the airport symbol on directional signs should generally be in accordance with that for the advance warning Expressway symbol as in Diagrams 3.5.7.12 and 3.5.7.13, and therefore in Diagrams 3.5.7.15 and 3.5.7.16, just some of the various arrangements are illustrated.

3.5.7.24 The airport symbol (without the "Airport" destination name) should suitably be incorporated into the directional signs along all major routes leading to the Airport. It is appropriate to begin signing of the "Airport" destination name as well at least three major junctions in advance of the airport, unless local circumstances dictate otherwise.

3.5.7.25 With the use of the tunnel symbol to indicate all designated tunnel areas, the situation could arise where both the tunnel symbol and the airport symbol are required on the same direction sign. Diagram 3.5.7.17 indicates the various arrangements which should be followed where both airport and tunnel symbols are required on the same sign, but see also paragraph 3.5.7.15 and Diagram 3.5.7.10.

DIAGRAM 3.5.7.14 : AIRPORT SYMBOL

DIMENSIONS IN STROKE WIDTHS

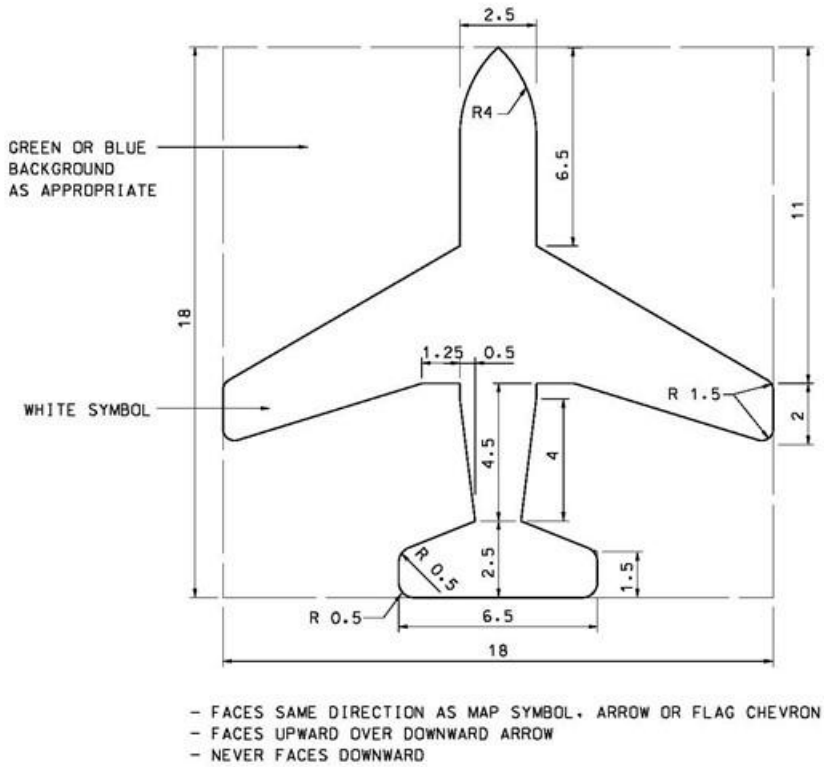
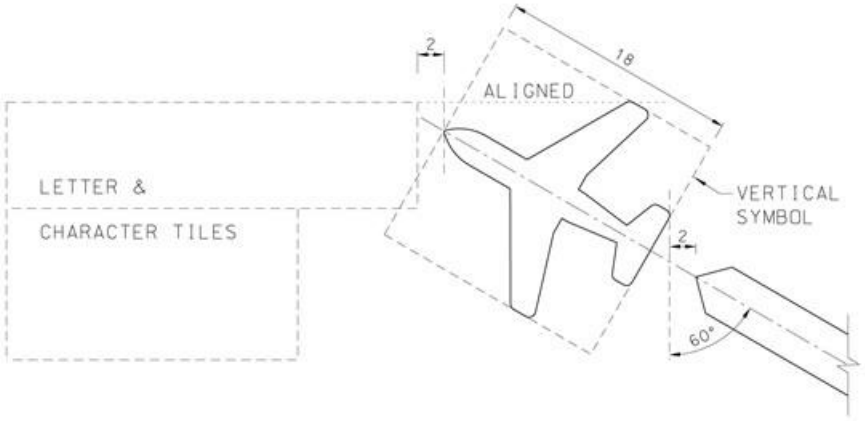


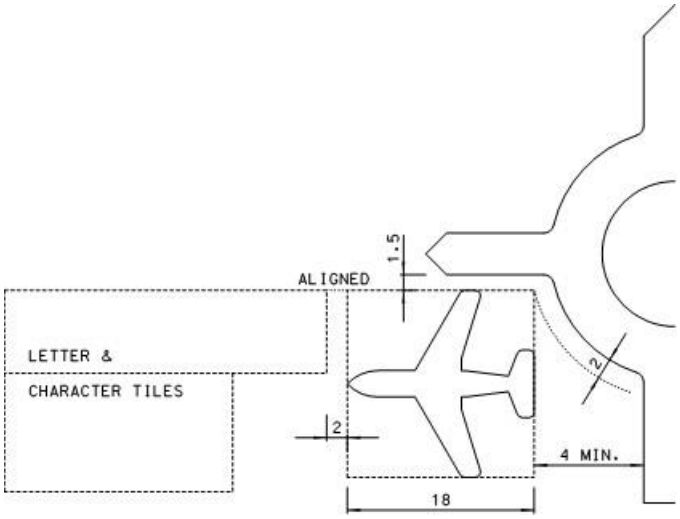
DIAGRAM 3.5.7.15 : AIRPORT DIRECTION INDICATION ON ROADSIDE SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN (SYMBOL INCLINED AT 60°)



(ii) ROUNDABOUT ADVANCE DIRECTION SIGN



(iii) DIRECTION SIGN (SEE DIAGRAM 3.5.5.10 FOR OTHER DIMENSIONS)

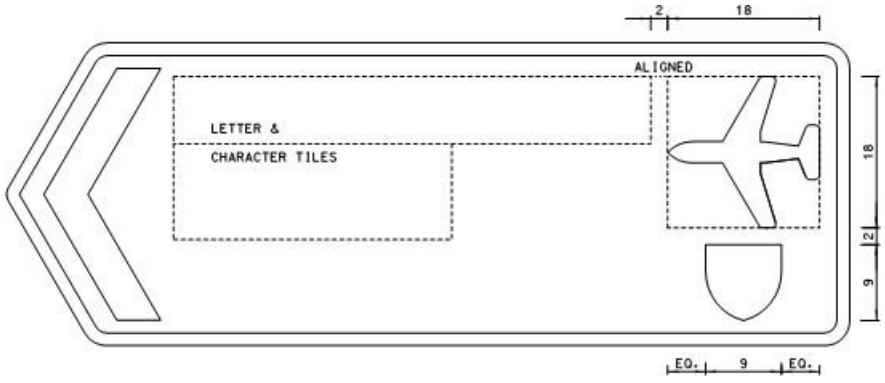
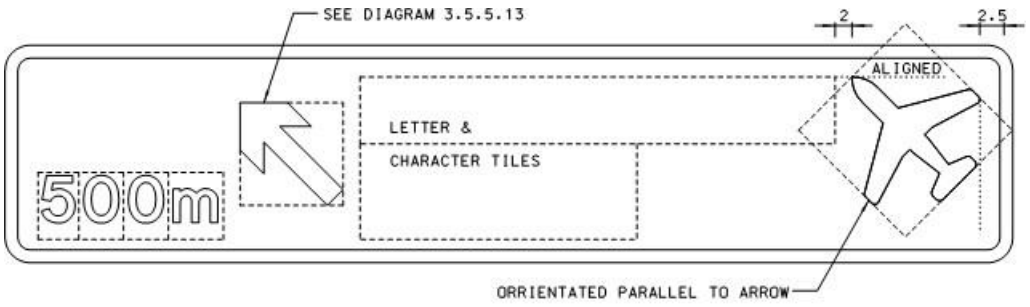


DIAGRAM 3.5.7.16 : AIRPORT DIRECTION INDICATION ON GANTRY SIGNS

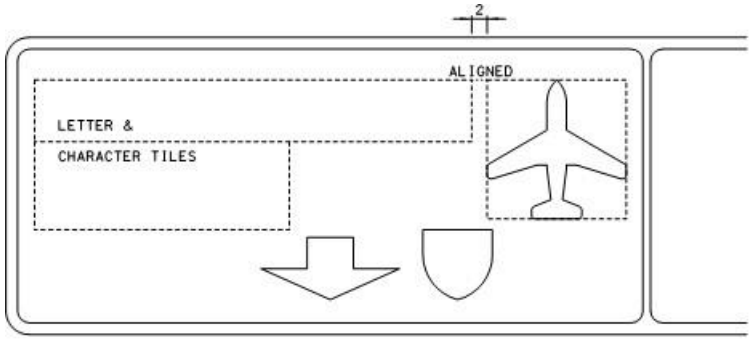
DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN



ROADSIDE STACK TYPE SIGNS SHOULD HAVE A SIMILAR ARRANGEMENT.
SEE DIAGRAM 3.5.6.1. FOR OTHER DIMENSIONS

(ii) FINAL ADVANCE DIRECTION SIGN



THE SYMBOL SHOULD ALWAYS BE VERTICALLY UPRIGHT WHEN USED WITH
A DOWNWARD POINTING ARROW. SEE DIAGRAM 3.5.6.4. FOR OTHER DIMENSIONS

DIAGRAM 3.5.7.17 : POINTING DIRECTIONS OF AIRPORT SYMBOL

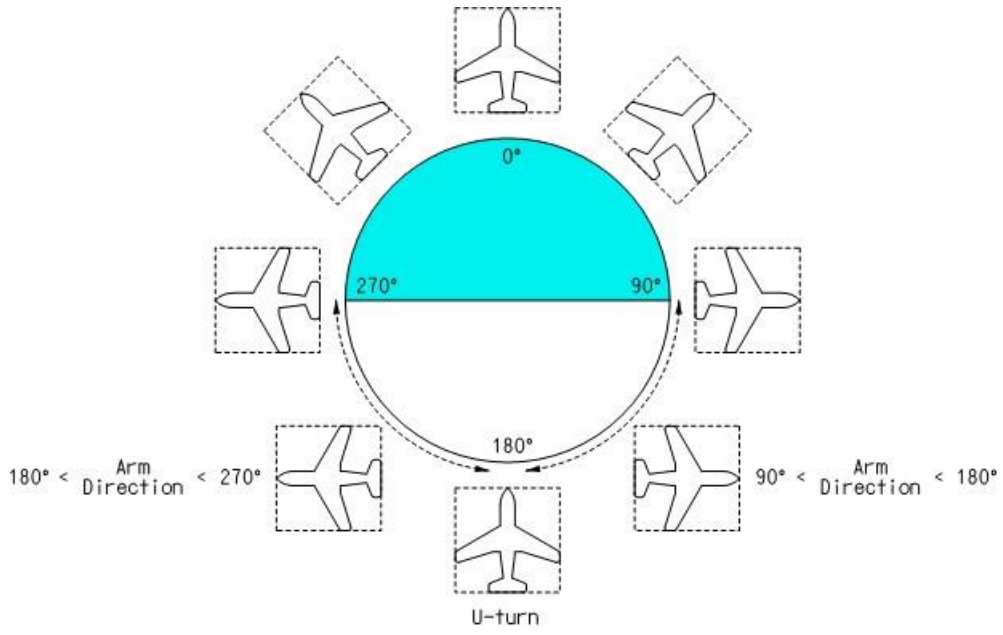
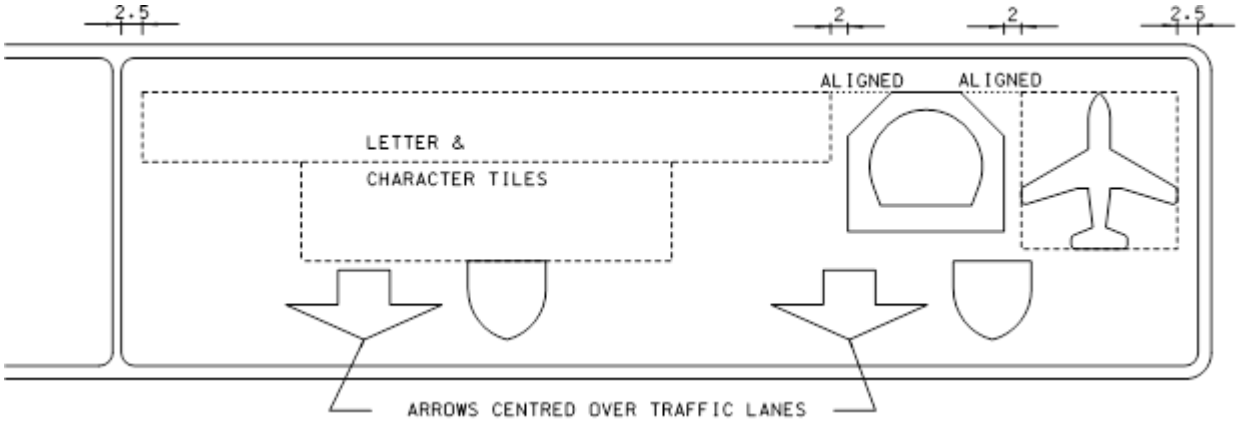


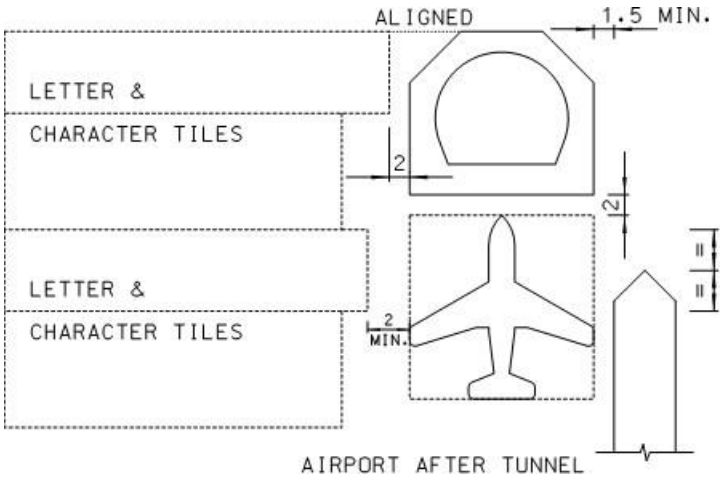
DIAGRAM 3.5.7.18 : COMBINED AIRPORT AND TUNNEL SYMBOLS ARRANGEMENTS

DIMENSIONS IN STROKE WIDTHS

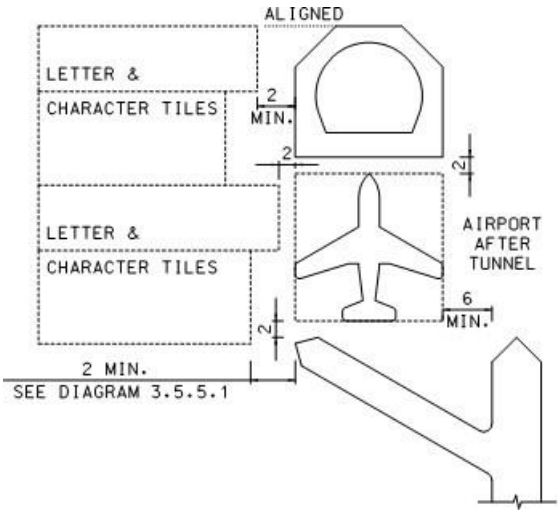
(i) GANTRY FINAL ADVANCE DIRECTION SIGN
(SEE DIAGRAM 3.5.6.7 FOR OTHER DETAILS)



(ii) ROADSIDE FINAL ADVANCE DIRECTION SIGN



(iii) ROADSIDE ADVANCE DIRECTION SIGN



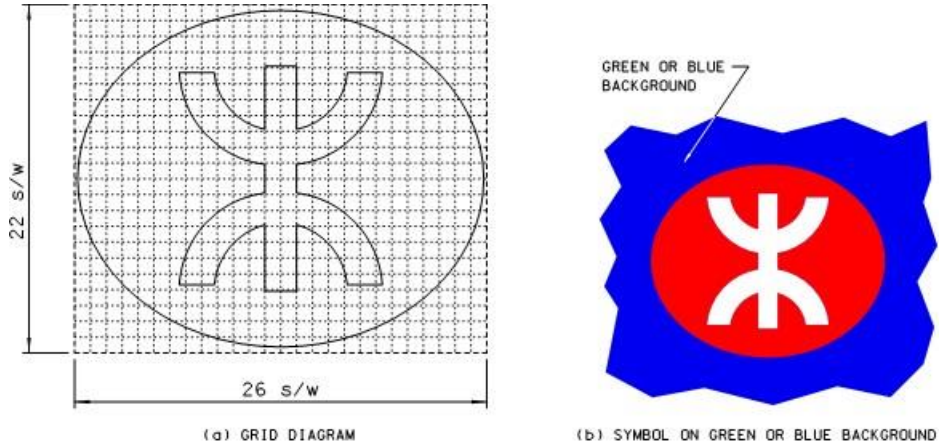
NOTE: ALL BORDER SPACINGS IN (i) ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16

MTR Symbol

3.5.7.26 MTR symbol is shown in Diagram 3.5.7.19 (i). This symbol may be used on directional signs in the vicinity of MTR or railway stations where suitable passengers loading/unloading spaces are provided. Station name in text is generally not required to be added unless confusion between different stations may arise or it is justified on individual merits. Station name if required should always be used with the MTR symbol. Stations in urban area with limited loading/unloading spaces are generally not signed. The symbol may also be combined with the car park symbol to form the "Park & Ride" symbol for use at those MTR or railway stations with park & ride facilities (see Diagrams 3.5.7.19 (ii) & (iii)).

DIAGRAM 3.5.7.19 : MTR SYMBOL

(i) MTR SYMBOL



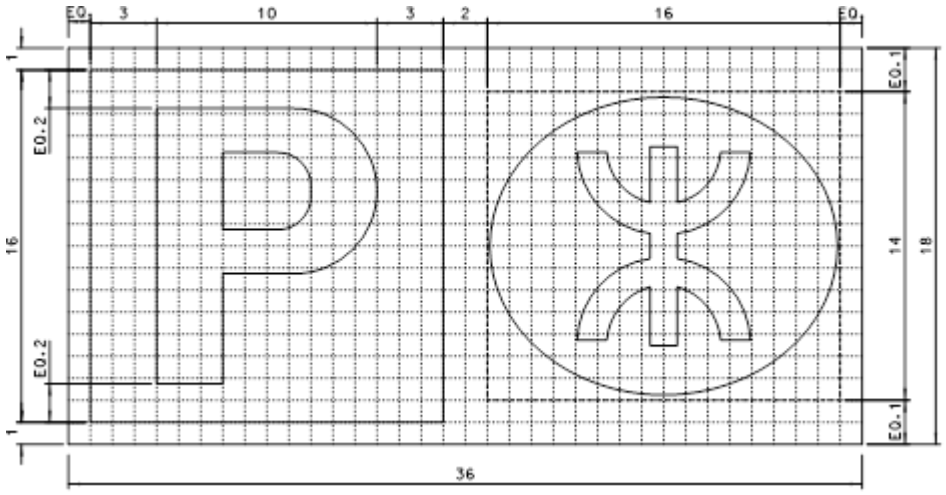
(a) GRID DIAGRAM (b) SYMBOL ON GREEN OR BLUE BACKGROUND

NOTES

1. DIMENSIONS IN STROKE WIDTHS
2. THE GRIDS DO NOT FORM PART OF ANY SIGN TO WHICH THE SYMBOL IS APPLIED
3. THE SYMBOL MAY BE USED TOGETHER WITH THE STATION NAME ON WHITE PANEL OR WHITE LOCAL DIRECTION SIGN, OR YELLOW BACKGROUND TEMPORARY SIGN
4. THE SYMBOL IF USED ON EXPRESSWAY SHOULD BE ON GREEN BACKGROUND DIRECTION SIGN

(ii) "PARK & RIDE" SYMBOL

DIMENSIONS IN STROKE WIDTHS



NOTES

COLOUR		
SIGN	BACKGROUND	SYMBOL
"PARK & RIDE"	WHITE	
"P"	BLUE	WHITE
"MTR"	RED	WHITE

(iii) EXAMPLE OF "PARK & RIDE" DIRECTION SIGN (TS 2825)



Exit Number Plate

3.5.7.27 Along each major route of the strategic route network, all the exits are assigned with specific exit numbers to facilitate motorists finding their way. The exit number should be shown on all the directional signs for the corresponding exit.

3.5.7.28 The exit symbol and exit number plates are shown in Diagram 3.5.7.20.

3.5.7.29 Diagram 3.5.7.20 (ii) illustrates the design of an exit number plate which is a rectangular symbol with black background, white border and white legends. If it is used for local destination on white background direction sign, the white border is not required. Each plate contains an exit number in Transport Medium numerals and where applicable, an exit logo showing "EXIT" in capital English alphabet and "出" in Chinese character. The x-height of exit number plate should be the same as that for the associated sign face. If there is severe constraint of space, the exit logo may be omitted as illustrated in Diagram 3.5.7.20 (iii). In fact, it is the intention that the exit logo will be omitted ultimately when motorists are familiar with the white in black signs used to denote exit numbers.

3.5.7.30 Exit sign should be on the same side of the direction sign as that of the exit on the road. If the exit is on the left (right) of the road, the exit number should be provided at the bottom left (right) corner of the panel of gantry directional sign and roadside directional sign for exit. If there is a downward arrow, the exit number plate would be placed on the left (right) hand side of the arrow. However, if there is inadequate space, consideration could be made to place the exit number on the other side.

3.5.7.31 In some cases, space may not be sufficient for installing 2 digits' exit number plate on some direction sign panel, even with the exit logo omitted. The exit number plate will inevitably be installed above the existing direction panel. This has caused difficulty for motorists to view the sign. A backing plate as shown in Diagram 3.5.7.20 (iv) is provided to overcome the visibility of less conspicuous exit number plate for motorists to view the sign.

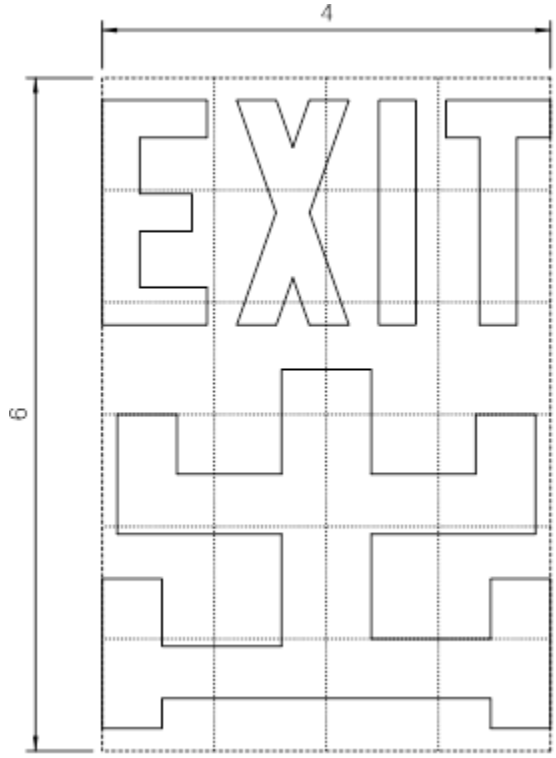
3.5.7.32 The typical arrangements of this exit number plate when space is insufficient are shown in Diagram 3.5.7.21.

3.5.7.33 Guidelines for assigning exit numbers and choice of exits for numbering are given in **Appendix 1**.

DIAGRAM 3.5.7.20 : EXIT NUMBER PLATE

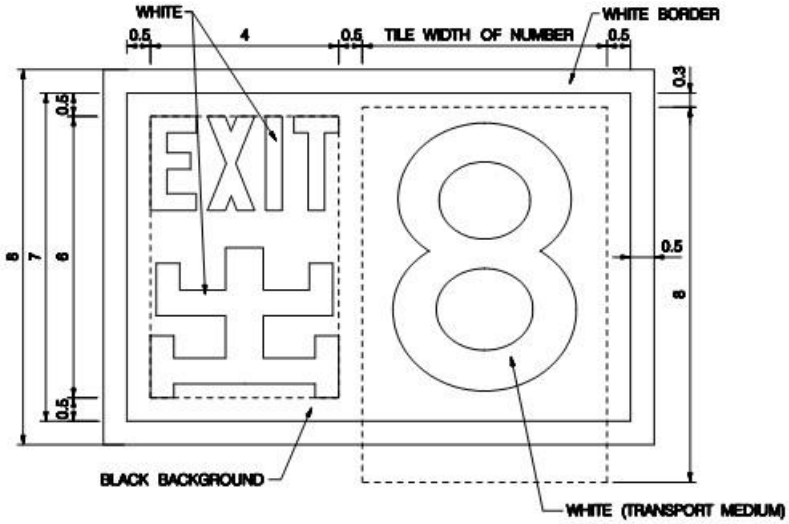
(i) EXIT SYMBOL

DIMENSIONS IN STROKE WIDTHS

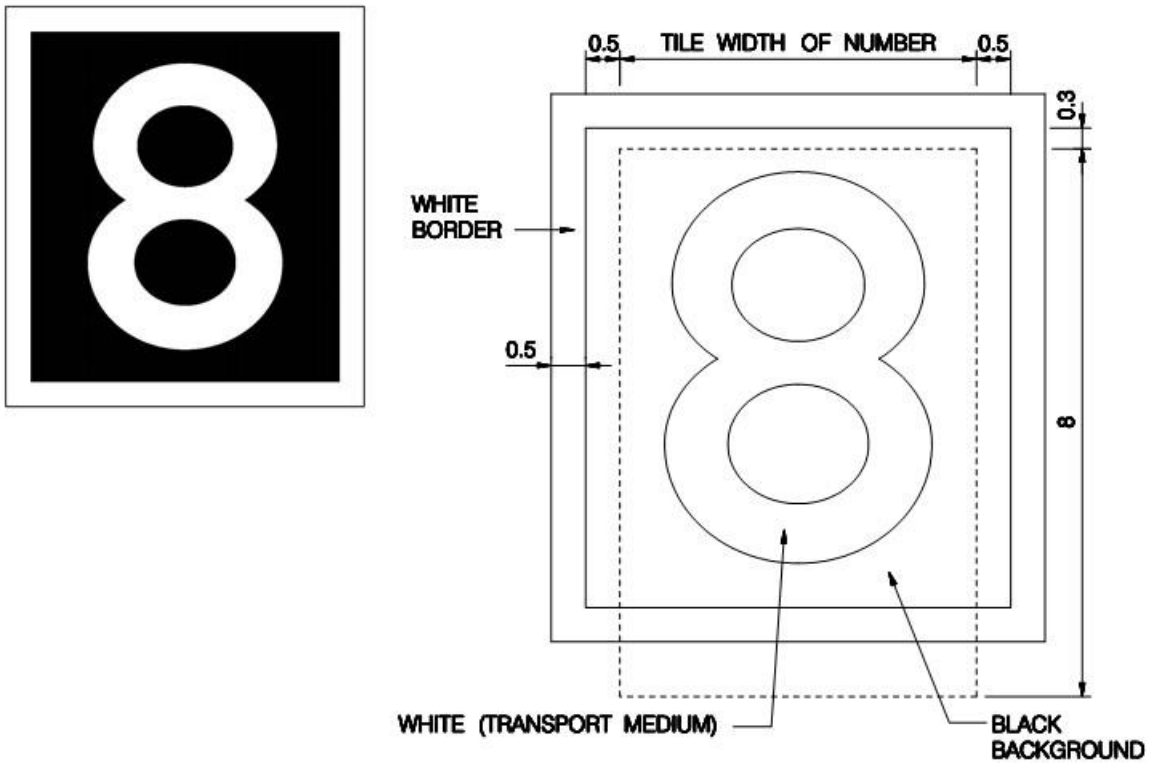


(ii) STANDARD EXIT NUMBER PLATE





(iii) EXIT NUMBER PLATE WITHOUT LOGO



(iv) EXIT NUMBER PLATE WITH BACKING BOARD (IN GREEN/BLUE, SAME COLOUR OF THE DIRECTIONAL SIGN)



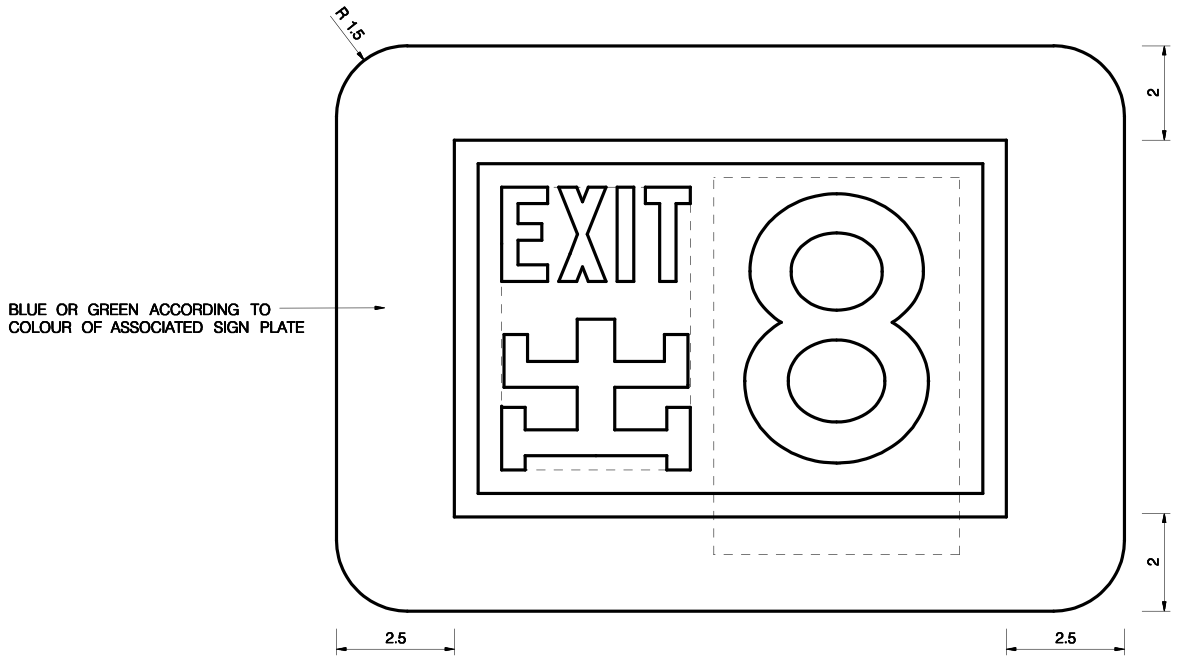


DIAGRAM 3.5.7.21 : POSITION OF EXIT NUMBER PLATE WHEN SPACE IS INSUFFICIENT

(i) SAMPLE 1



(ii) SAMPLE 2



(iii) SAMPLE 3



NOTE: EXIT NUMBER PLATE SHOWN IN RED LINES MEANS THERE IS INSUFFICIENT SPACE TO PLACE

(iv) ALTERNATIVE DESIGNS OF EXIT NUMBER

Normal Design	Alternative Design
	
	

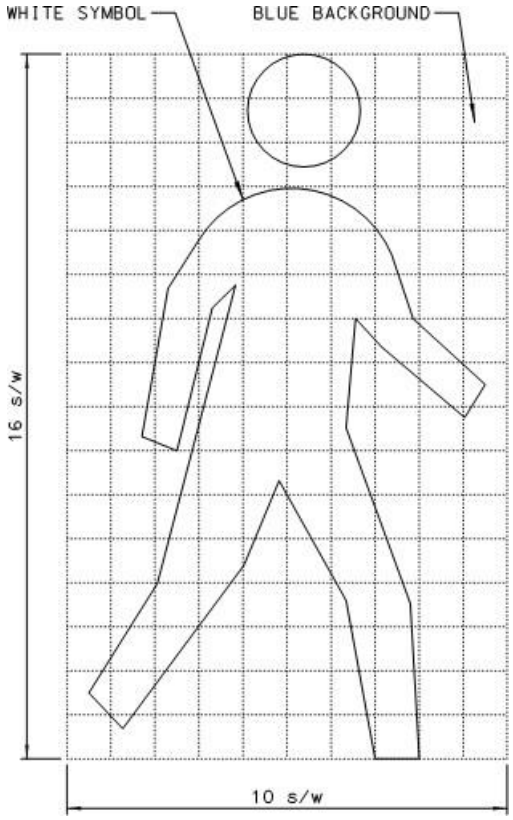
NOTE: THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

Pedestrian and Disabled Person Symbols

3.5.7.34 Diagram 3.5.7.22 provides the design details for the pedestrian symbol to be used on directional signs, and Diagram 3.5.7.23 illustrates its location on various direction sign types. In the case of flag type signs, the "pedestrian" should be such that it is facing the direction to be followed. For rectangular signs, the "pedestrian" should always be facing the arrow.

3.5.7.35 Diagram 3.5.7.24 shows the details for the disabled person symbol to be used on directional signs, and Diagram 3.5.7.25 illustrates its use. They are mainly used to indicate the route to be used by disabled persons for access to parking, public transport interchanges or facilities for the disabled. It should be noted that the normal design rules have not been followed for the route direction signs, because of the very small size of these signs, see also Section 8.7, Chapter 8 of Volume 6.

DIAGRAM 3.5.7.22 : PEDESTRIAN SYMBOL FOR DIRECTIONAL SIGNS



NOTES

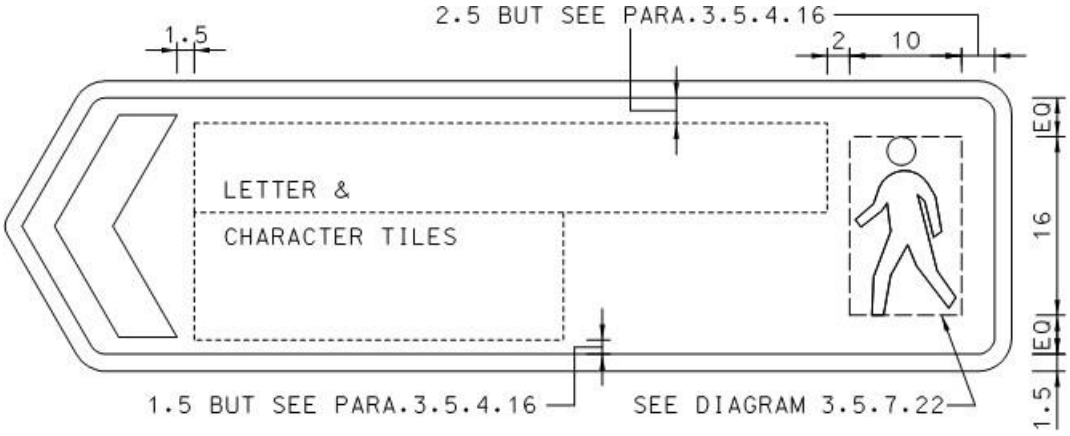
1. THE GRIDS DO NOT FORM PART OF ANY SIGN TO WHICH THE SYMBOL IS APPLIED
2. THE SYMBOL MAY BE REVERSED WHEN NECESSARY

DIAGRAM 3.5.7.23 : USE OF PEDESTRIAN SYMBOL

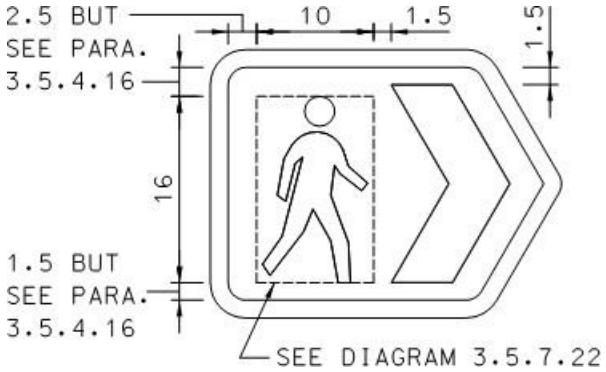
DIMENSIONS IN STROKE WIDTHS

(i) PEDSTRIAN DIRECTION SIGN TO PARTICULAR DESTINATION

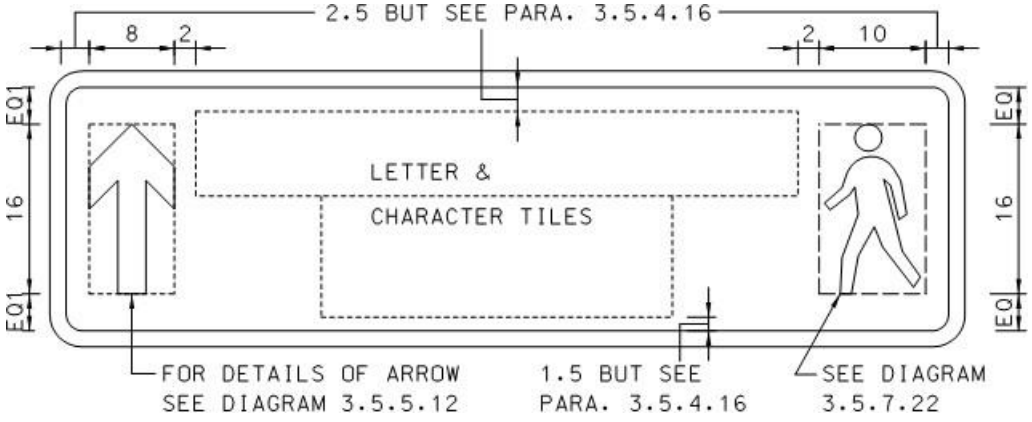
(SEE DIAGRAM 3.5.5.10 FOR DETAILS OF FLAG TYPE SIGN)



(ii) PEDESTRIAN ROUTE DIRECTION SIGN

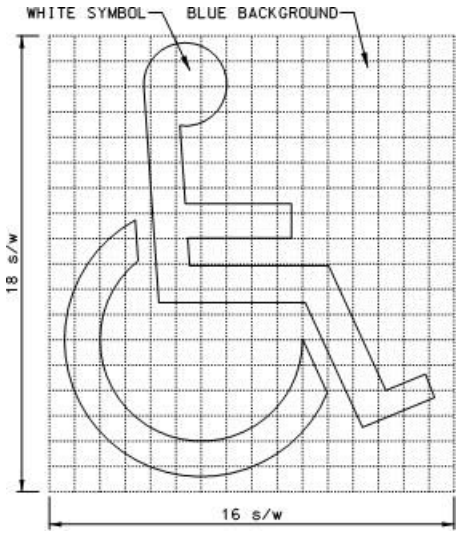


(iii) RECTANGULAR PEDESTRIAN DIRECTION SIGN



NOTE: ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16

DIAGRAM 3.5.7.24 : DISABLED PERSON SYMBOL

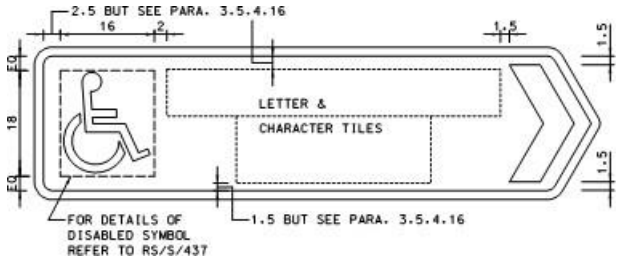


NOTE: SEE NOTES IN DIAGRAM 3.5.7.22

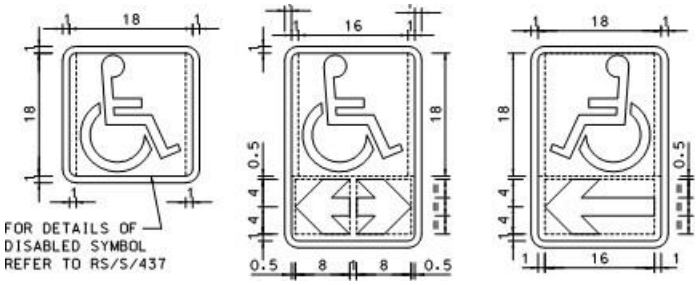
DIAGRAM 3.5.7.25 : DIRECTION SIGNS FOR DISABLED PERSONS

DIMENSIONS IN STROKE WIDTHS

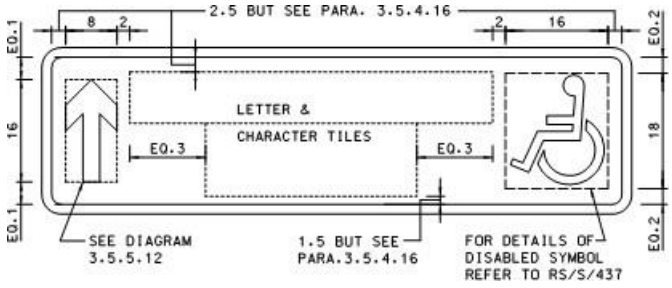
(i) DIRECTION SIGN TO PARTICULAR DESTINATION
(SEE DIAGRAM 3.5.5.10 FOR DETAILS OF FLAG TYPE SIGN)



(ii) ROUTE DIRECTION SIGN



(iii) RECTANGULAR DIRECTION SIGN



Parking Symbols

3.5.7.36 Diagram 3.5.7.26 is the parking symbol which is a white 'P' on a blue background to be used to indicate major car parks with public parking spaces (preferably with 100 or more spaces).

3.5.7.37 Because of the colour of the symbol (white legend on a blue background as can be seen from Diagram 3.5.7.26), the car park direction sign itself is not the normal. The car park direction signs have a blue border, white background, and black chevron. Some various types of direction signs with parking symbol are illustrated in Diagram 3.5.7.27, and these may include the capacity and/or name of the car park where justified. Though in respect of the latter unless this is a multi-storey car park with a significant number of spaces or there is a need to distinguish one major car park from the other in the vicinity, the use of the name should be avoided.

3.5.7.38 To indicate goods vehicle parks (preferably those with 20 or more public parking spaces), the appropriate symbol should incorporate both the "P" sign and a goods vehicle symbol as shown in Diagram 3.5.7.28.

3.5.7.39 Some various types of directional signs for goods vehicle parks are illustrated in Diagram 3.5.7.29, and they have the same colour system as that for car park direction signs.

3.5.7.40 Details of the goods vehicle symbol are shown in Diagram 3.5.7.30, and this same symbol should be used on other directional signs where such a symbol is required. Generally, this will only be appropriate for Temporary Direction Signs, as for example where goods vehicles are diverted from one traffic lane to another. For this latter situation, it may also be necessary to indicate that goods vehicles should not use a particular lane and for this purpose, the symbol should incorporate a red diagonal as also shown in Diagram 3.5.7.30. It should be noted however that when used for this purpose, it is not a regulatory sign and goods vehicle drivers are not legally bound to comply with the advice.

DIAGRAM 3.5.7.26 : CAR PARK SYMBOL FOR DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

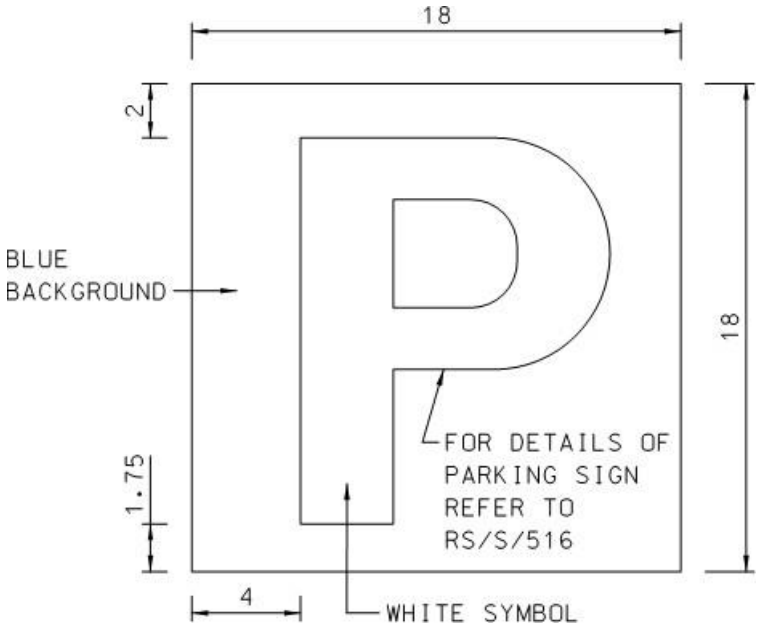
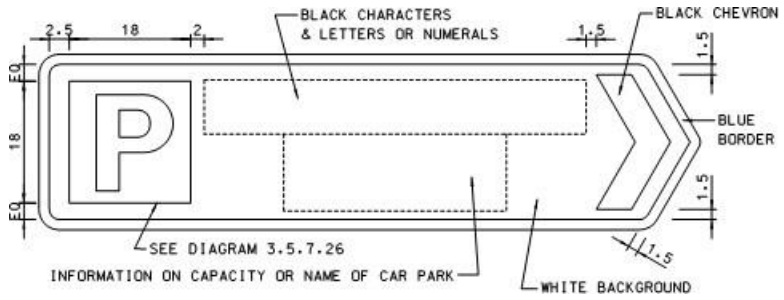


DIAGRAM 3.5.7.27 : CAR PARK DIRECTION SIGNS

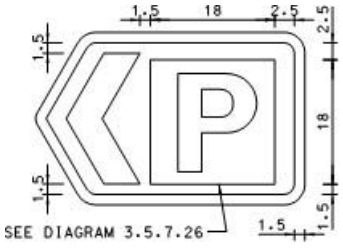
DIMENSIONS IN STROKE WIDTHS

(i) DIRECTION SIGN WITH INFORMATION AS TO CAPACITY OR SIMILAR

(SEE DIAGRAM 3.5.5.10 FOR DETAILS OF FLAG TYPE SIGN)



(ii) LOCAL DIRECTION SIGN



(iii) RECTANGULAR DIRECTION SIGN

(MAY ALSO BE USED WITHOUT WRITTEN INFORMATION AS A LOCAL DIRECTION SIGN)

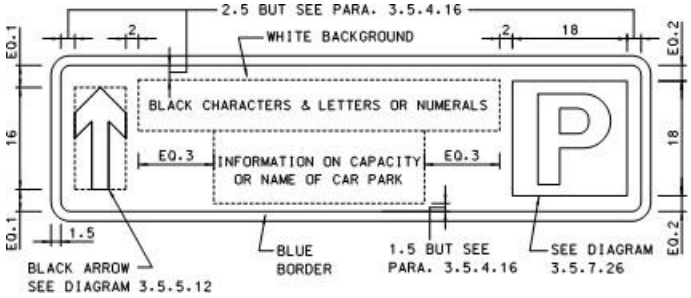


DIAGRAM 3.5.7.28 : GOODS VEHICLE PARKING SYMBOL

DIMENSIONS IN STROKE WIDTHS (SEE DIAGRAM 3.5.7.30 FOR x-height OF SYMBOL)

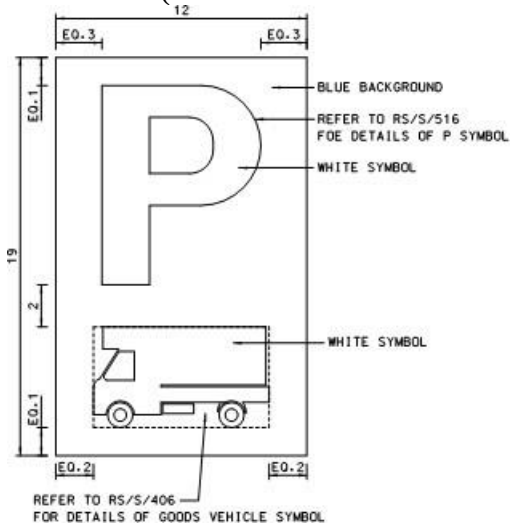
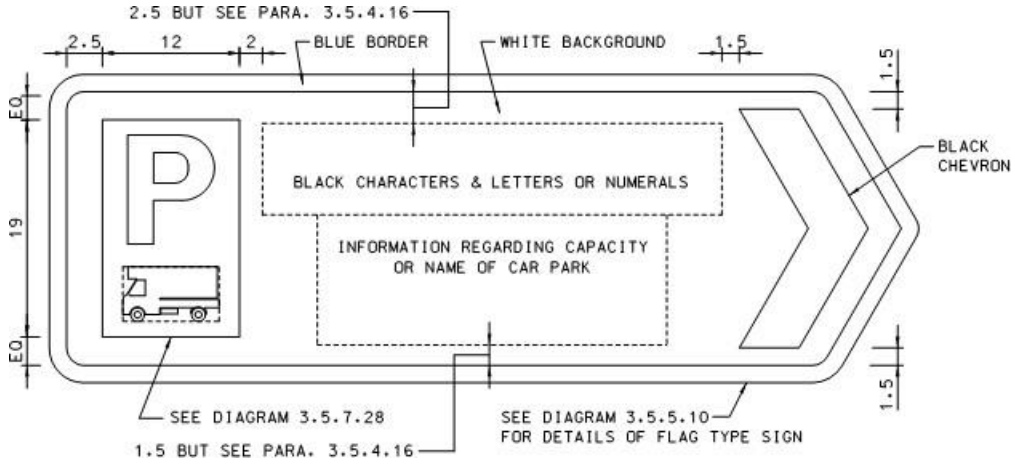


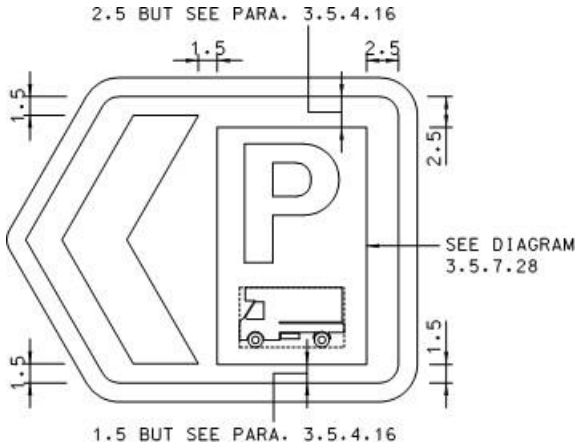
DIAGRAM 3.5.7.29 : GOODS VEHICLE PARK DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) DIRECTION SIGN WITH INFORMATION AS TO CAPACITY OR SIMILAR

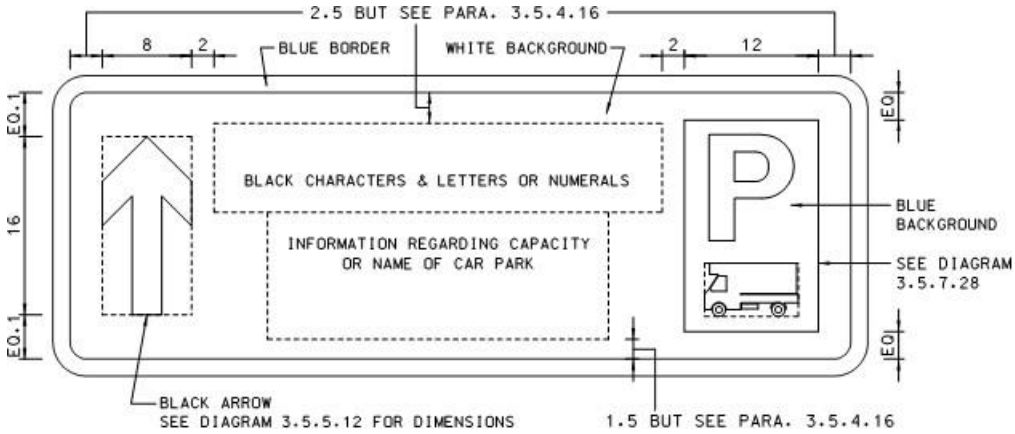


(ii) LOCAL DIRECTION SIGN



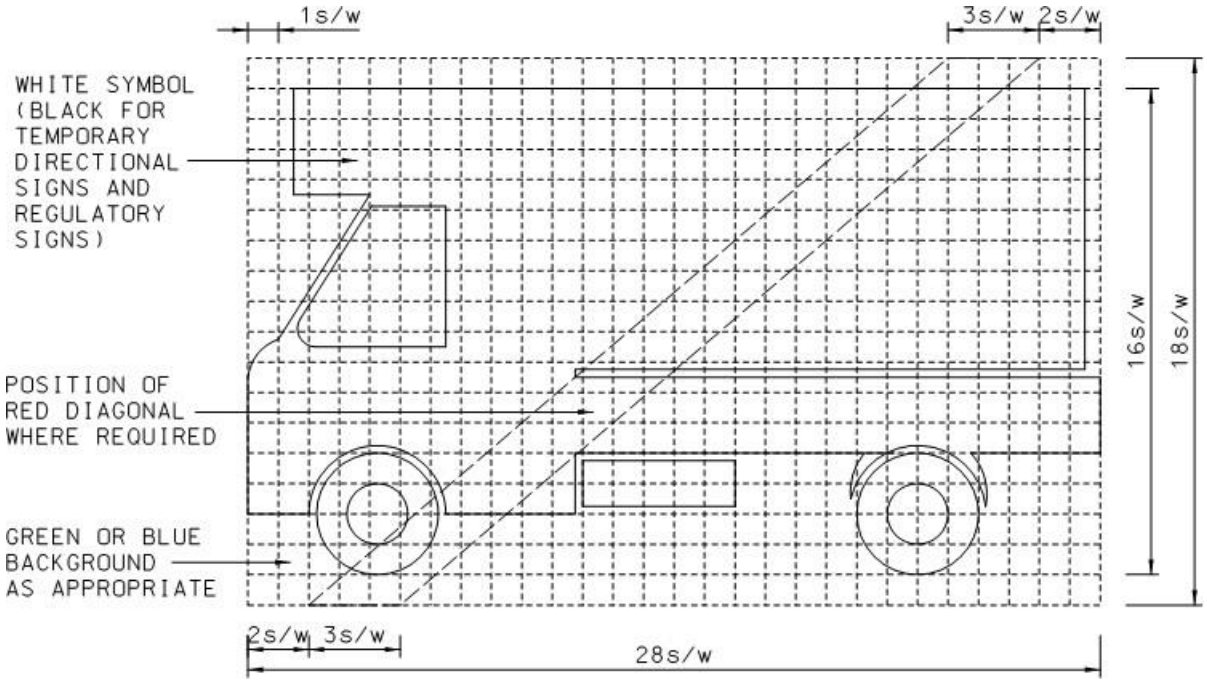
(iii) RECTANGULAR DIRECTION SIGN

(MAY ALSO BE USED WITHOUT WRITIEN INFORMATION AS A LOCAL DIRECTION SIGN)



NOTE: ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16

DIAGRAM 3.5.7.30 : GOODS VEHICLE SYMBOL



NOTE : THE GRIDS DO NOT FORM PART OF ANY SIGN TO WHICH THE SYMBOL IS APPLIED. IN RESPECT OF DIAGRAM 3.5.7.28, THE APPROPRIATE "X" HT FOR THE GOODS VEHICLE SYMBOL SHOULD BE CHOSEN IN ACCORDANCE WITH THE FOLLOWING: -

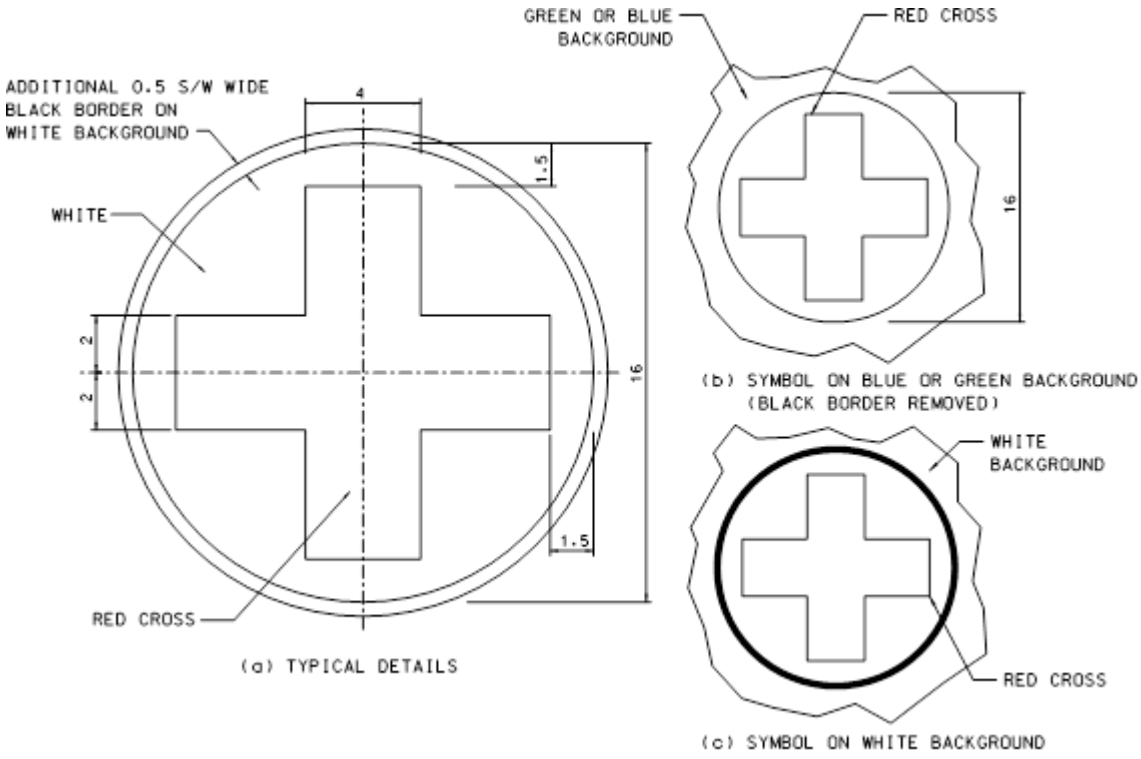
"X" HT OF MAIN SIGN	62.5 mm	75 mm	100 mm	150 mm	200 mm	250 mm	300mm
APPROPRIATE "X" HT FOR GOODS VEHICLE SYMBOL	20 mm	25 mm	37.5 mm	50 mm	62.5 mm	75 mm	100 mm

Accident and Emergency ("A&E") Symbol (former name: Hospital Symbol)

3.5.7.41 The "A&E" symbol, represented by a red cross on white background as shown in Diagram 3.5.7.31, is used only for signing to hospitals with 24 hours A&E services. In the past, the symbol had been arbitrarily used in general for all hospitals and would probably mislead motorists by its former name - hospital symbol. The renaming would better reflect its intended usage and avoid the mishaps of rushing emergency patients to hospitals without A&E services. Diagram 3.5.7.32 shows some of the typical direction signs with the symbol incorporated.

DIAGRAM 3.5.7.31 : ACCIDENT AND EMERGENCY (A&E) SYMBOL

DIMENSIONS IN STROKE WIDTHS

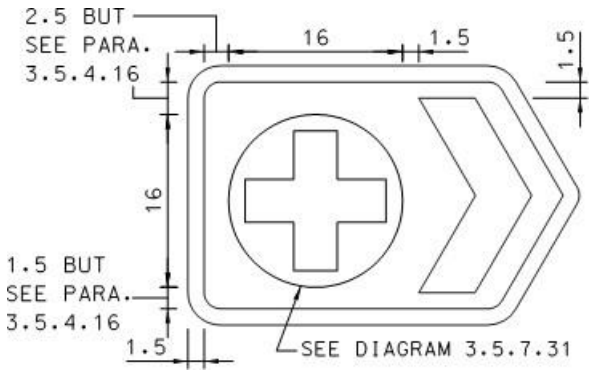


NOTE : A BLACK BORDER OF 0.5 S/W SHOULD BE ADDED FOR SYMBOL ON WHITE OR YELLOW BACKGROUND SIGNS

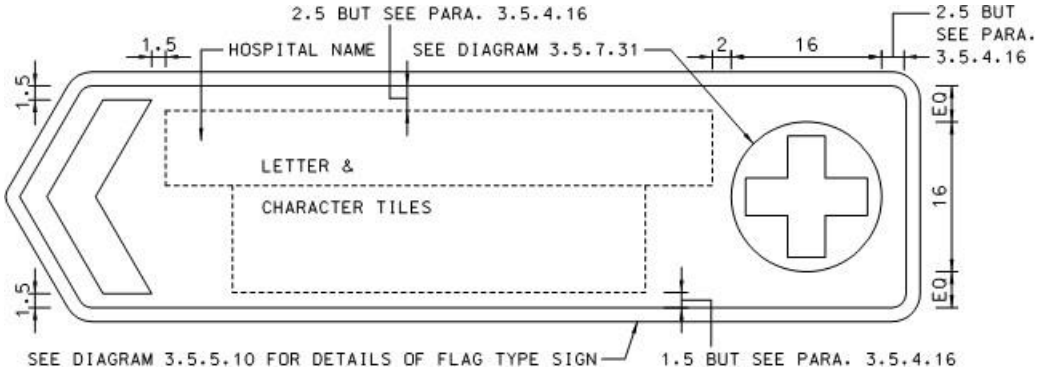
DIAGRAM 3.5.7.32 : ACCIDENT AND EMERGENCY DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

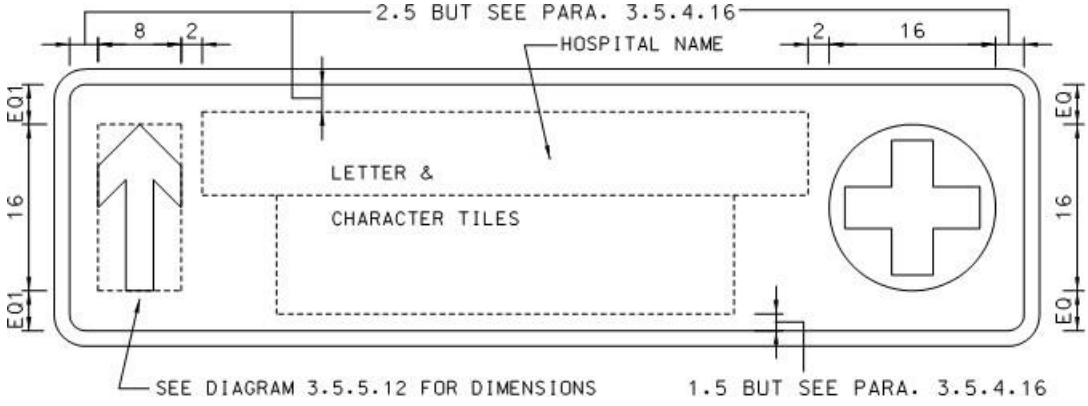
(i) LOCAL DIRECTION SIGN



(ii) DIRECTION SIGN (WHERE NAME OF HOSPITAL NEEDS TO BE PROVIDED)



(iii) RECTANGULAR DIRECTION SIGN



NOTE: ALL BORDER SPACINGS ARE SUBJECT TO ROUNDING, SEE PARAGRAPH 3.5.4.16

Traffic Sign Symbols

3.5.7.42 Traffic signs "Restricted Headroom Ahead", "Height Limit", "Width Limit", "Length Restriction", "No Left/Right Turn", "No Entry", "Road Works Ahead", "Goods Vehicles Prohibited", "LRT Vehicle Crossing" and "Prohibition of Dangerous Goods Vehicles" are commonly used in conjunction with directional signs to give advance warning to motorists and Diagrams 3.5.7.33 to 3.5.7.37 illustrate some examples of the use of these symbols. The dimensions of these symbols are related to their use as part of a direction sign and it should be noted that these are not the same as when these traffic signs are used alone. For the latter purpose, Working Drawings of the various sign sizes are available from the Road Safety and Standards Division, TD. It should also be noted that all traffic sign symbols forming part of a direction sign are for information only. The actual restriction or prohibition requires installation of the appropriate standalone traffic sign.

3.5.7.43 Diagram 3.5.7.33 illustrates the dimensions for the "Road Works Ahead" symbol, and Diagram 3.5.7.34 indicates how this should be incorporated into the warning triangle (for details, see Diagram 3.5.5.7).

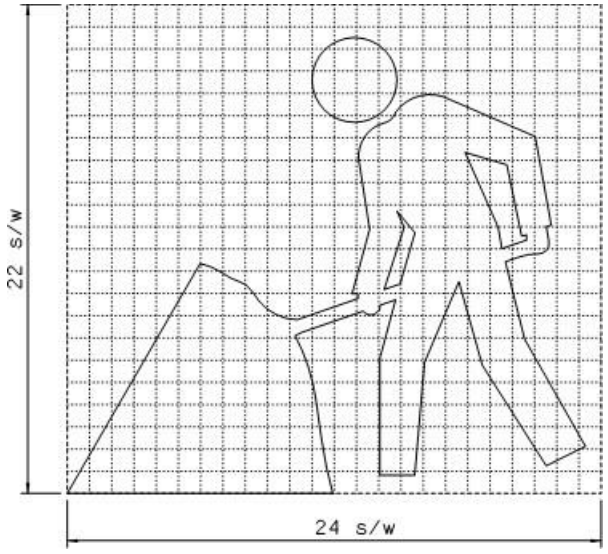
3.5.7.44 It may be necessary to indicate a height restriction ahead on a directional sign and Diagram 3.5.7.35 shows the various dimensions to be used for this symbol. Details of the warning triangle surround are shown in Diagram 3.5.5.7. It should be noted that the x-height for the numerals on the symbol will not be the same as the x-height used for the main part of the sign, but should be those in accordance with that in Diagram 3.5.7.35.

3.5.7.45 Where it is required to indicate a "No Entry" symbol, the dimensions for this should be in accordance with Diagram 3.5.7.36.

3.5.7.46 Prohibitory traffic sign symbols should have diameter and border widths as specified in Diagram 3.5.7.37. The goods vehicle symbol used in the particular example in Diagram 3.5.7.37 is based on the standard one for directional signs shown in Diagram 3.5.7.30. The appropriate x-height in order to determine the actual size of the symbol should be in accordance with that shown in Diagram 3.5.7.37.

DIAGRAM 3.5.7.33: ROAD WORKS AHEAD SYMBOL FOR DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS



NOTES : THE GRIDS DO NOT FORM PART OF ANY SIGN TO WHICH THE SYMBOL IS APPLIED

DIAGRAM 3.5.7.34 : LOCATION OF ROAD WORKS AHEAD TILE ON TRIANGULAR WARNING SIGN

DIMENSIONS IN STROKE WIDTHS

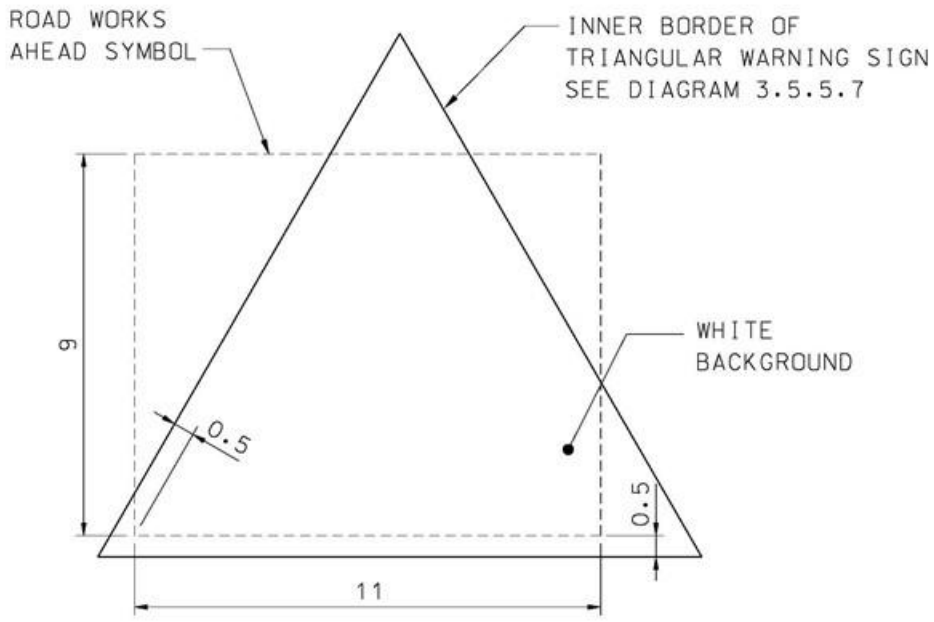
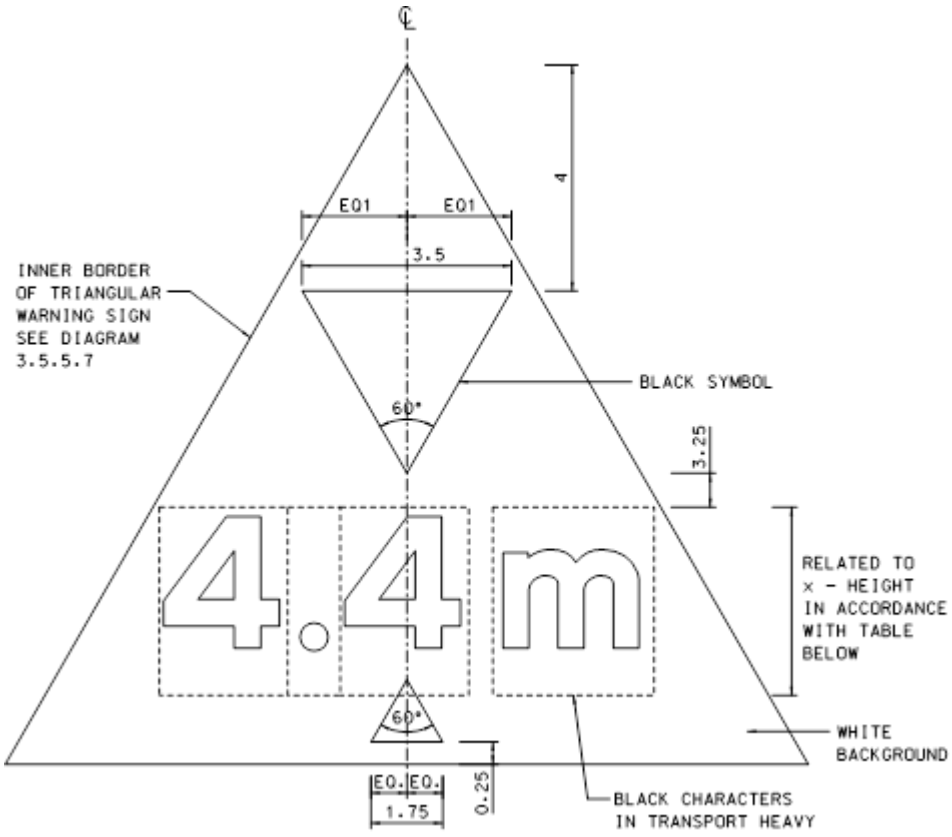


DIAGRAM 3.5.7.35 : HEADROOM SYMBOL FOR DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS



APPROPRIATE x-HEIGHT

x-HEIGHT OF MAIN SIGN	x-HEIGHT FOR BLACK CHARACTERS
250	100
200	75
150	62.5
100	37.5
75	30
62.5	25
50	20

DIAGRAM 3.5.7.36 : "NO ENTRY" SYMBOL FOR DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

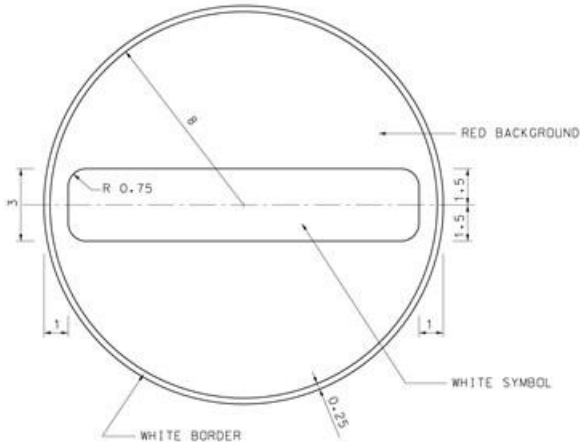
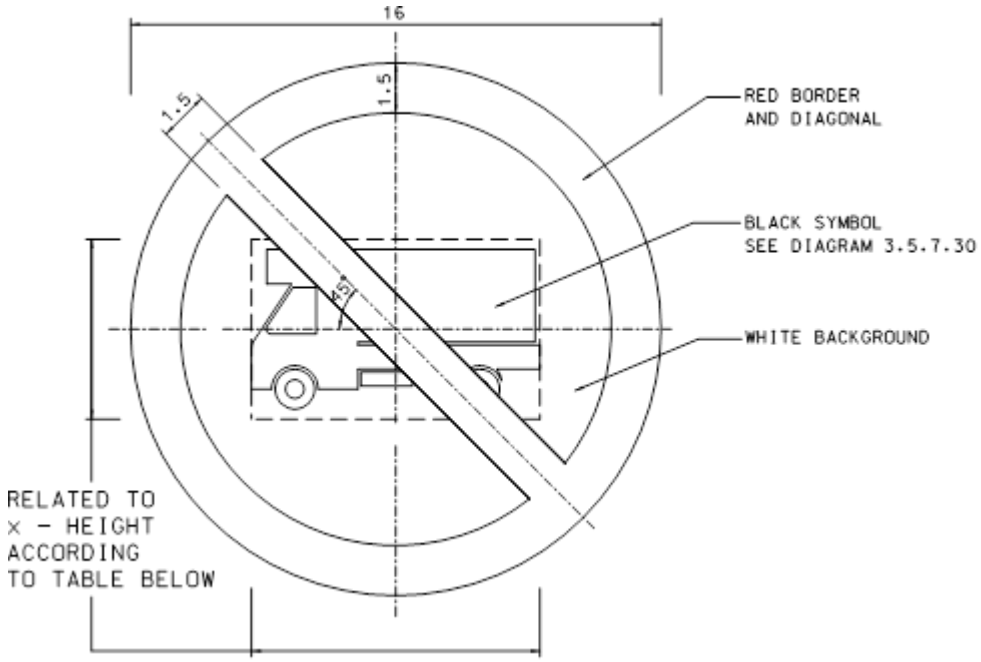


DIAGRAM 3.5.7.37 : GOODS VEHICLE PROHIBITED SYMBOL FOR DIRECTION SIGNS



APPROPRIATE x-HEIGHT FOR
GOODS VEHICLE SYMBOL

x-HEIGHT OF MAIN SIGN	x-HEIGHT FOR DIAGRAM 3.5.7. 30
250	75
200	62.5
150	50
100	37.5
75	25
62.5	20
50	20

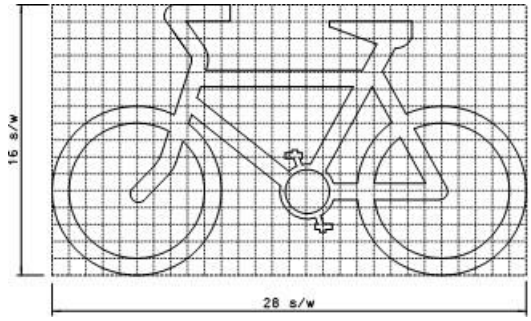
Cycle Symbol

3.5.7.47 Diagram 3.5.7.38 illustrates the cycle symbol to be used on Cyclist Direction Signs, and the various types for these are shown in Diagram 3.5.7.37. The symbol should be orientated, in the direction of the route in the case of flag type signs, or facing the arrow for rectangular signs.

3.5.7.48 Although not shown in Diagram 3.5.7.39, place names may also be incorporated into the sign if required.

3.5.7.49 Cyclist Direction Signs are most appropriately used to indicate the direction to a cycle track, but they may also be used along the cycle track, and would normally incorporate a place name, as a reminder that the route is for cyclist. Further information on this is contained in Chapter 6 of this Volume.

DIAGRAM 3.5.7.38 : CYCLE SYMBOL

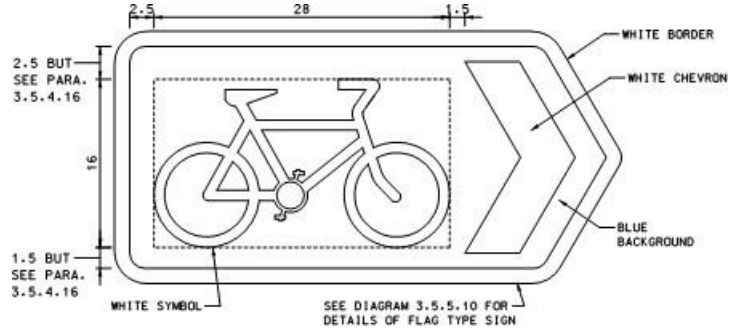


SEE NOTES IN DIAGRAM 3.5.7.22

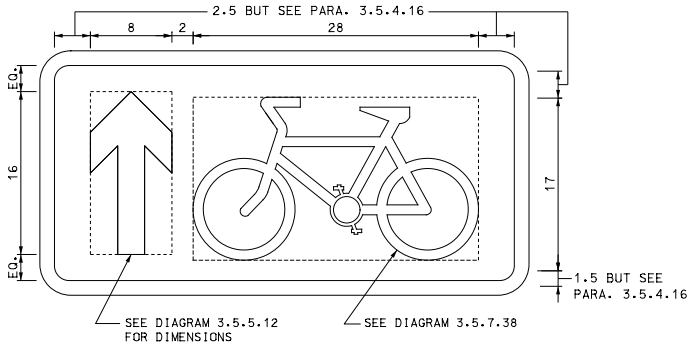
DIAGRAM 3.5.7.39 : CYCLIST DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) LOCAL DIRECTION SIGN



(ii) RECTANGULAR DIRECTION SIGN



Service Area Symbols

3.5.7.50 Diagram 3.5.7.40 indicates the various symbols used to indicate particular facilities available at service area. In the case of the parking symbol, (iii) in the Diagram, it is not necessary to include this in any directional sign if in addition to the fuel sign in (i) in the Diagram, there is also included (ii) drinks and light refreshments, (iv) restaurant or (v) overnight accommodation, as it can be assumed that parking will be provided if these other facilities are present.

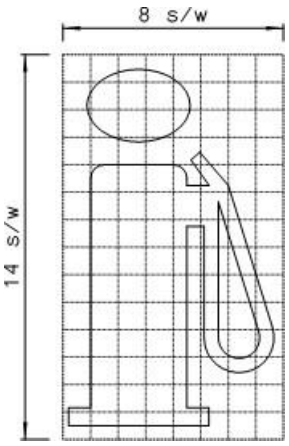
3.5.7.51 Diagram 3.5.7.41 illustrates the arrangement of the symbols for roadside direction signs. In respect of the AIS (if provided), the ADS and the FADS, the forward destinations beyond the service area should not be shown on any of these signs if the service area is served by its own junction. However, where the service area is via a slip road serving other destinations, then the FADS should follow the normal format and show the forward destination. In these latter cases, the service area symbols should be placed to the right of the other destinations shown on the sign with a gap of 2 s/w between the nearest part of the destination block and the nearest symbol, as illustrated in Diagram 3.5.7.42.

3.5.7.52 Diagram 3.5.7.42 also illustrates the arrangement of service area symbols on gantry signs, and as mentioned in paragraph 3.5.7.50, the symbols should be placed to the right of any destination block, except in the case of an offside slip road when the symbols should be placed to the left. Again, as for roadside signs in the case of the FADS where the service area is served by its own junction, the forward destination should not be shown.

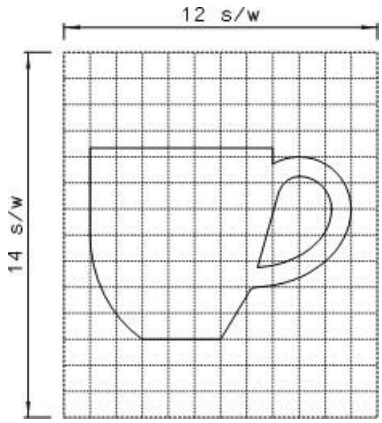
3.5.7.53 Although a “lane drop” AIS or ADS is illustrated in Diagram 3.5.7.42, this type of slip road arrangement will seldom be appropriate for access to a service area alone.

DIAGRAM 3.5.7.40 : SERVICE AREA SYMBOLS

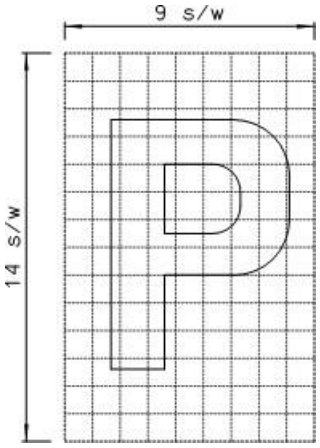
(i) FUEL



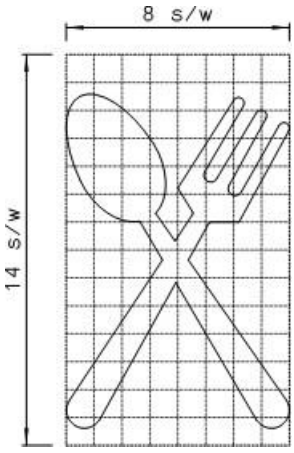
(ii) DRINKS AND LIGHT REFRESHMENTS



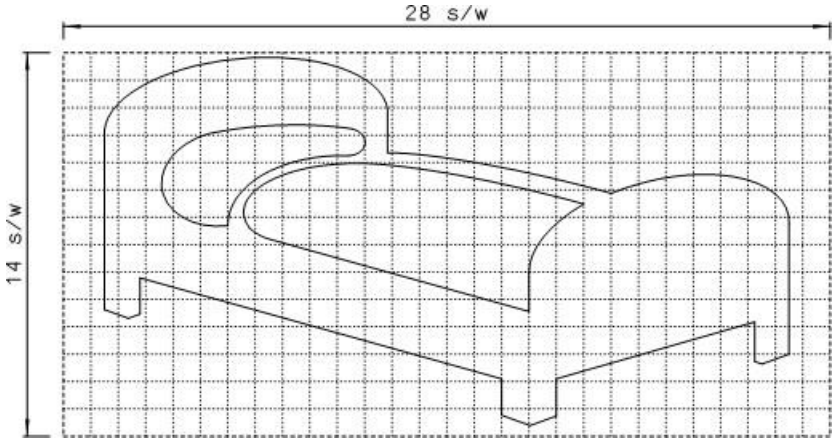
(iii) PARKING



(iv) RESTAURANT



(v) OVERNIGHT ACCOMMODATION



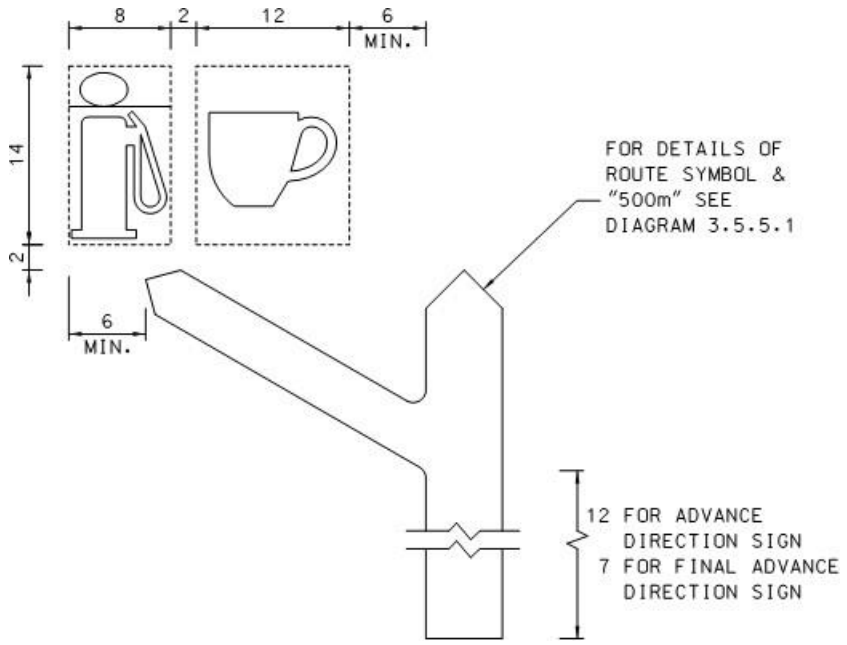
NOTES

1. THE GRIDS DO NOT FORM PART OF ANY SIGN TO WHICH THE SYMBOL IS APPLIED
2. ALL SYMBOLS ARE WHITE ON A GREEN OR BLUE BACKGROUND AS APPROPRIATE

DIAGRAM 3.5.7.41 : USE OF SERVICE AREA SYMBOLS ON ROADSIDE SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN & FINAL ADVANCE DIRECTION SIGN ARRANGEMENT



NOTE : ADVANCE INFORMATION SIGN IF PROVIDED SHOULD USE SIMILAR ARRANGEMENT FOR ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION

(ii) FLAG TYPE DIRECTION SIGN

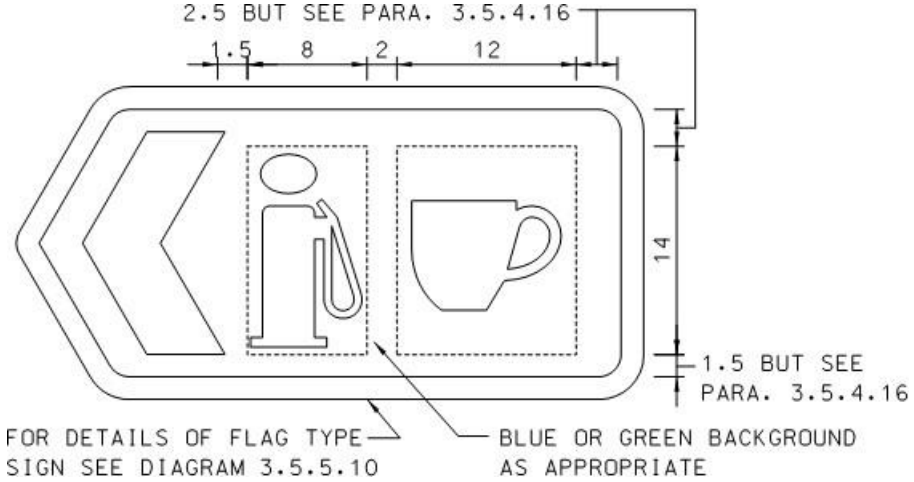
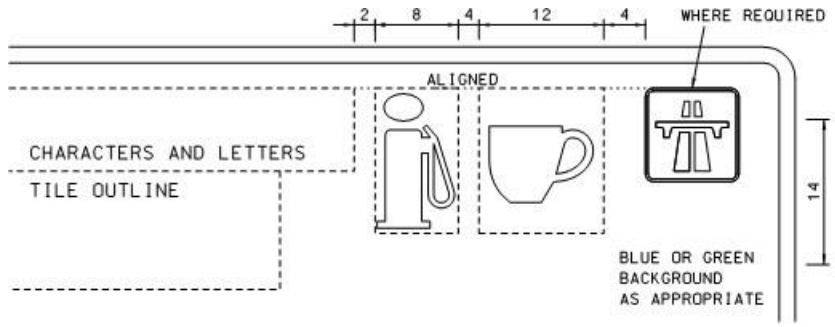
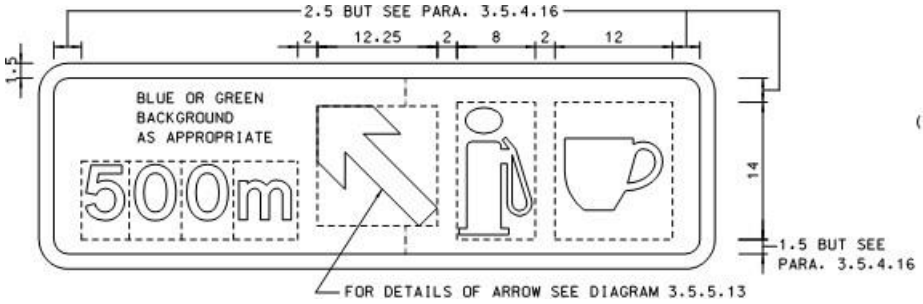


DIAGRAM 3.5.7.42 : USE OF SERVICE AREA SYMBOLS ON GANTRY SIGNS

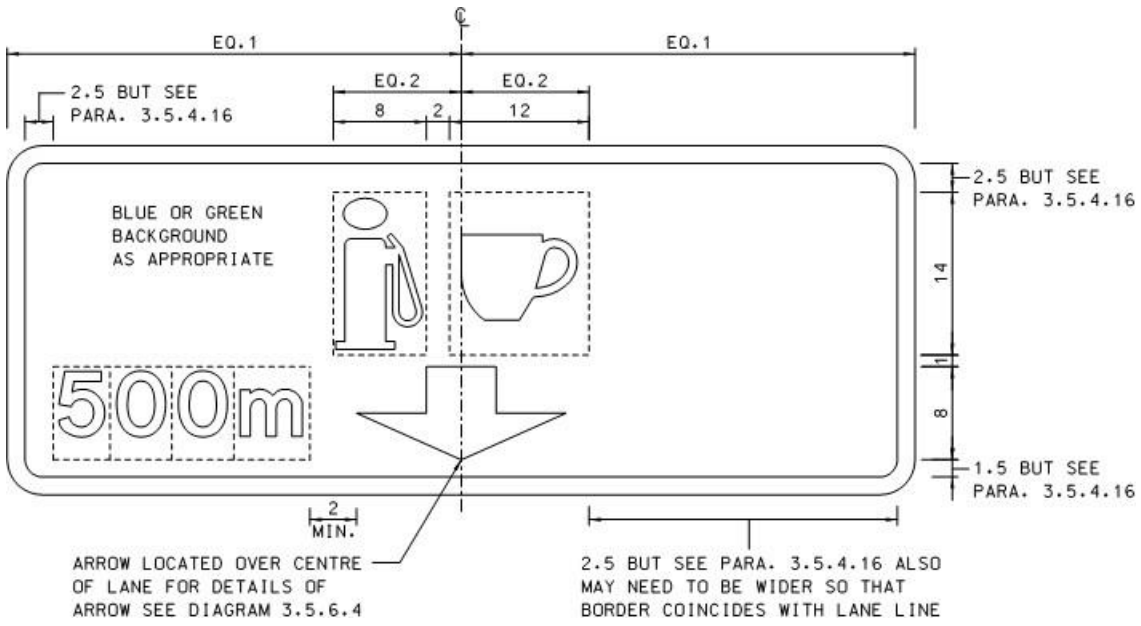
DIMENSIONS IN STROKE WIDTHS



(i) ADVANCE DIRECTION SIGN AND FINAL ADVANCE DIRECTION SIGN HAVING OTHER DESTINATIONS SEE DIAGRAMS 3.5.6.1, 3.5.6.2, 3.5.6.4 AND 3.5.6.7. FOR DETAILS OF OTHER PARTS OF THE SIGNS. IN THE CASE OF A SIGN TO DIAGRAM 3.5.6.2. THE SYMBOLS SHOULD BE POSITIONED TO THE LEFT OF THE LETTER AND CHARACTER BLOCK.



(ii) ADVANCE DIRECTION FOR SERVICE AREA ONLY. THE FINAL ADVANCE DIRECTION SIGN WILL BE SIMILAR BUT WITHOUT THE "500m" INDICATION.



(iii) LANE DROP ADVANCE DIRECTION SIGN. SIMILAR ARRANGEMENT SHOULD BE USED FOR FINAL ADVANCE DIRECTION SIGN. THOUGH WITHOUT "500m" INDICATION.

NOTE : ADVANCE INFORMATION SIGN IF PROVIDED WILL BE SIMILAR TO THE ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION

3.6 Temporary Direction Signs

3.6.1 General

3.6.1.1 Temporary Direction Signs are those signs used to indicate to motorists a temporary change in the route to be followed to reach a particular destination, normally as a result of road works being carried out.

3.6.1.2 Generally a temporary change should be regarded as one not lasting more than 6 months, but this should not be interpreted to rigidly as in some instances a much longer period could still be considered as temporary.

3.6.1.3 Temporary Direction Signs are as the name implies not permanent signs and must not be used to indicate a permanent route change. Nor should Temporary Direction Signs be allowed to remain when the purpose for which they were erected no longer applies. Such signs must be removed immediately on completion of the works with which they are associated.

3.6.1.4 Once erected, Temporary Direction Signs must be properly maintained throughout the period of their use, so that they are visible at all times, and in this respect comply with the requirements given in paragraph 3.6.2.7.

3.6.1.5 The Engineer for the works contract should ensure that the contractor has obtained any approval required for Temporary Direction Signs that are necessary, as outlined in Section 3.6.4. The Transport Department may, as the authoritative department for traffic signs, direct the change or relocation of such signs, if it is considered they have not been designed or located correctly in accordance with this Section.

3.6.1.6 Where approval or advice from the Transport Department is required as to the design or location of any Temporary Direction Sign, adequate time must be allowed for this consultative process, and in this respect Section 3.6.4 should be referred to.

3.6.1.7 It is essential to appreciate that with Temporary Direction Signs, space to erect such signs or incorporate them into a permanent sign is usually extremely limited. Therefore, whilst directions given must be clear and unambiguous, they must more importantly be kept to an absolute minimum. The inclusion of unnecessary or extraneous information results in either the sign being designed to such a small x-height that it is illegible, or signs being omitted entirely. Neither of the latter are consistent with providing drivers with adequate information as to the routes to be followed, and failure to do this can in some instances lead to accident occurring.

3.6.2 Design Features

3.6.2.1 For Temporary Direction Signs, the Code of Practice for Lighting, Signing and Guarding of Road Works permits construction details such as thickness of backing sheet and types of support, to be of a lower standard than that for permanent signs. Standard of illumination must be of the same standard as permanent directional signs and their layout must follow the same design requirements as that given in previous Sections in this Chapter. With regard to reflectorisation, attention is drawn to paragraph 3.2.7.2, which requires Temporary Direction Signs to be reflectorised and constructed from retro-reflective materials conforming to Class RA2 of the BS EN 12899-1:2007, and not hand-painted.

3.6.2.2 In respect of the colours used for Temporary Direction Signs, these generally will be black legends and borders on a yellow background. For colours of symbols used on Temporary Direction Signs, see paragraph 3.6.6.3 of this Section.

3.6.2.3 With regard to the actual location of Temporary Direction Signs, the same visibility requirements as those given in Table 3.2.5.1 for permanent signs are necessary, and only in exceptional circumstances should lesser distances be permitted. Similarly, Temporary Direction Signs should be positioned in advance of a junction or diversion in accordance with Tables 3.2.4.1 and 3.2.4.3, unless otherwise indicated in this Section.

3.6.2.4 It is important to realise that motorists can only read and understand, and therefore properly react to, a limited amount of information. Therefore, long or involved messages are of little value and must not be used on Temporary Direction Signs. In a considerable number of cases, Diversion Signs described in Section 3.6.5 will be more than adequate to re-route traffic and in other cases, the contents of Temporary Direction Signs should be similar to that described in Section 3.5 for permanent signs.

3.6.2.5 Although paragraph 3.6.2.1 states that the design standards for Temporary Direction Signs should accord with those used for permanent signs, it is recognised that at times smaller x-heights than normally permitted in Table 3.2.5.1 may have to be used where necessary. However, this should not be taken as implying that such smaller x-heights can be used on every occasion and every effort should be made to comply with Table 3.2.5.1.

3.6.2.6 Table 3.6.2.1 indicates desirable minimum and absolute minimum x-heights for Temporary Direction Signs. However, where the desirable minimum cannot be achieved, it should be determined whether there is an interim value that can be utilised, before the absolute minimum is decided upon. In the case of gantry signs, it is particularly important that the largest x-height possible is used.

3.6.2.7 To ensure that Temporary Direction Signs are of an adequate standard throughout the period that they are erected, they must at all times comply with the following: -

(i) Legibility Distance

Letters and characters must be clearly legible and be able to be read by a person with average sight in daylight conditions, standing in front of the sign in accordance with the following: -

x-height (mm)	Minimum Legibility Distance (m)
37.5	25
50	30
62.5	38
75	45
100	60
150	90
200	120
250	180

(ii) Surface Colour

By visual inspection, the sign colours should conform with agreed control colours in accordance with paragraph 3.6.6.3 of this Section.

(iii) Retro-reflectiveness

The retro-reflectiveness of the sign should not be less than the minimum coefficient of retro-reflection given in BS EN 12899-1:2007 for Class RA2 materials.

(iv) Cleanliness

The sign should be properly maintained in a clean condition and able to be read in accordance with the legibility requirements in (i) above.

(v) Clear Visibility

There should be nothing obstructing any part of the sign when viewed at an eye height of 1.05m and 2.0m from the centre of each traffic lane in accordance with the minimum clear visibility distances given in Table 3.6.2.1. The 2.0m eye height has been incorporated to include drivers of heavy vehicles.

Table 3.6.2.1
Appropriate x-heights for Temporary Direction Signs

	Design Speed (km/h)	Typical Road Type	Advance Information /Advance Direction /Final Advance Direction Signs			Direction Signs		
			"x" ht (mm)		Minimum Clear Visibility (m)	"x" ht (mm)		Minimum Clear Visibility (m)
			Desirable Minimum	Absolute Minimum		Desirable Minimum	Absolute Minimum	
(i)	80 or greater	Expressway	250	200	150	250	200	120
(ii)	70 - 80	Trunk Road	250	150	135	250	100	100
(iii)	50 - 70	Primary/District Distributor & Rural Roads	150	100	100	150	75	75
(iv)	50 or less	Others	100	50	75	100	37.5	50

Note: If design speed is not available for existing road, the imposed speed limit or the 85th percentile speed of light vehicles may be used, or whichever higher shall be used.

3.6.2.8 Where a Temporary Direction Sign fails to meet any of the requirements of paragraph 3.6.2.7, immediate steps must be taken to rectify the deficiency.

3.6.3 Horizontal and Vertical Clearances for Temporary Direction Signs

3.6.3.1 Horizontal and vertical clearances for Temporary Direction Signs, should as far as possible accord with the same standards as used for permanent signs. However, it is recognised that in certain situations this may not always be possible and some reduction in these standards may be necessary. Tables 3.6.3.1 and 3.6.3.2 indicate the desirable minimum vertical and horizontal clearances respectively, that should be achieved wherever possible, together with absolute minimum values that must be provided. These are further illustrated in Diagram 3.6.3.1.

3.6.3.2 Horizontal clearances should be measured from the edge of carriageway to the nearest part of the sign assembly, including the supports. In this latter respect whilst it is outside the scope of this Manual to specify support details, it is preferable that supports for Temporary Direction Signs are of the same design as those for permanent signs, that is in the form of posts installed into the ground with appropriate concrete foundations. Whilst signs on stands may provide a more flexible and cheaper means of supporting signs, they do obstruct a far larger area and are more susceptible to being knocked over. Certainly any sign which is expected to remain in the same position for a period of 3 months or more should be supported in a similar manner to its permanent equivalent.

3.6.3.3 Any Temporary Direction Sign erected over a footway must not unnecessarily obstruct that footway and if there is any obstruction caused, it must enable a clear unobstructed footway width of at least 1500mm, and wherever possible a greater width to be provided. Additionally, it must be ensured that the type of supports used or the sign itself will not cause damage to clothing of pedestrians, or danger to them, or to cause pedestrians to have to walk on the carriageway in order to avoid the supports.

Table 3.6.3.1
Vertical Clearances for Temporary Direction Signs

		Desirable Minimum (mm)	Absolute Minimum (mm)
(i)	Over footways	2300	2000
(ii)	Over verges or places to which pedestrians do not have access	900 - 1500	900
(iii)	Over verges adjacent to dual carriageway roads	1000	900
(iv)	Over carriageways	5100	4900 (but only in exceptional circumstances and not over Expressways)

Table 3.6.3.2
Horizontal Clearances for Temporary Direction Signs from Edge of Carriageway

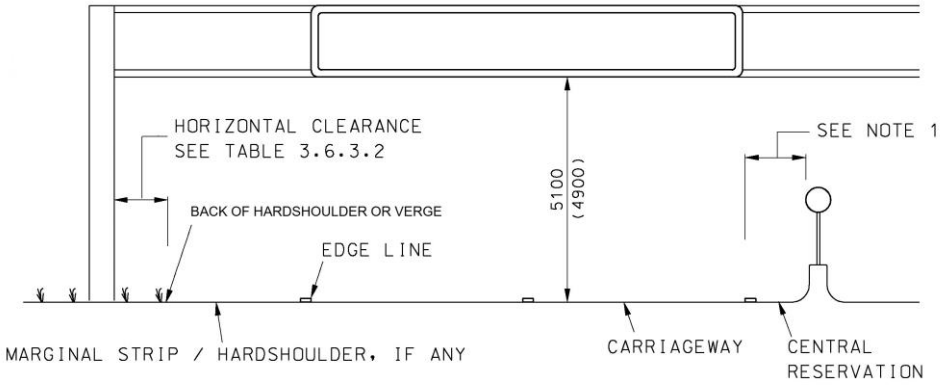
		Desirable Minimum (mm)	Absolute Minimum (mm)
(i)	Roads with speed limit 50 km/h or below	500	200
(ii)	Roads with speed limit 70 km/h	600	500
(iii)	Expressways, and roads with speed limit 80 km/h or above	1000	500 (subject to TD's agreement and temporarily reducing the speed limit to 70 km/h)

Note: For posts/signs erected on central reserve of dual carriageways, adopt the same standards for permanent signs as referred to in paragraph 6.3.3.11 of Chapter 6, Volume 2 for expressways or paragraph 3.5.2.2 of Chapter 3, Volume 2 for other roads as appropriate.

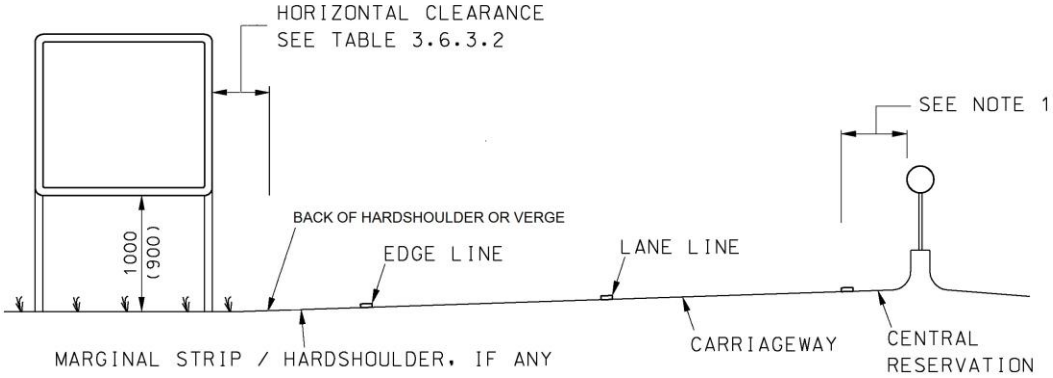
DIAGRAM 3.6.3.1 : VERTICAL AND HORIZONTAL CLEARANCES FOR TEMPORARY DIRECTION SIGNS

(i) DUAL CARRIAGEWAY WITH MARGINAL STRIP / HARD SHOULDER

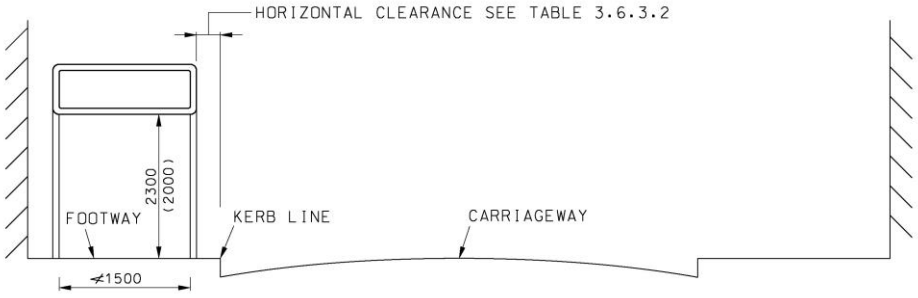
(a) GANTRY SIGN



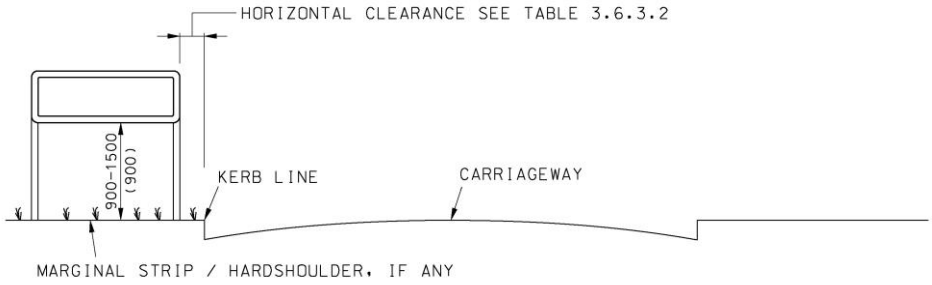
(b) ROADSIDE SIGN



(ii) SINGLE OR DUAL CARRIAGEWAY IN URBAN /RURAL WITH FOOTWAYS



(iii) SINGLE OR DUAL CARRIAGEWAY IN URBAN/RURAL WITHOUT FOOTWAYS



NOTES

1. SEE THE NOTE OF TABLE 3.6.3.2
2. HORIZONTAL CLEARANCE IS MEASURED FROM THE EDGE OF CARRIAGEWAY OR THE BACK OF HARDSHOULDER OR VERGE TO THE NEAREST EDGE OF ROADSIDE SIGN ASSEMBLY, OBSTRUCTIONS, OR RAILINGS/BARRIERS.
3. IF THERE ARE RAILINGS OR BARRIERS ERECTED IN FRONT OF THE SIGN/POST, THE HORIZONTAL CLEARANCE SHOULD MEASURE FROM THE EDGE OF CARRIAGEWAY TO THE RAILINGS OR BARRIERS. FOR BARRIERS, APPROPRIATE CLEARANCE BETWEEN THE BARRIER AND THE SIGN/POST SHOULD BE PROVIDED TO ALLOW FOR POSSIBLE DYNAMIC DEFLECTION OF THE BARRIERS UNDER IMPACT.
4. FIGURES SHOWN IN BRACKETS ARE THE ABSOLUTE MINIMUM VERTICAL CLEARANCES.

3.6.4 Authorisation and Approval

3.6.4.1 Any Temporary Direction Sign used in Hong Kong must have the authorisation of the Transport Department though the police may authorise signs erected for a period not longer than 72 hours. However, even in the case of the latter, signs should as far as possible adhere to the design details in this Section in order that uniform, and therefore readily recognised signing standards are achieved.

3.6.4.2 The Director of Highways may in accordance with the Road Traffic (Traffic Control) Regulations direct where signs at road works may be placed or located, and the type of reflective material to be used, but this authority does not extend to approving sign face details.

3.6.4.3 Certain powers in respect of traffic signs have been delegated to other Departments, but these concern only the actual erection of signs, and not the approval of sign face details, and any such delegation must not be taken as powers to approve the sign face details of Temporary Direction Signs.

3.6.4.4 Submissions of temporary directional signing design to the Transport Department shall include at least the signing scheme drawing and sign face detail drawing.

3.6.4.5 Signing scheme drawing shall include the road layout and position of the signs at a suitable scale with critical distance indicated. Other essential details should include shielding and protection, clearance, mounting height, orientation and any special remarks. The layout of Temporary Direction Signs is preferably illustrated on the same drawing showing related temporary traffic signs and delineations.

3.6.4.6 A number of signs used in temporary situations at road works have already been approved for use by the Department, and therefore further approval of the sign face details are not required. Signs, that have been approved, are included in the Drawing No. series CT 174/51-1, 2, 3 and 4, and working drawings are available for such signs. However, modification to any of these signs, other than the substitution of a place name for another place name, will require the approval of the Transport Department.

3.6.4.7 Where approval for sign face details is required from the Transport Department, then a drawing of the sign to an appropriate scale should be submitted and the drawing should clearly indicate the following:-

(i) the overall dimensions of the sign;

(ii) the sign content, which must be drawn in accordance with the following: -

  (a) English letters and numerals to be in Transport Heavy Alphabet (Transport Medium may be appropriate in some situations e.g. temporary exit number plate);

  (b) Chinese characters to be of the Avector Chinese True Type Fonts (Hong Kong) – BlackBold 全真字庫(香港) – 粗黑體; and

  (c) arrows and any other symbols, and borders to be drawn and dimensioned in accordance with this Chapter;

(iii) an indication of the x-height or heights proposed to be used;

(iv) the materials the sign face is to be constructed from, e.g. Class RA2 reflective sheeting, or whether they are to be internally illuminated in a manner approved by the Director of Highways;

(v) any external illumination required;

(vi) the colours employed on the sign; and

(vii) the general arrangement and method of support e.g. tubular posts or gantry or other means.

3.6.4.8 The information in paragraphs 3.6.4.5 and 3.6.4.7 shall be signed by a professional engineer and should be supplied in the first instance, and at least 3 weeks should be allowed for processing. Rough-hewn proposals will cause unnecessary delays, or lead to approval being refused.

3.6.5 Diversion Signing

3.6.5.1 Diversion Signs are traffic signs 681 to 690 or similar, stating "Diversion" or "Diverted traffic" as illustrated in Diagram 3.6.5.1. They are signs used to indicate an alternative route to be followed when the original route has been closed to through traffic. The signs should comprise black border, letters, characters, numerals and arrows on a yellow background.

3.6.5.2 In many cases, particularly in emergencies, the use of Diversion Signs is preferable to other directional signs, as not only should these signs be readily available, but they also provide a clear indication of the route to be followed.

3.6.5.3 For maximum benefit to be gained from the use of Diversion Signs, they must be of appropriate size and located correctly throughout the diversion.

3.6.5.4 Table 3.6.5.1 indicates the appropriate size of Diversion Signs to be used according to the speed limit operating along the road in question.

Table 3.6.5.1
Diversion Sign Sizes

	Traffic Sign No.	Expressways		Roads with speed limits of 70 km/h or more		Roads with speed limits of 50 km/h or less	
		Size (mm)	Code No.	Size (mm)	Code No.	Size (mm)	Code No.
(i)	TS681	1400 x 2100	681/14	900 x 1400	681/9	675 x 1050	681/6
(ii)	TS682	1400 x 2700	682/14	900 x 1750	682/9	675 x 1325	682/6
(iii)	TS683	1400 x 2700	683/14	900 x 1750	683/9	675 x 1325	683/6
(iv)	TS684	1400 x 2400	684/14	900 x 1550	684/9	675 x 1175	684/6
(v)	TS685	1500 x 2100	685/15	1000 x 1400	685/10	750 x 1050	685/7
(vi)	TS686	1500 x 2100	686/15	1000 x 1400	686/10	750 x 1050	686/7
(vii)	TS687	1100 x 2500	687/11	700 x 1650	687/7	525 x 1225	687/5
(viii)	TS688	1900 x 2100	688/19	1225 x 1400	688/12	925 x 1050	688/9
(ix)	TS689	1900 x 2100	689/19	1225 x 1400	689/12	925 x 1050	689/9
(x)	TS690	1900 x 2100	690/19	1225 x 1400	690/12	925 x 1050	690/9

DIAGRAM 3.6.5.1 : DIVERSION SIGNS



TS 688



TS 689



TS 690



TS 685



TS 686



TS 687



TS 682



TS 683



TS 684



TS 681

3.6.5.5 With regard to the location of the signs, although some variation may be required to meet particular circumstances, they should be located generally in accordance with the following, as illustrated in Diagram 3.6.5.2: -

(i) Traffic signs 688, 689 or 690, "Diversion xxxm", should be located in advance of the start of the diversion in accordance with the following: -

(a) On Expressways, at least 500m in advance of the diversion;

(b) On roads with speed limits of 70 km/h or more not being Expressways, at least 200m in advance of the diversion and where approach speeds are likely to be in excess of 70 km/h, preferably 400m; and

(c) On roads with speed limits 50 km/h or less, at least 100m in advance of the diversion.

(ii) For Expressways and other roads where distances are indicated in excess of 200m, a series of signs should be used e.g. "500m (or 400m)", "200m" and "100m".

(iii) Traffic signs 688, 689, 690 or similar type must always be erected on the nearside of the carriageway and, for dual carriageway roads and one-way streets having more than two lanes, they should where space permits be also erected on the offside.

(iv) Traffic signs 685, 686 or 687 must always be used at the start of the diversion, together, where this is appropriate, with the temporary "Sharp deviation" traffic sign 503, pointing in the appropriate direction, as illustrated in Diagram 3.6.5.2. It may also be necessary to erect traffic sign 220 "Road closed", if this is the case, at the same location. Traffic sign 508 "Road ahead closed", should not generally be necessary in these situations as the diversion ahead signs will have provided this indication.

(v) At every change of direction along the diversion route, traffic sign 682 or 683, as illustrated in Diagram 3.6.5.2, must be erected to indicate the route to be followed.

(vi) Where it is necessary to indicate other destinations along the diversion route, then a DS, as also illustrated in Diagram 3.6.5.2, will be needed indicating the appropriate destination. Whether or not any ADS is required, will depend upon the particular circumstances of the diversion, and the type of route it is, but where the carriageway has two or more lanes proceeding in the same direction, an ADS is desirable. For roads of District Distributor Road status or less, appropriate map type ADS should be similar to that shown in Diagram 3.6.5.3. On dual carriageway roads, the ADS will generally need to be similar to that adopted for permanent signs on that route, and further information in respect of this is given in Sections 3.6.7 and 3.6.8.

(vii) At the end of the diversion, that is when the diverted route returns to the original route, traffic sign 685 "Diversion ends" should be erected to advise drivers of this.

3.6.5.6 In addition to the traffic signs mentioned in paragraph 3.6.5.5, it may also be necessary to erect regulatory signs such as "turn left" or "no right turn". Such signs however will depend on the particular circumstances of the diversion and have therefore not been included in the illustration in Diagram 3.6.5.2.

3.6.5.7 It should also be noted that whatever signs are erected, it is essential that proper regard is given to pedestrians and signs are not positioned such as to unnecessarily obstruct their movements or cause a danger to them. Too often because proper site inspection and supervision has not been taken place, signs are erected where they quite unnecessarily block or make difficult pedestrian movements and this should not be tolerated.

3.6.5.8 One further form of diversion signing that may be appropriate in some situations is by the use of directional signs. Where for example an existing access has to be closed temporarily and the new access would prevent a particular road being reached by the former route, Directional Signs incorporating road names as shown in Diagram 3.6.5.4 may be used to direct traffic. However, where such signing is used, it is essential that signs as shown in Diagram 3.6.5.4 are erected throughout the diversion, so that drivers are clearly aware of the route to be followed. A mixture of Temporary Direction Signs and Diversion Signs may also be used as long as this does not cause confusion.

DIAGRAM 3.6.5.2 : DIVERSION SIGNING

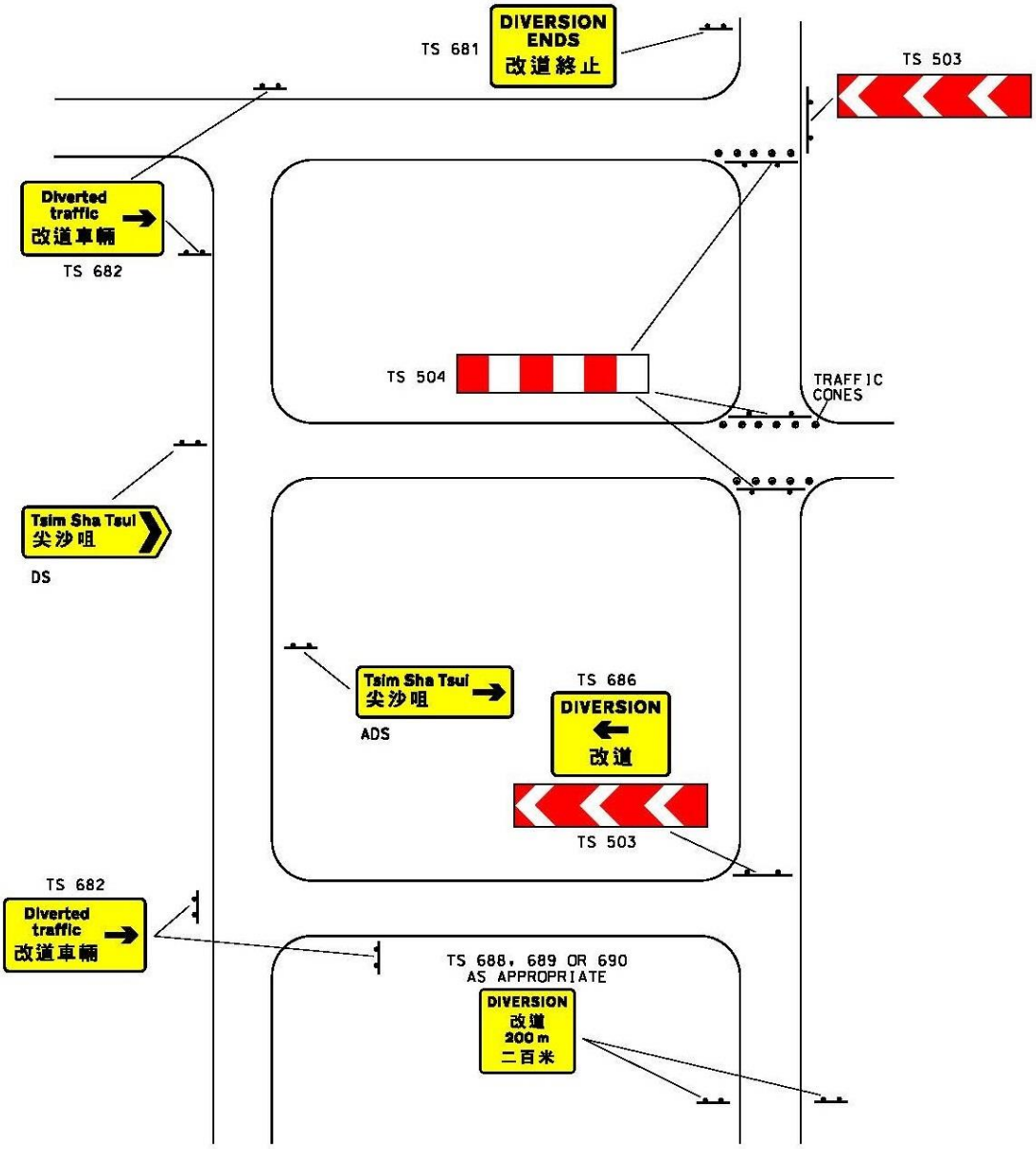


DIAGRAM 3.6.5.3 : ADVANCE DIRECTION SIGN WITHIN A TRAFFIC DIVERSION

DIMENSIONS IN STROKE WIDTHS

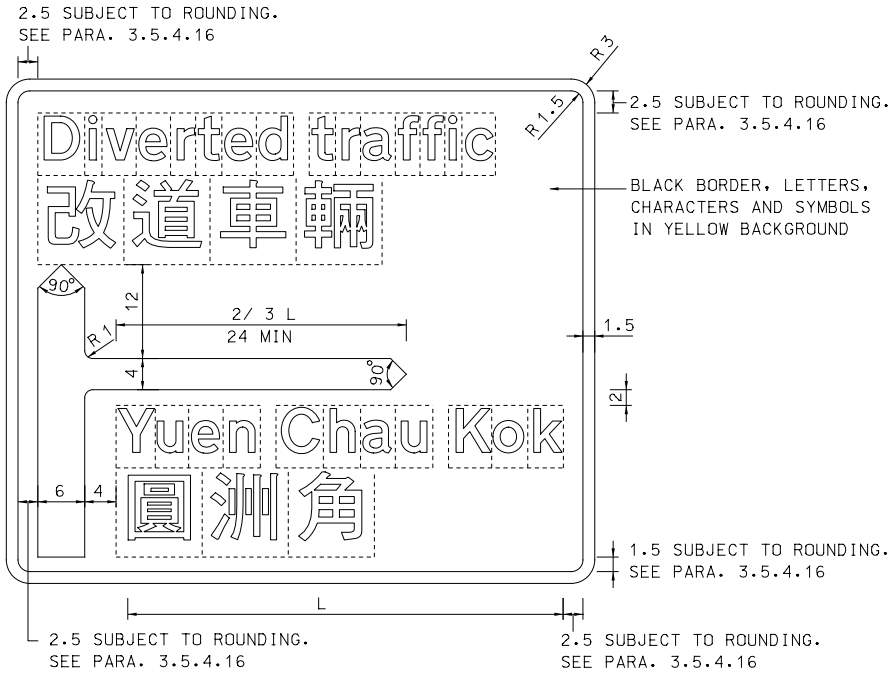
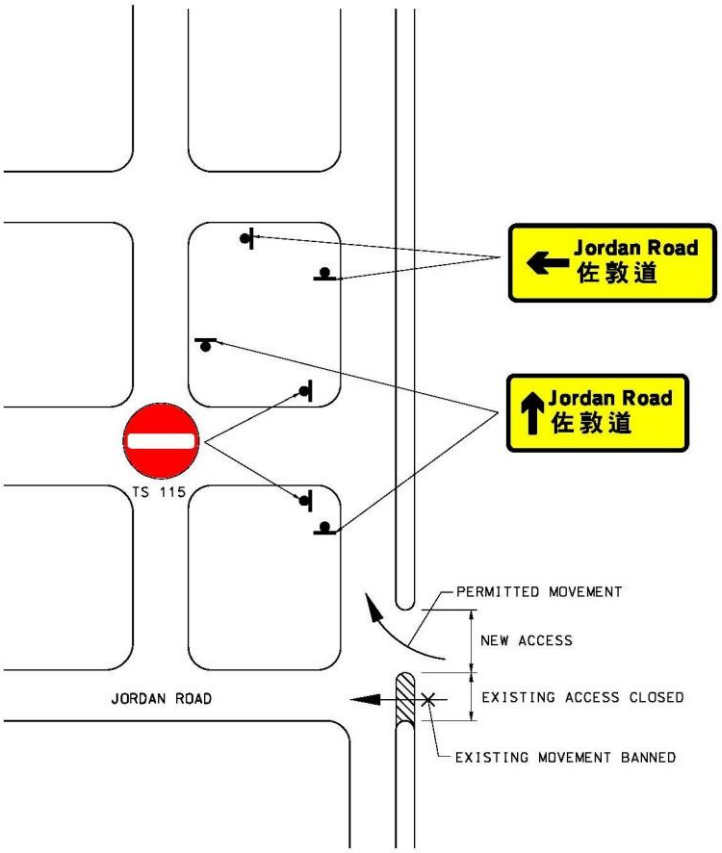


DIAGRAM 3.6.5.4 : TEMPORARY DIRECTION SIGNING



3.6.6 Sign Face Design Requirements for Temporary Direction Signs

3.6.6.1 Unless otherwise specified in this Section, sign face design requirements for Temporary Direction Signs should follow the advice given in Section 3.5 of this Chapter.

3.6.6.2 English letters, messages and numerals shall be in Transport Heavy Alphabets. Transport Medium may be appropriate in some situations, e.g. temporary exit number plate. Chinese characters shall be of the same font type for permanent signs.

3.6.6.3 In respect of the colours used for Temporary Direction Signs except those for cyclists, these generally will be black legends, symbols, letters, characters and borders on a yellow background. Diagram 3.6.6.1 illustrates the colours of some commonly used symbols for Temporary Direction Signs and the following should be noted: -

(i) Route Shield
The shield should consist of a yellow background, and black border and numerals. The overall symbol size remains unchanged.

(ii) Expressway Symbol
When used on a Temporary Direction Sign erected on an expressway, a red border, white background and red symbol should be adopted as shown in the figure on the right of Diagram 3.6.6.1 (ii). When used on the approach roads leading to an expressway, the symbol and border will be black and the background yellow as shown in the figure on the left of Diagram 3.6.6.1 (ii).

(iii) Traffic Sign Symbols
Traffic signs incorporated into Temporary Direction Signs should conform with their prescribed colours, which will normally be a red border, white background and black symbol.

(iv) Non-route Indication
Where on a Temporary Direction Sign it is intended to indicate that a traffic lane or route should not be used by certain type of vehicle e.g. goods vehicle, or should not be used to reach a particular destination such as a car park, the corresponding symbols should incorporate a red diagonal as shown for example in Diagram 3.5.7.29 of Section 3.5.7 of this Chapter.

(v) Accident & Emergency Symbol (former name: Hospital Symbol)
The symbol should be of the same colours as those for permanent signs, i.e. a red cross on a white background, but should in addition have a black border of 0.5 s/w in width.

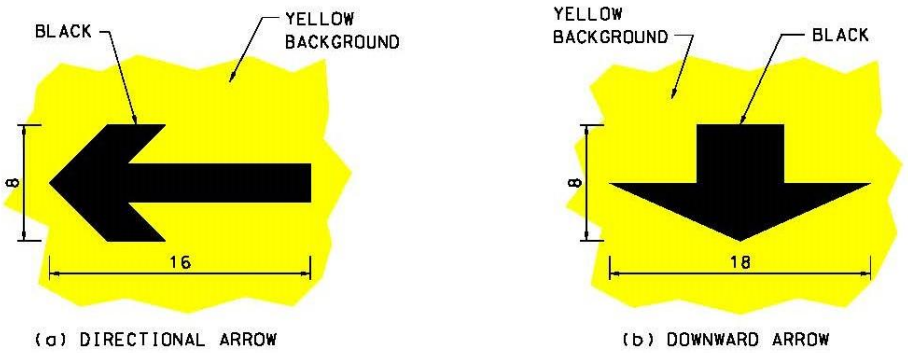
(vi) Exit Number Plate
The plate should be of the same colours as those for permanent signs, i.e. white symbol/logo/ legends on a black background, except the border which should be black instead of white.

(vii) Other Proposed Symbols/Logos
To be approved by the Transport Department.

3.6.6.4 On Temporary Direction Signs, abbreviations may be used in order to shorten the overall size of any English legend. See Section 3.7.5.

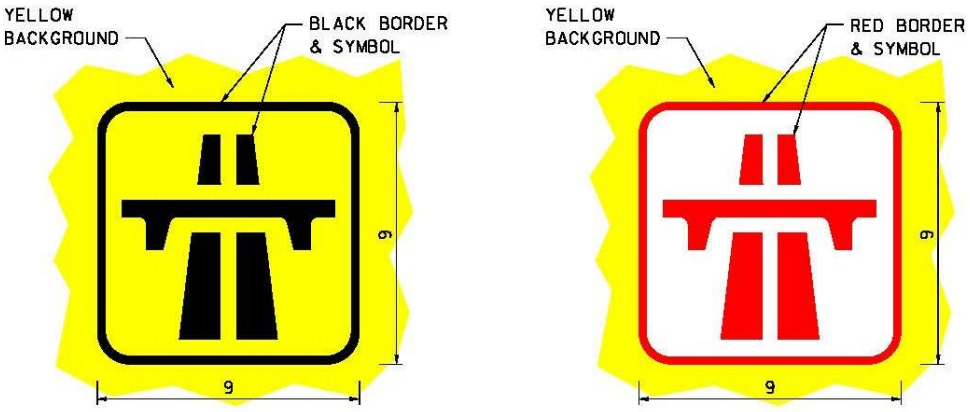
DIAGRAM 3.6.6.1 : SYMBOLS FOR TEMPORARY DIRECTION SIGNS

DIMENSIONS IN STROKE WIDTHS

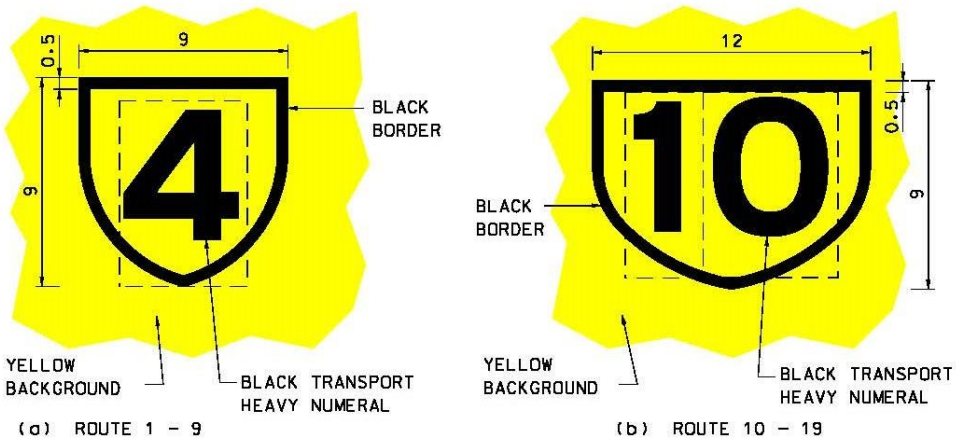


(a) DIRECTIONAL ARROW (b) DOWNWARD ARROW

(i) ARROWS

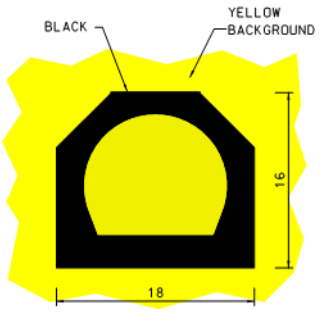


(ii) EXPRESSWAY SYMBOLS

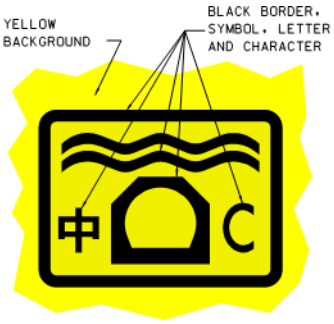


(a) ROUTE 1 – 9 (b) ROUTE 10 – 19

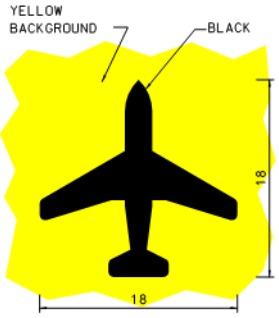
(iii) ROUTE SHIELDS



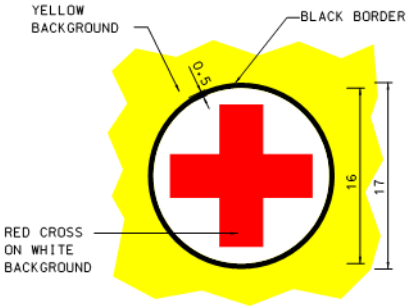
(iv) TUNNEL SYMBOL



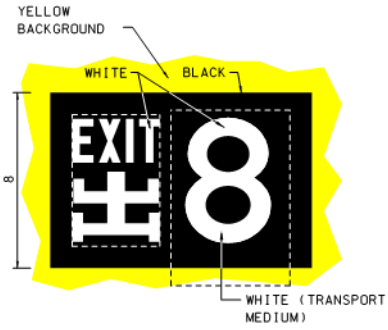
(v) HARBOUR TUNNEL SYMBOL



(vi) AIRPORT SYMBOL



(vii) ACCIDENT AND EMERGENCY SYMBOL



(viii) EXIT NUMBER PLATE

3.6.7 Temporary Direction Signs for At-grade Junctions

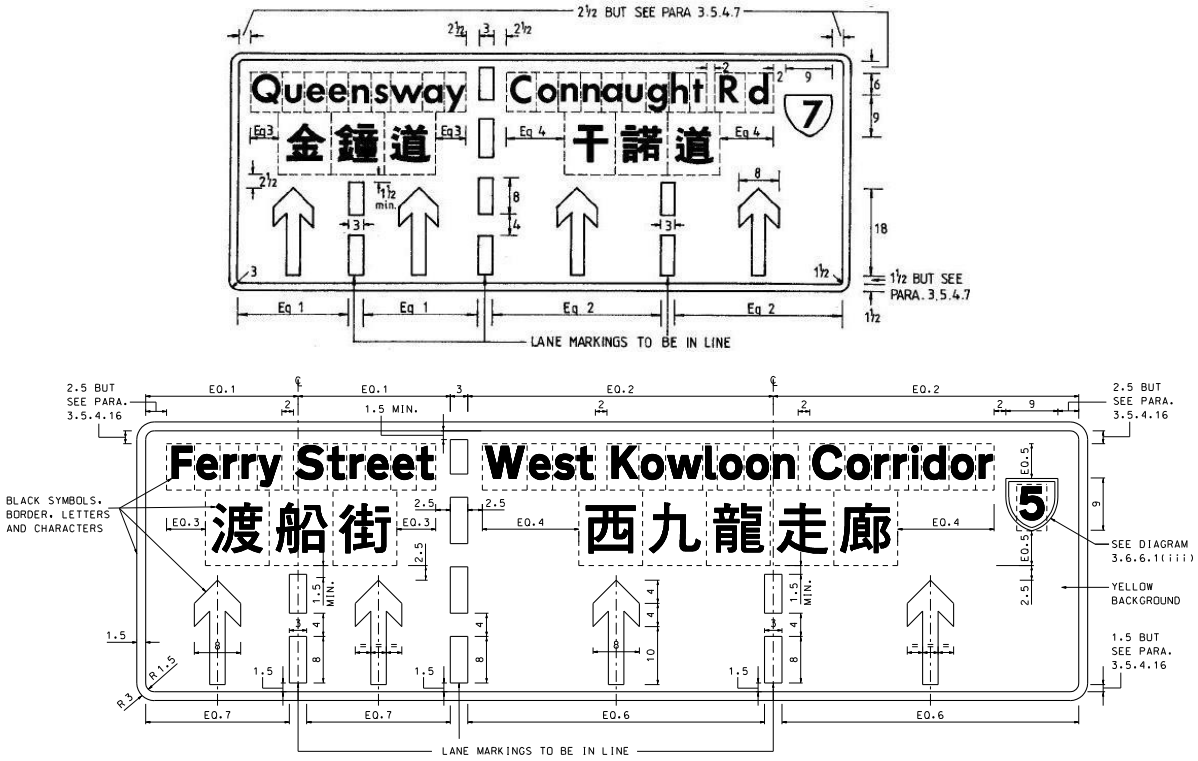
3.6.7.1 The design of Temporary Direction Signs should generally follow the design details given in Section 3.5 of this Chapter. The purpose of this Section is to provide additional information with regard to sign formats appropriate for Temporary Direction Signs for which information is not available in Section 3.5.

3.6.7.2 It is sometimes necessary as a result of major road works to direct traffic into particular traffic lanes in order to reach particular destinations. In the majority of cases and particularly if there are more than two lanes, it is preferable if this is achieved with overhead signs as described in Section 3.6.8. Roadside signs of this nature need to be relatively large in order to accommodate all the relevant information, which results a particular problem of where the signs can be located. Additionally, if as normally is the case, the roadside sign cannot be located on both sides of the carriageway, drivers in the lane most remote from the sign may have difficulty in reading the sign. However, if a roadside lane destination sign cannot be avoided, it should be designed in accordance with Diagram 3.6.7.1 having regard to the fact that any named destinations should be kept as short as possible.

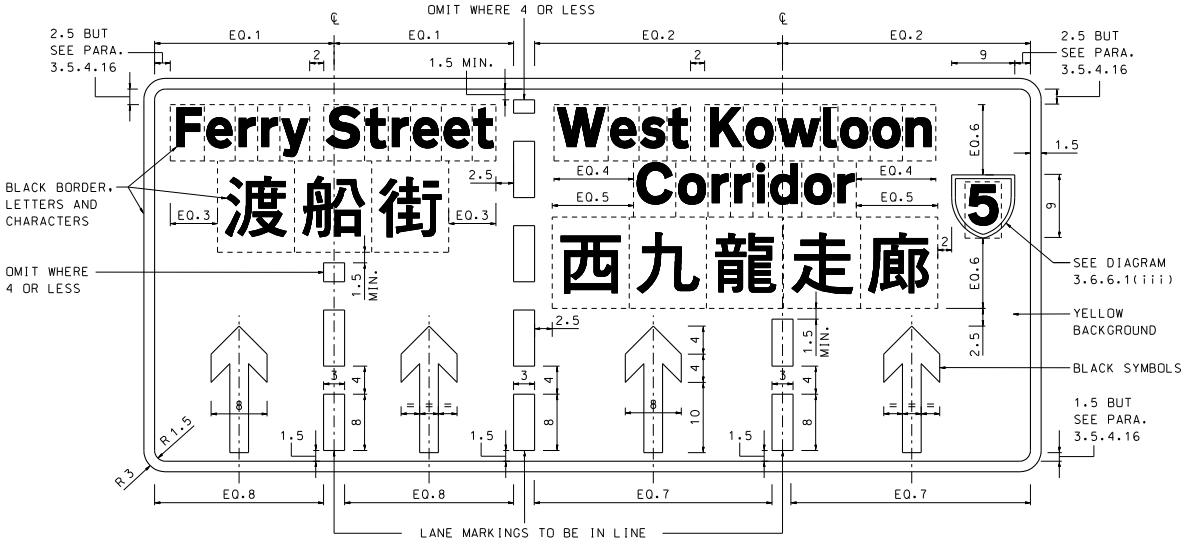
DIAGRAM 3.6.7.1 : ROADSIDE TEMPORARY LANE DESTINATION SIGN

DIMENSIONS IN STROKE WIDTHS

(i) TEMPORARY LANE DESTINATION SIGN



(ii) ALTERNATIVE ARRANGEMENT WHERE WIDTH OF SIGN IS CRITICAL



Temporary Access Arrangements

3.6.7.3 It can often arise as a consequence of road works, that existing accesses to major developments need to be closed and temporary new accesses are formed. In these situations although it may be appropriate to erect directional signs indicating the route to the new accesses, in keeping with the need to severely limit the amount of information shown on Temporary Directional Signs, it is not necessary to include other information, particularly in respect of routes to destinations which have not been altered in anyway.

3.6.7.4 Diagram 3.6.7.2 illustrates a very simplified situation of where an existing access is closed because of road works, and traffic is temporarily diverted to a newly created access. The object of the signing in the example in Diagram 3.6.7.2 is to direct traffic from Origin A and Origin D to Destination A and Destination B. The situation assumes that previously no directional signs were generally erected and therefore Destination C was not previously indicated, obviously if this was not the case, then more involved signing would be necessary. However as in this example, Destination C had not previously been indicated it can be assumed that drivers are aware of this destination and therefore it does not need to be included on any Temporary Direction Signs.

3.6.7.5 ADS will in respect of Origin A need to be erected, in advance of the closed access, in advance of the new access and, in advance of Destination B. For Origin D, an ADS may be advisable in advance of the closure, but if it is a minor road, problems may be encountered in finding a suitable location to erect this sign. In such a case, and for this type of diversion, reliance can be placed on the fact that all traffic has to turn left at the junction and the ADS therefore may be omitted, although a DS must be erected at the junction.

3.6.7.6 The format that the Temporary Direction Signs are to take is important not only in respect of the clarity of the information to be shown, but also in respect of the space they will require to occupy. For the diversion shown in Diagram 3.6.7.2, a map type or a stack type ADS would be suitable at some locations, and Diagram 3.6.7.3 illustrates, for comparative purposes only, the overall dimensions for the two types. It can be seen that the map type, where right or left turns are involved, would provide a sign some 9% smaller in width than a stack type sign, which is an advantage as it is generally the width of the sign which can have the greatest effect on where it can be located. However, for this type of diversion, the stack type sign generally gives a clearer indication of the route to be followed and is therefore preferred.

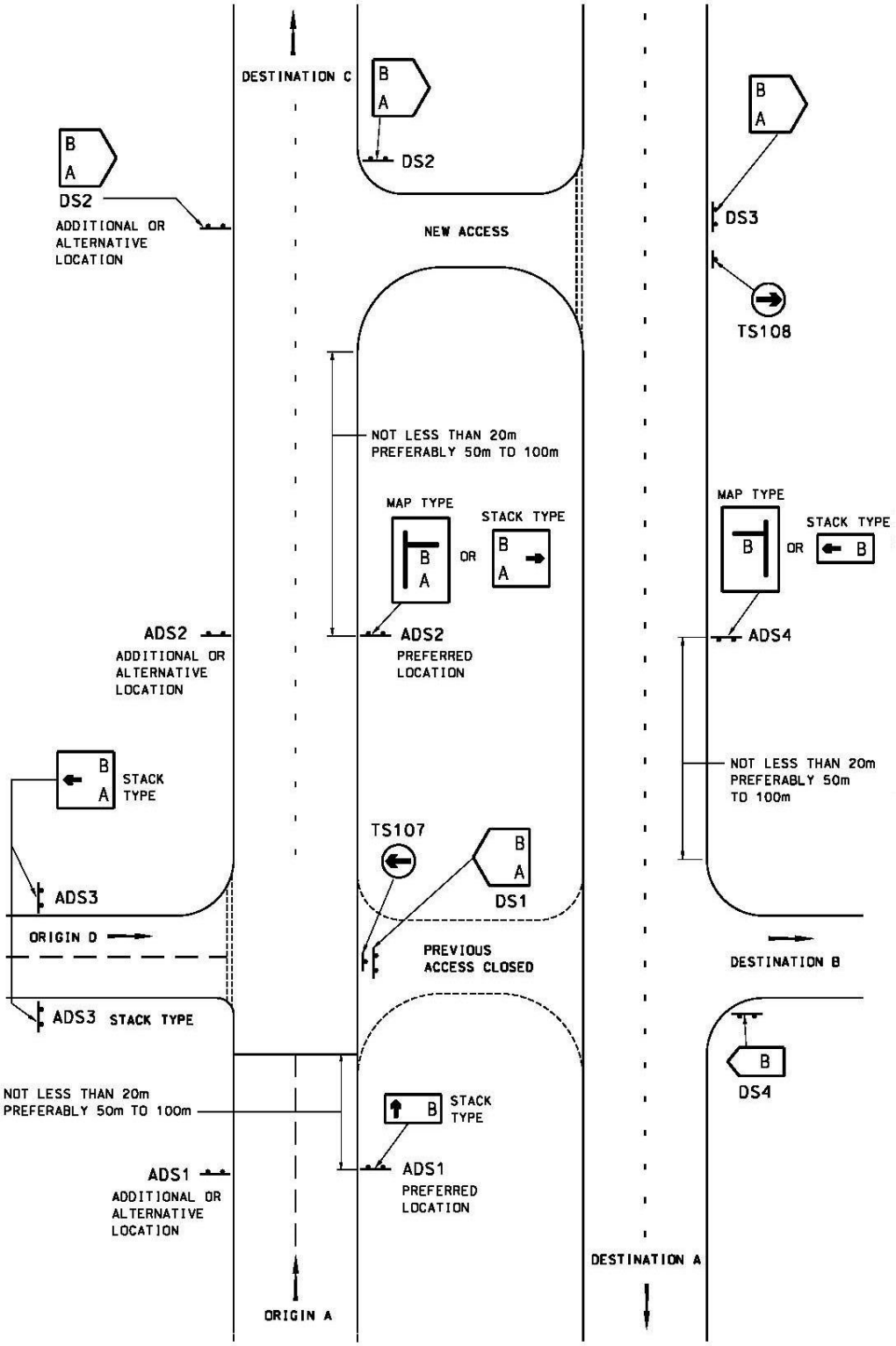
3.6.7.7 In the matter of where to locate the Temporary Direction Signs referred to in paragraphs 3.6.7.4 to 3.6.7.6 above, the ADS should be located not closer than 20m in advance of the appropriate junction but preferably, between 50m and 100m for this type of diversion, if this can be achieved. Normally direction signs are erected on the left-hand side of the carriageway, but for temporary signing there is often the situation of narrow traffic lanes and congested traffic conditions, so that it can be preferable for the signs to be erected on the side of the carriageway adjacent to the traffic lane they are referring to. If duplicate signs can be erected on the opposite side of the carriageway, this is of course an advantage and should be provided where possible.

3.6.7.8 For the example in Diagram 3.6.7.2 for traffic from Origin A, a stack type ADS1 should be erected, as indicated in advance of the junction where previously the right-turn could be made, and as suggested above, preferably on the right-hand side if only one sign can be erected. Similarly, a stack type ADS3, can be erected to direct traffic from Origin D, though as explained in paragraph 3.6.7.5, this could be omitted. For this minor road approach whether the ADS should be mounted on the left or right-hand side of the carriageway will depend on the number of lanes, the space to accommodate the sign, and the arrangement of the lane direction arrows, if any. If there are two or more lanes and the right-hand lane had previously been indicated for straight ahead traffic, then mounting on the right-hand side is preferable.

3.6.7.9 DS1, as indicated in the Diagram should be erected opposite the Origin D arm, and if all traffic does have to turn left, it must be accompanied by traffic sign 107 “turn-left”. Because it is not necessary to show the forward direction to Destination C, ADS2, erected in advance of the newly created access, need only indicate Destination A and Destination B, the latter being placed above the former as this is the nearest destination.

3.6.7.10 At the new access, on its far side should be erected DS2, which may be duplicated on the nearside of the through carriageway opposite the access. As indicated in the Diagram, DS3 is not entirely essential, particularly if all traffic from the new access has to turn right, but it does act as a confirmation that the route being followed is the correct one. Also, if as indicated in the Diagram, the ADS4 does not include reference to Destination A, then DS3 becomes the final direction sign for that destination and therefore needs to be provided.

DIAGRAM 3.6.7.2 : DIRECTIONAL SIGNING FOR TEMPORARY ACCESS ARRANGEMENT

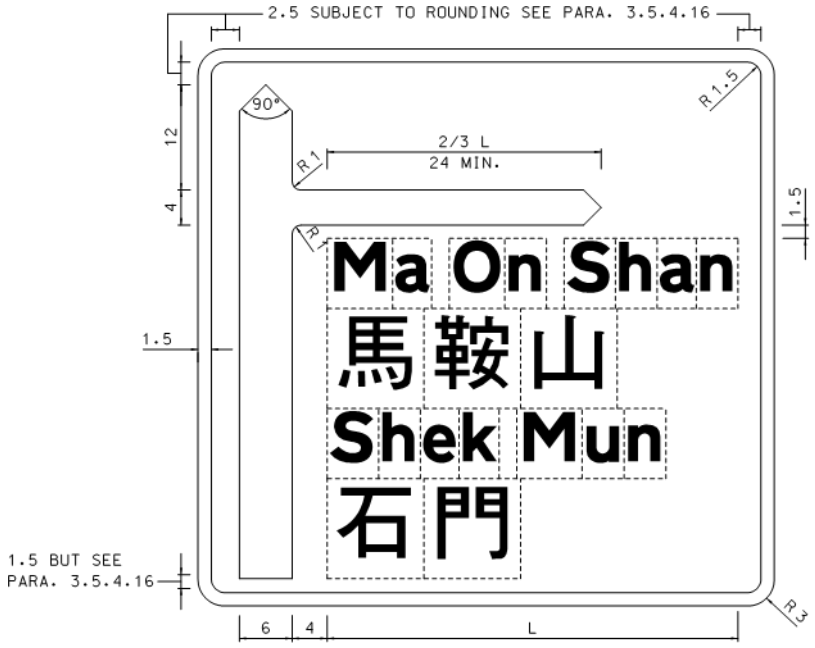


NOTE: FOR ADS3, SEE PARAGRAPH 3.6.7.8

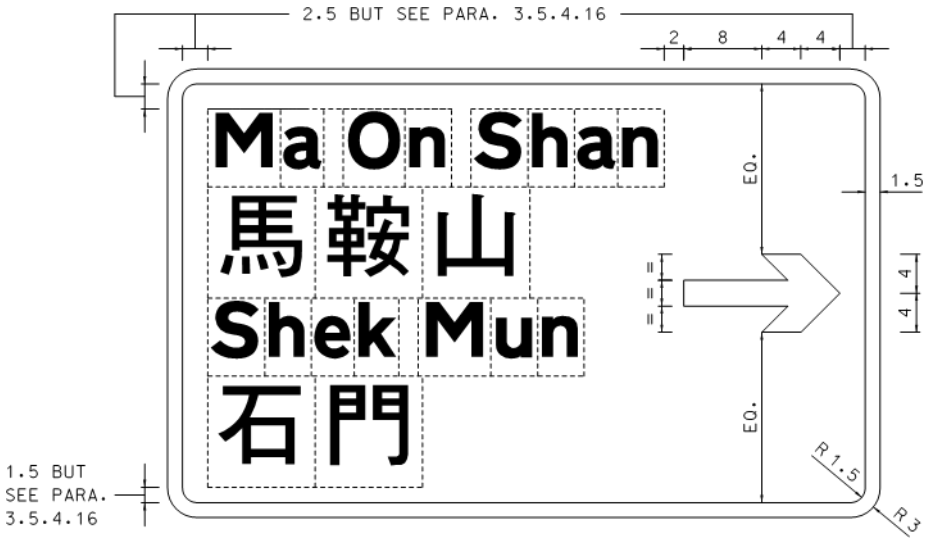
DIAGRAM 3.6.7.3 : COMPARISON OF MAP TYPE AND STACK TYPE SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) MAP TYPE SIGN



(ii) STACK TYPE SIGN



Sign Face consideration

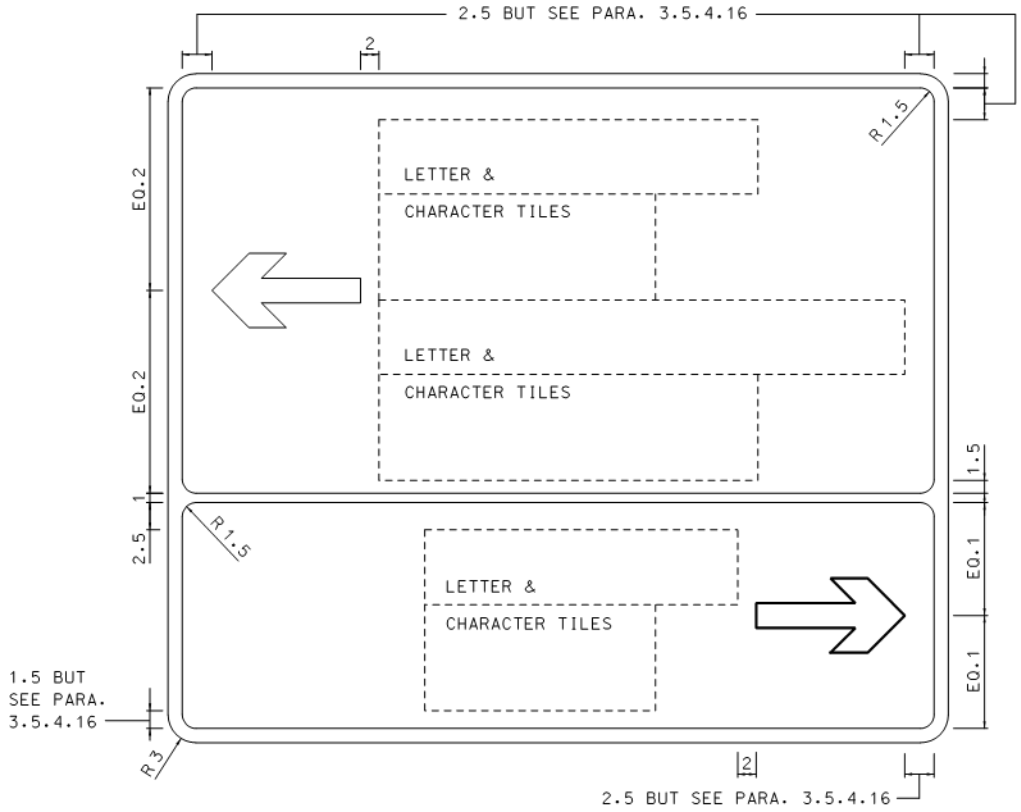
3.6.7.11 Although as mentioned above, it may not be necessary to include in a Temporary Direction Sign, all the information that might be included in its permanent equivalent, it is important that the Temporary Direction Signs do accord with agreed formats. In the case of stack type signs for example, arrows must not be curved but, as shown in Diagrams 3.6.7.4 and 3.6.7.5 must be in a horizontal, or vertical, or inclined (at 45 or 22.5 degrees) position. Similarly, the format of map type signs should follow those shown in Diagram 3.6.7.6, but for further information, Section 3.5 should be consulted.

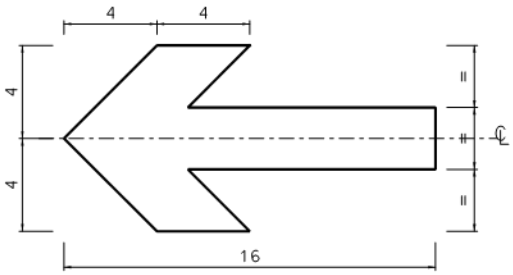
3.6.7.12 In advance of some road works it can be helpful to erect temporary information or warning signs, to advise of the situation ahead. These signs can take various forms but basically consist of two parts. The upper part consisting of a panel in which “Road Works Ahead” symbol is located, with or without any further description, and the lower part consisting of a panel containing the warning or information to be imparted. These signs will however be relatively large and it has to be ascertained in advance that there is sufficient space for the signs to be erected.

3.6.7.13 An example is shown in Diagram 3.6.7.7 which is largely self-explanatory, in that it is advising of road works on Tuen Mun Road and therefore to avoid these to divert to Castle Peak Road. Signs of this type should be erected some 50m to 200m, depending on the road type and circumstances, in advance of the first Directional Sign indicating the direction to the alternative route to avoid the road works.

DIAGRAM 3.6.7.4 : HORIZONTAL ARROWS FOR STACK TYPE SIGNS

DIMENSIONS IN STROKE WIDTHS

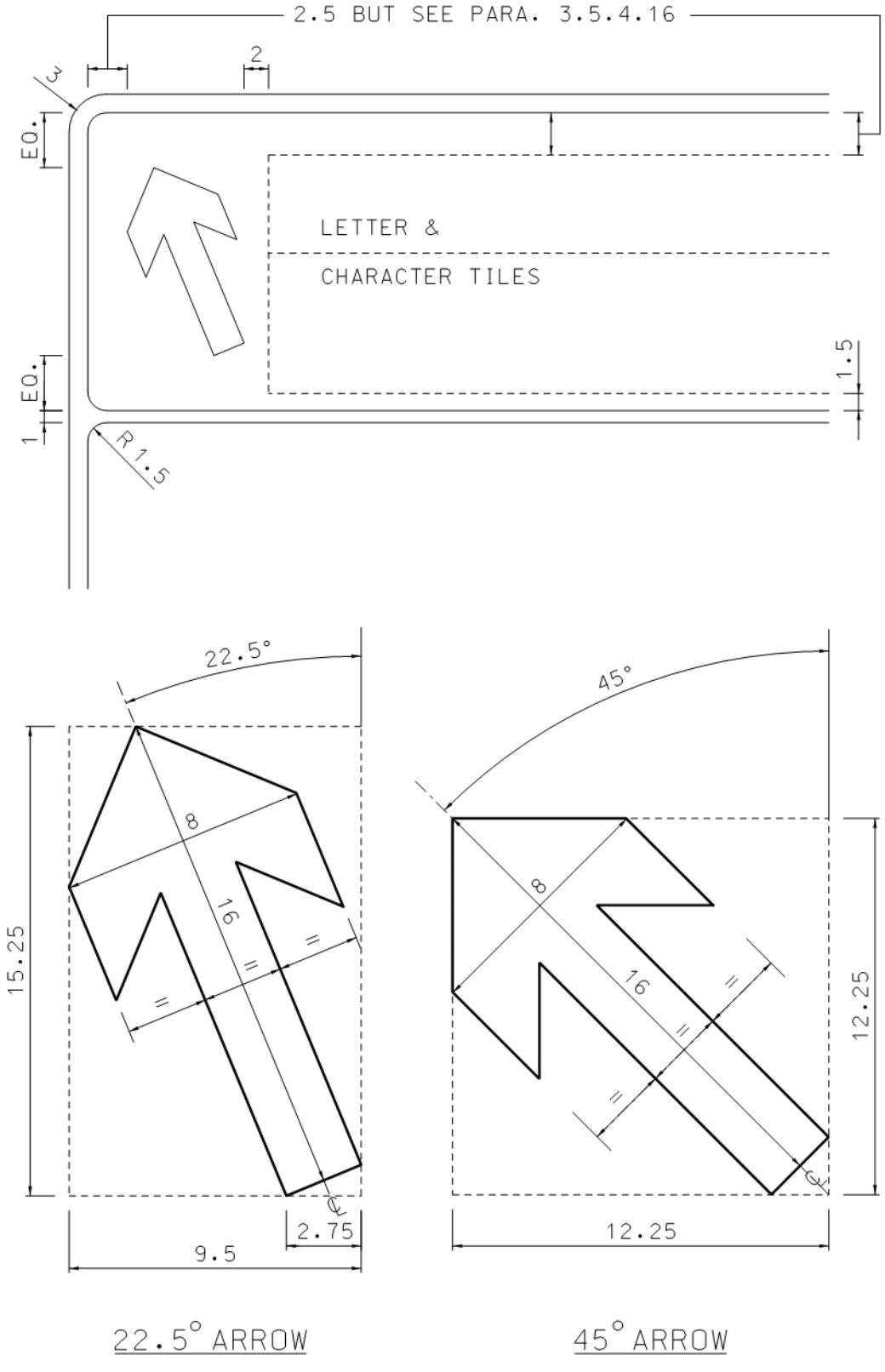




ARROW DETAILS

DIAGRAM 3.6.7.5 : INCLINED ARROWS FOR STACK TYPE SIGNS

DIMENSIONS IN STROKE WIDTHS



22.5° ARROW

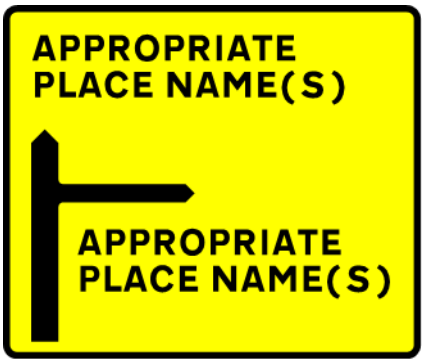
45° ARROW

DIAGRAM 3.6.7.6 : MAP TYPE DIRECTIONAL SIGN FORMATS

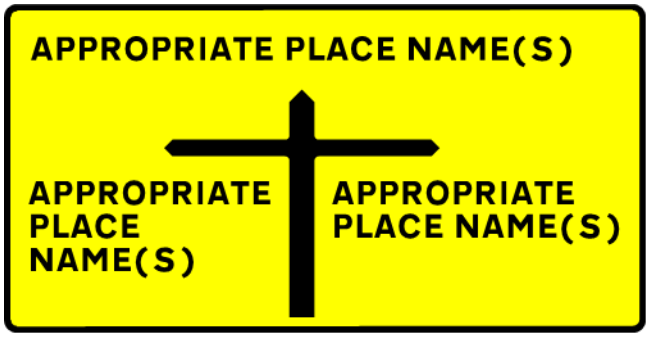
(i) SIGN IN ADVANCE OF DECELERATION LANE (TAPER DIVERGE)



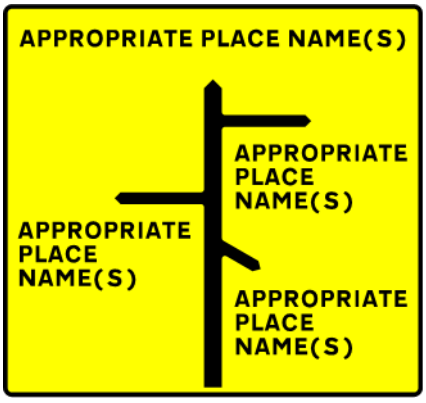
(ii) SIGN IN ADVANCE OF RIGHT-HAND JUNCTION (REVERSED FOR LEFT-HAND)



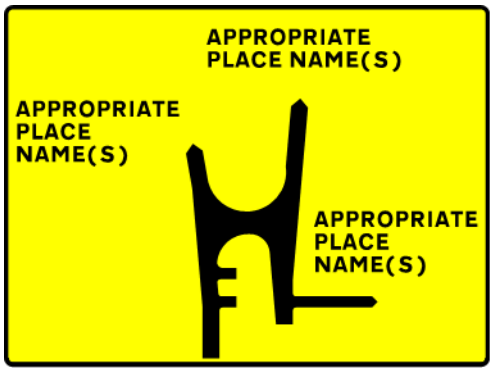
(iii) SIGN IN ADVANCE OF CROSS ROAD



(iv) SIGN IN ADVANCE OF COMPLEX JUNCTION



(v) SIGN IN ADVANCE OF COMPLEX JUNCTION ILLUSTRATING ROUTE TO BE TAKEN THROUGH THE JUNCTION TO REACH A PARTICULAR DESTINATION



(vi) SIGN IN ADVANCE OF SIDE ROAD JUNCTION ALONG A DUAL CARRIAGEWAY ROAD WITH SHORT STUB INDICATING OTHER CARRIAGEWAY

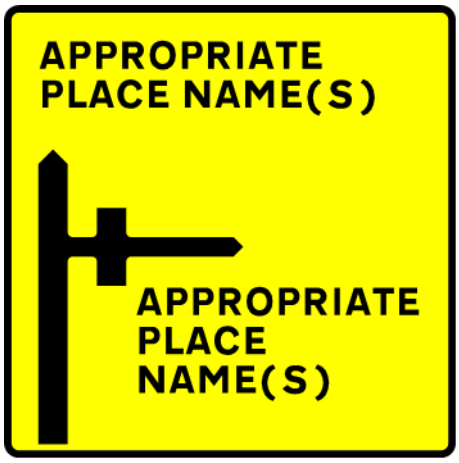
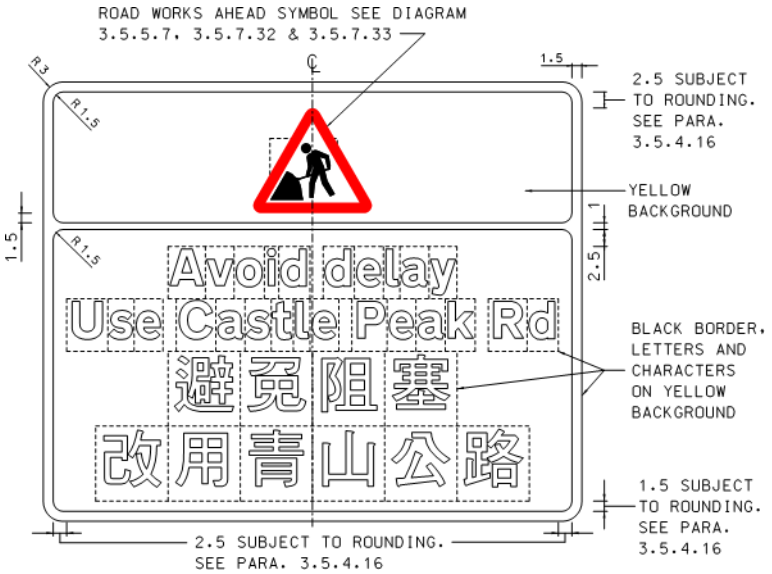


DIAGRAM 3.6.7.7 : TEMPORARY INFORMATION SIGN FOR TUEN MUN ROAD

DIMENSIONS IN STROKE WIDTHS



Roundabouts, Priority and Signalised Junctions

3.6.7.14 Diagram 3.6.7.8 shows the temporary signing scheme for diversion at a roundabout. On the map type ADS, the sign face area corresponding to the closure is covered. The cover plate may be:

(i) existing destination name to be covered on a stub end with the "No through road" indicator

(ii) destinations which can still be reached – the preferred format in this case is:
<*Destination name*> ONLY

Concurrently, the diversion route is indicated on a yellow cover plate adjacent to the appropriate arm of the map type ADS.

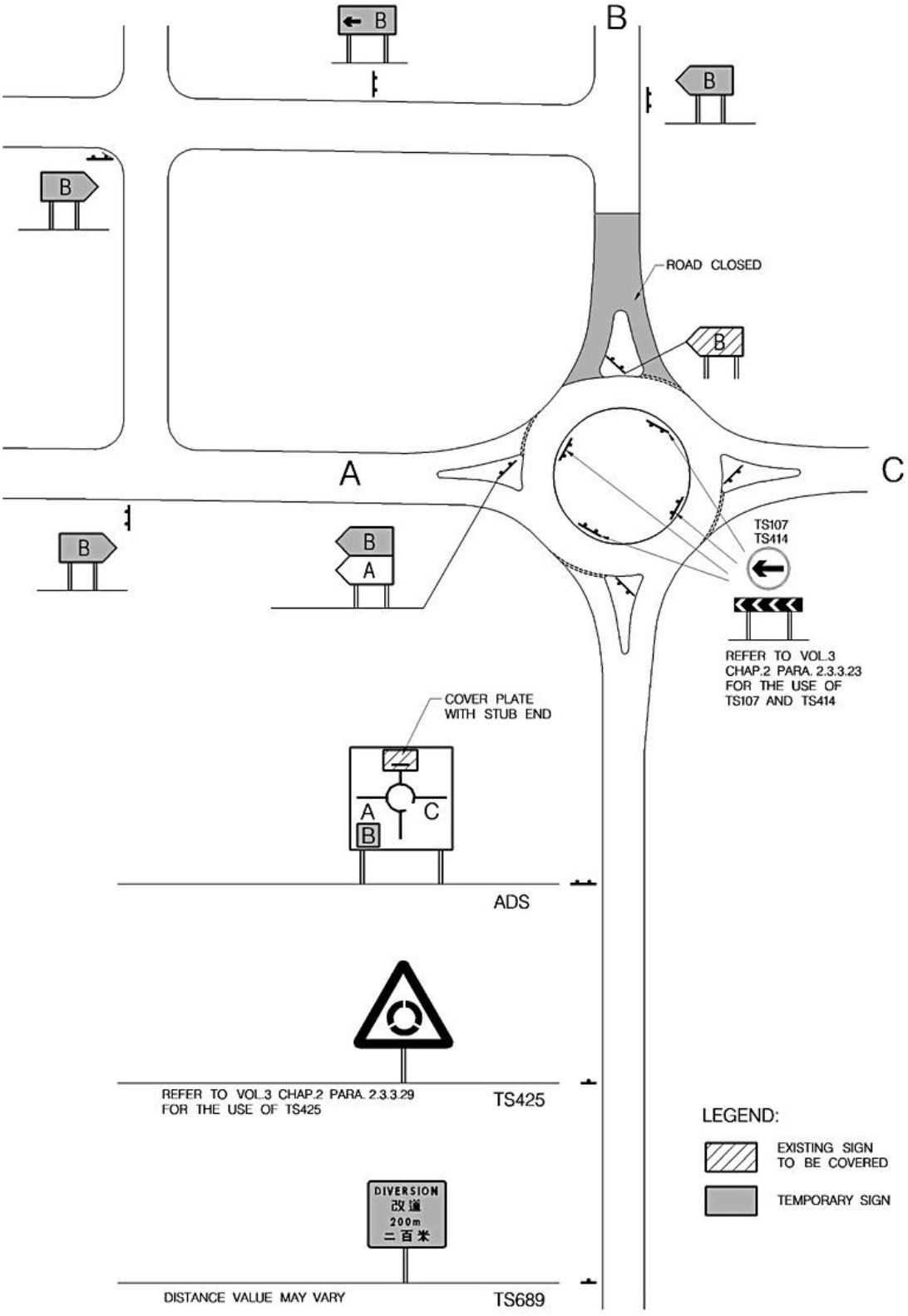
3.6.7.15 At the roundabout exit for the diversion route, a temporary sign shall be appended at the permanent DS. At other exits of the roundabout, it could be beneficial to indicate the diversion route by showing the diverted destination on temporary flag type signs pointing towards the right.

New roads/New Development Areas

3.6.7.16 New road infrastructures or development areas will normally require comprehensive modifications of the permanent signing system. Although motorists will eventually become familiar with the new itinerary, it could be beneficial from the publicity point of view, to erect Temporary Direction Signs or information signs within and beyond the normal signing catchment area.

3.6.7.17 Areas undergoing development could pose a particular problem for signing since either or both destinations and road infrastructures are subject to changes. The choice between a permanent sign and a temporary sign has to be determined individually, taking into account relative cost-effectiveness.

DIAGRAM 3.6.7.8 : SIGNING SCHEME FOR DIVERSION AT ROUNDABOUT



3.6.8 Temporary Direction Signs for Grade-separated Junctions

3.6.8.1 Temporary Direction Signs for grade-separated junctions should be designed in accordance with the advice given in Section 3.5. It should be noted that all the warning signs and traffic cone arrangement that are required for road/lane closure will need to conform to the advice given in the Code of Practice for the Lighting, Signing and Guarding of Road Works and they are not shown on the drawings of the signing schemes in this Section.

3.6.8.2 The purpose of this Section is to provide additional advice on Temporary Direction Signs for mainline or slip road closure at grade-separated junctions which are usually found on strategic routes and on those signs which are not generally referred to in Section 3.5. The drawings of the signing schemes in this Section show the temporary signing arrangements for both gantry and roadside formats and the format that corresponds to that of the permanent signs should generally be used.

Temporary Mainline Closure at Junction

3.6.8.3 Where the mainline of a free-flow dual carriageway road is temporarily closed at a grade-separated junction, all traffic is to be diverted via the slip road through the junction. Diagrams 3.6.8.1 and 3.6.8.2 illustrate the typical temporary signing arrangement for mainline closure at taper diverge and "lane drop" junctions respectively.

3.6.8.4 Traffic should be guided progressively towards the exit through modification of the complete sequence of AIS (if provided), ADS, FADS and DS. In general, for taper diverge junction, the exit destination is replaced by the "All traffic" display and the forward destination display is completely covered to avoid any confusion as shown in Diagram 3.6.8.1. For "lane drop" junction, the "All traffic" temporary sign is provided over the exit lane throughout the sign sequence and the sign face over the mainline must also be covered as shown in Diagram 3.6.8.2.

3.6.8.5 Signing along the slip road and subsequent roads will need to clearly direct traffic along the diversion route. The need to maintain continuity of diversion signing is illustrated in Diagram 3.6.8.3. Continuity may be achieved by incorporating into permanent direction signs a "Diverted traffic" sign plate as shown in Diagram 3.6.8.4 (iii), or by using Diversion Signs as shown in Diagram 3.6.5.1. A mixture of these methods may be used as long as this does not cause confusion. However, it is stressed that Diversion Signs must be used in one form or another throughout the diversion route and not just at the beginning. Sign information serving normal traffic for the slip road will also need to be maintained.

3.6.8.6 Diagrams 3.6.8.4 and 3.6.8.5 show the sign face of temporary signs in roadside format and gantry format respectively for taper diverge junctions. Diagram 3.6.8.6 shows the sign face of temporary signs for "lane drop" junctions. Any remaining or exposed parts of the existing signs should be covered, or alternatively, the existing signs are removed.

3.6.8.7 It is preferable to attach temporary signs onto existing permanent signs. If this is not practical, separate signs will need to be erected and the permanent signs are covered or removed. Whichever method is adopted, it is pertinent to ensure that the temporary information is unambiguously related with the associated map type arm or arrows.

3.6.8.8 "Diversion" signs will not be necessary along the mainline in advance of the slip road, but it will be necessary to reduce the number of traffic lanes to match with those of the slip road with appropriate temporary traffic management scheme design, and normal warning signs together with accompanying traffic cones will be required.

3.6.8.9 If the mainline has a SRN route number and the diversion route will lead diverted traffic back to the same route, the appropriate route shield may be incorporated into the temporary "Diverted traffic" signs as shown in Diagram 3.6.8.7. This has some advantage if the diversion involves a relatively long detour before returning to the SRN route, as the route shields can more easily indicate the route to be followed than destination names. If for any reasons the diversion route does not lead traffic back to the SRN route, and therefore does not serve as a temporary continuation of the SRN route, the route shield should be omitted. However, if the slip road forms the start of another strategic route with a number, the route number should be included into all the Temporary Direction Signs as appropriate.

3.6.8.10 If the exit consists of two traffic lanes or secondary junctions, it will be necessary to distinguish the respective directions for the diverted traffic and the normal exit traffic. In this case, the sign face for the normal exit direction should be retained.

3.6.8.11 Exit number of the slip road should be included in all the Temporary Direction Signs as appropriate. The exit logo may however be omitted if there is space constraint or this can minimise the size of the signs, see Diagram 3.5.7.19 (ii).

Closure of Middle Lane

3.6.8.12 Some road works require closure of the middle lane on a dual 3-lane or dual 4-lane carriageway. Such closure may affect directional choice if it is located on a junction approach. For example, the offside traffic lane only serves through traffic whereas the nearside lane serves both through traffic and exit traffic.

3.6.8.13 These scenarios effectively create a temporary "lane drop" junction at the lane closure. Accordingly, adequate advance information should be provided to reflect the directional split. This may be achieved through modification of the permanent signs. Alternatively or additionally, roadside lane destination ADS could be used to indicate the "lane drop" arrangement. For simplicity, such roadside ADS could show only SRN route numbers and exit numbers. Motorists will then be further guided by the permanent signs with or without modifications.

DIAGRAM 3.6.8.1 : SIGNING SCHEME FOR MAINLINE CLOSURE AT TAPER DIVERGE JUNCTION

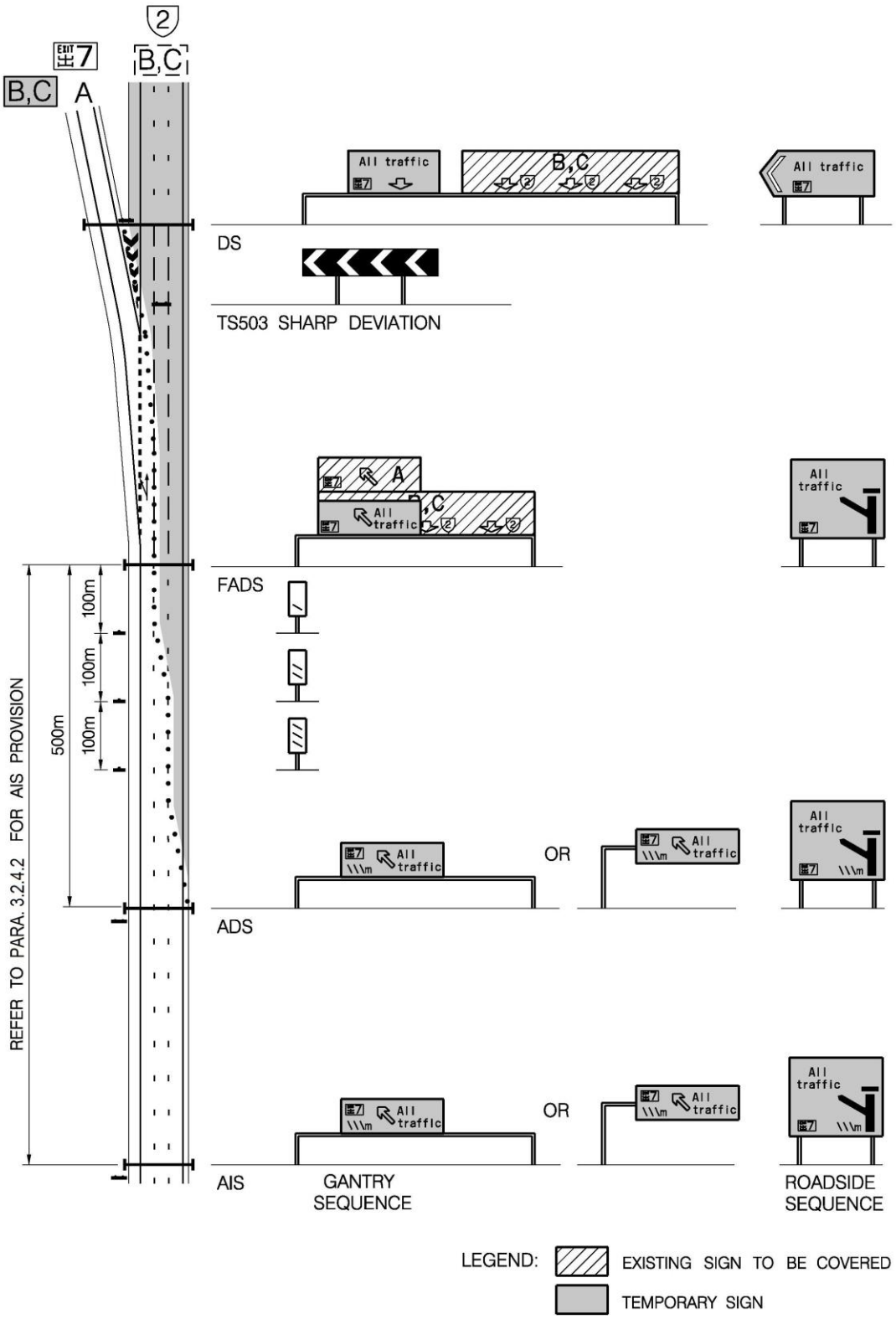
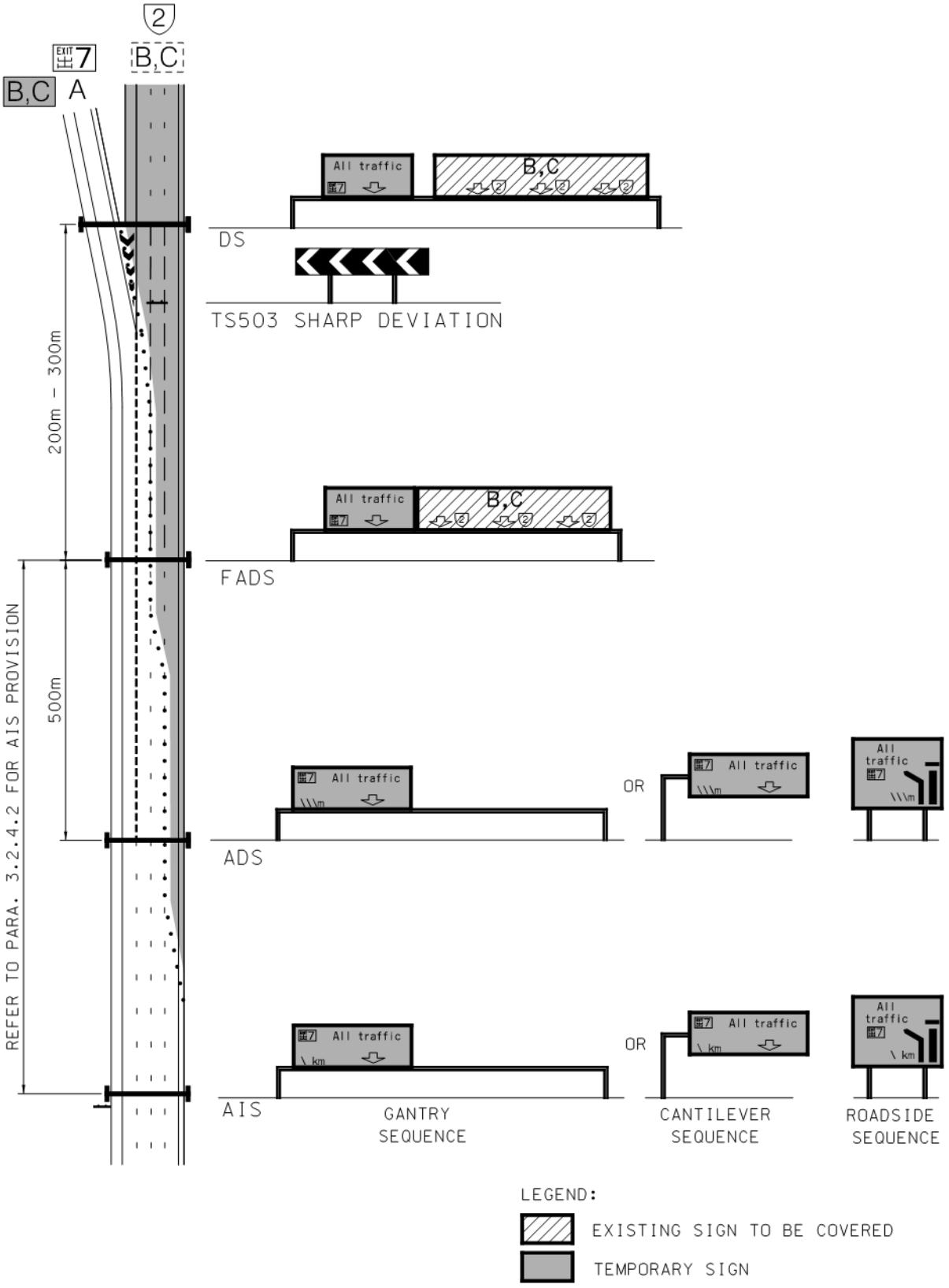
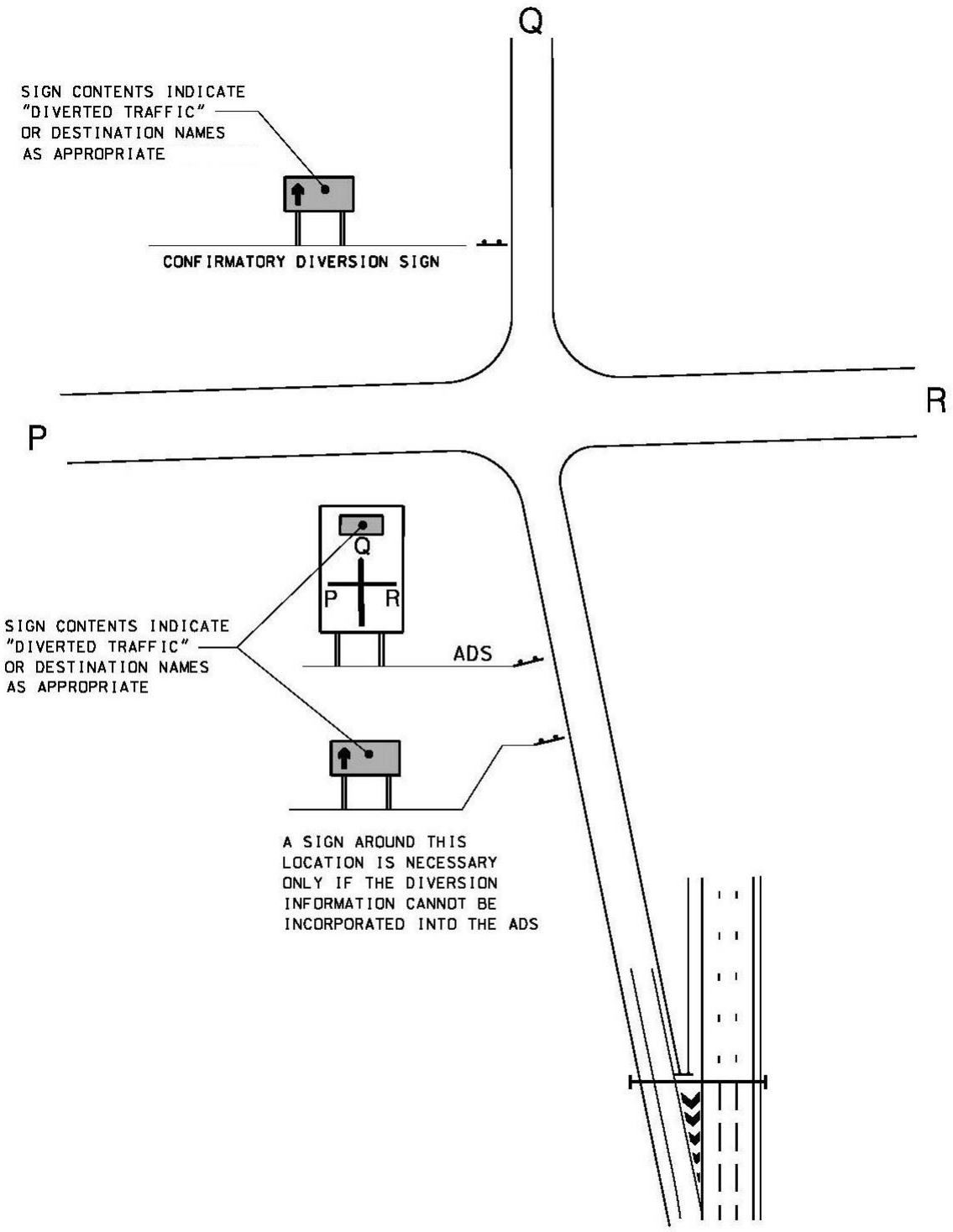


DIAGRAM 3.6.8.2 : SIGNING SCHEME FOR MAINLINE CLOSURE AT "LANE DROP" JUNCTION



NOTE: ALL DOWNWARD POINTING ARROWS OF GANTRY SIGNS SHOULD ALIGN WITH THE CENTRE OF THE CORRESPONDING TRAFFIC LANE

DIAGRAM 3.6.8.3 : CONTINUITY OF DIVERSION SIGNING AFTER AN EXIT



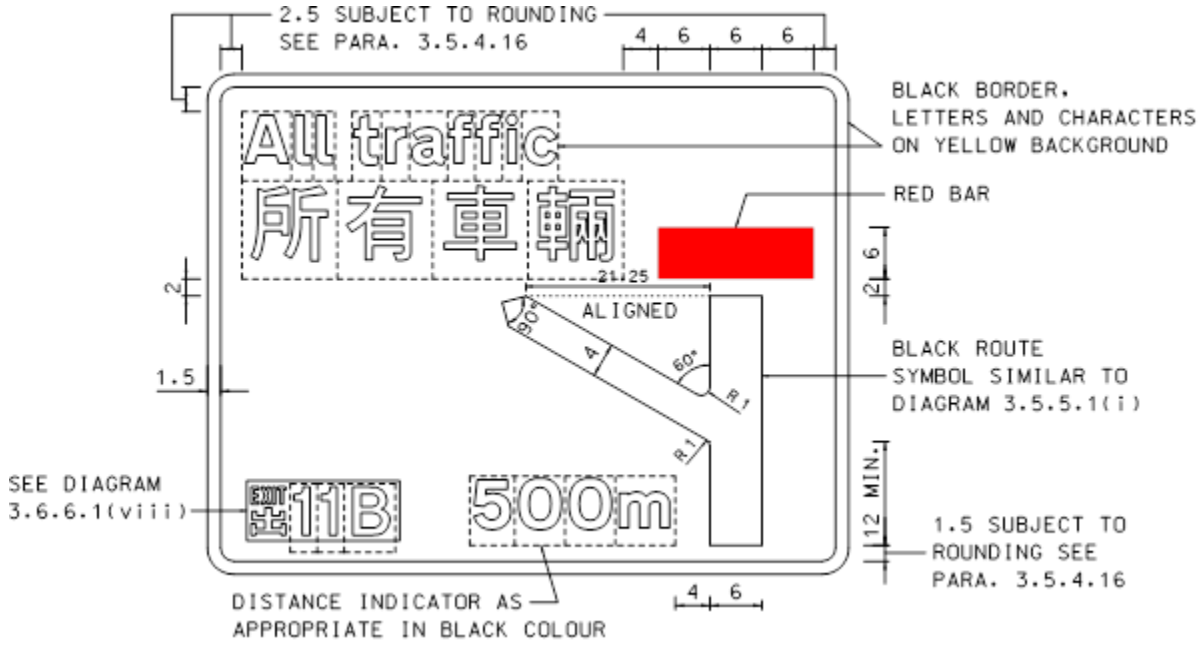
NOTES

1. ACTUAL SIGNING SCHEME AND SIGN FACES SHOULD ACCORD WITH THE DIVERSION ROUTE AND PREVAILING CONDITIONS
2. IF A SEPARATE SIGN BEFORE ADS IS USED, ADEQUATE CLEAR VISIBILITY FOR BOTH SIGNS SHOULD BE PROVIDED

DIAGRAM 3.6.8.4 : ROADSIDE TEMPORARY SIGNS FOR MAINLINE CLOSURE - TAPER DIVERGE JUNCTIONS

DIMENSIONS IN STROKE WIDTHS

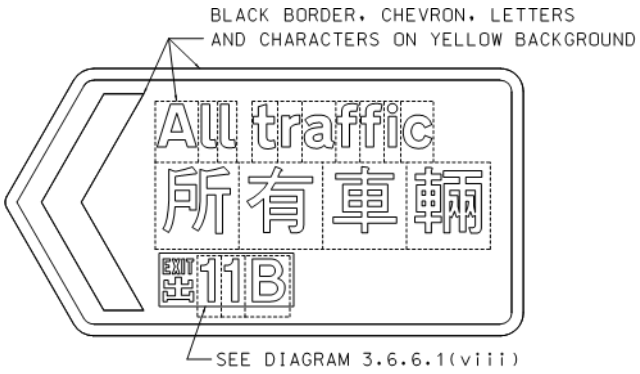
(i) ADVANCE DIRECTION SIGN



NOTES

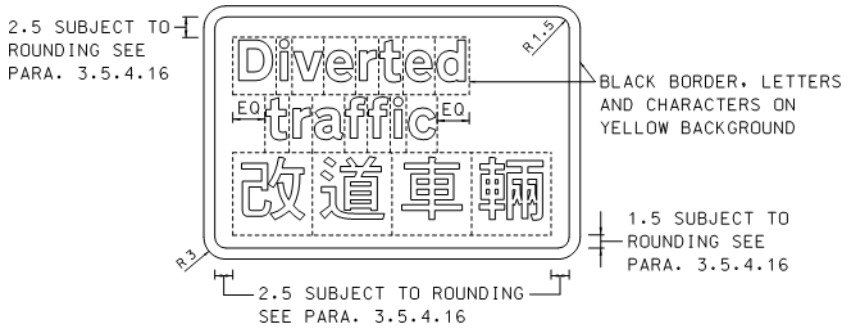
1. SAME FOR ADVANCE INFORMATION SIGN BUT WITH DIFFERENT DISTANCE INDICATION
2. FOR FINAL ADVANCE DIRECTION SIGN, THE DISTANCE INDICATION BE OMITTED AND THE LENGTH OF STEM BE REDUCED FROM 12 TO 7 S/W

(ii) DIRECTION SIGN



NOTE: DIMENSIONS AS IN DIAGRAM 3.5.5.10

(iii) "DIVERTED TRAFFIC" DIRECTION SIGN

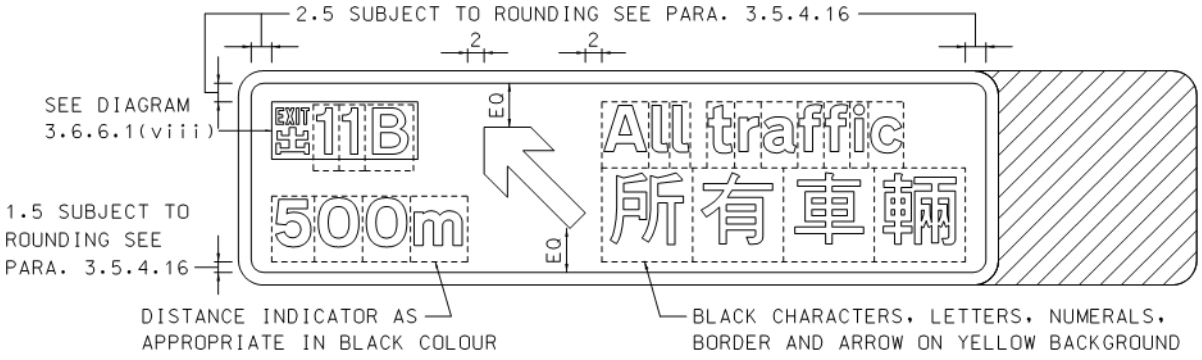


NOTE: THE SIGN IS NOT USED ALONE BUT SHOULD BE INCORPORATED INTO A PERMANENT SIGN, SEE PARAGRAPH 3.6.8.5 AND DIAGRAM 3.6.8.3

DIAGRAM 3.6.8.5 : GANTRY TEMPORARY SIGNS FOR MAINLINE CLOSURE - TAPER DIVERGE JUNCTIONS

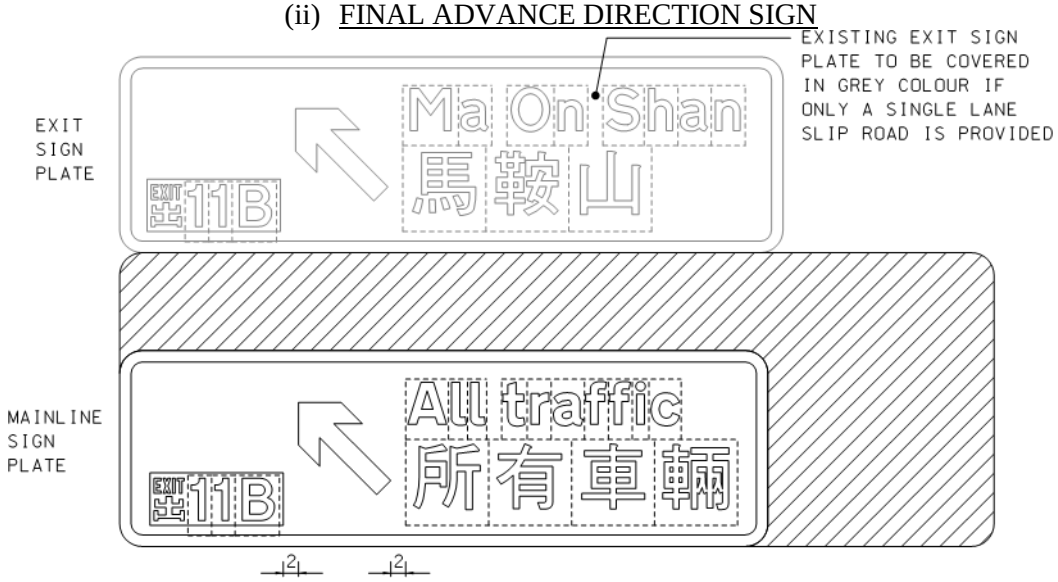
DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN



NOTE: SAME FOR ADVANCE INFORMATION SIGN BUT WITH DIFFERENT DISTANCE INDICATION

(ii) FINAL ADVANCE DIRECTION SIGN



(iii) DIRECTION SIGN

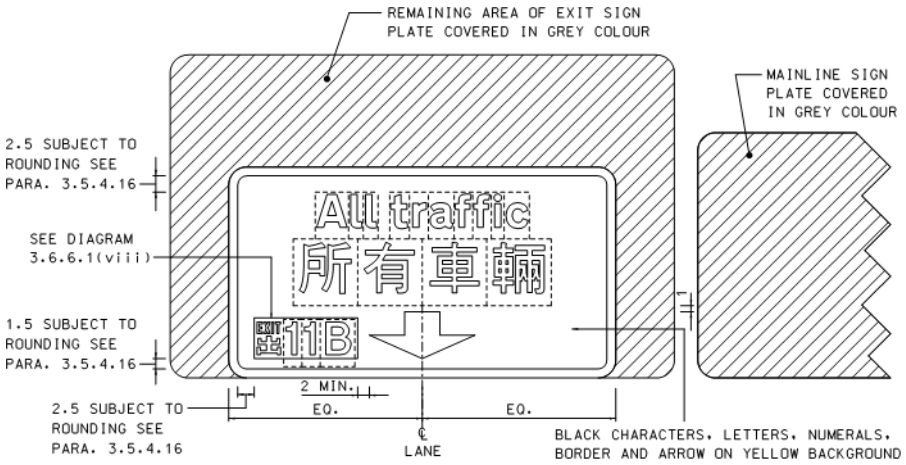
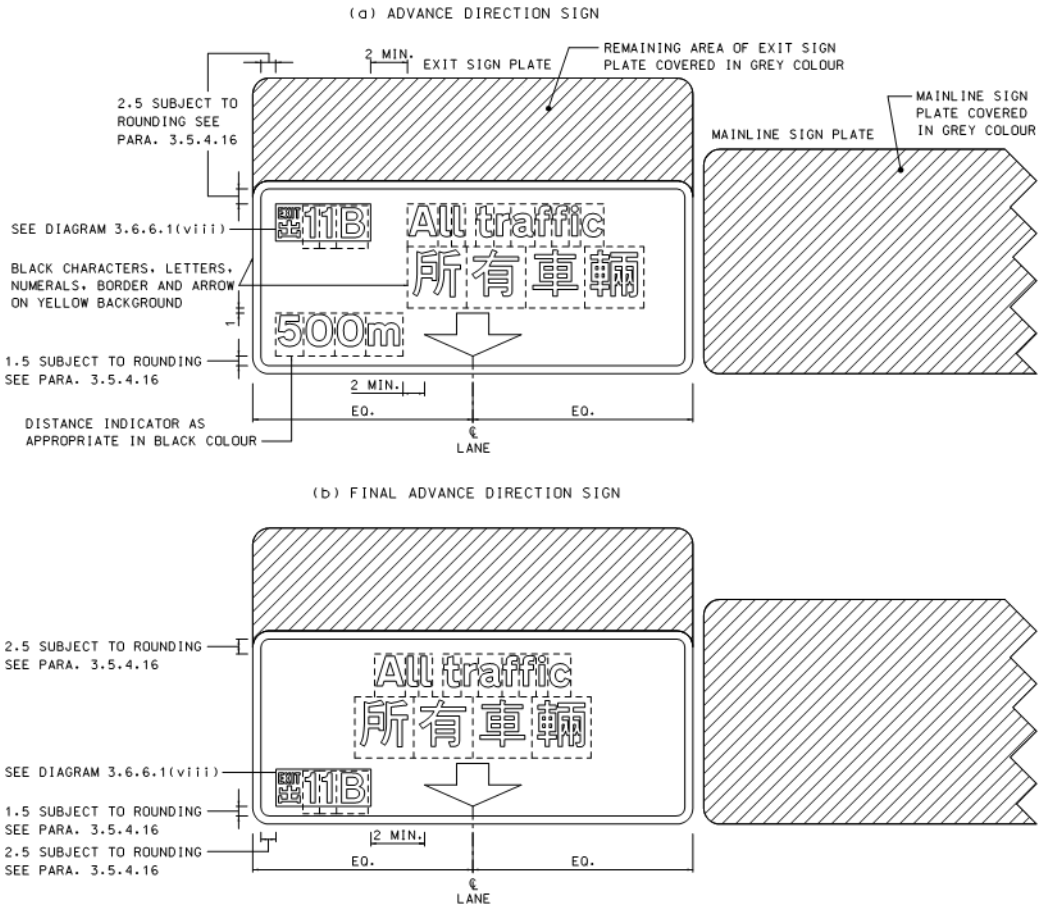


DIAGRAM 3.6.8.6 : TEMPORARY SIGNS FOR MAINLINE CLOSURE - "LANE DROP" JUNCTIONS

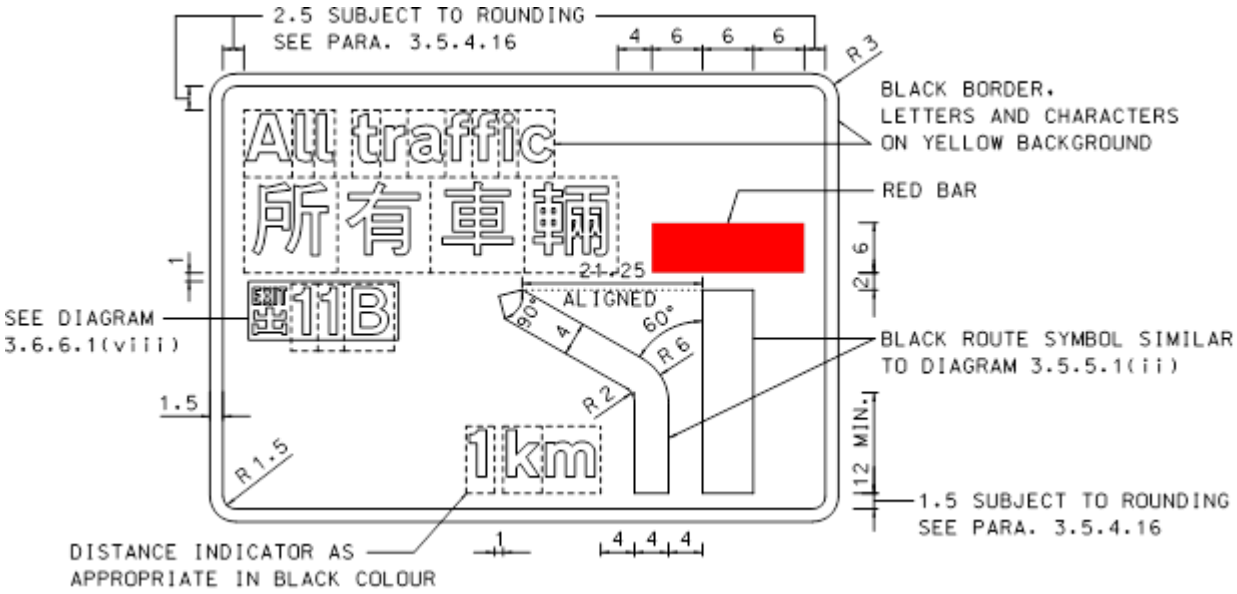
DIMENSIONS IN STROKE WIDTHS

(i) GANTRY



NOTE: SAME FOR ADVANCE INFORMATION SIGN BUT WITH DIFFERENT DISTANCE INDICATION; FOR DIRECTION SIGN, SAME AS FINAL ADVANCE DIRECTION SIGN

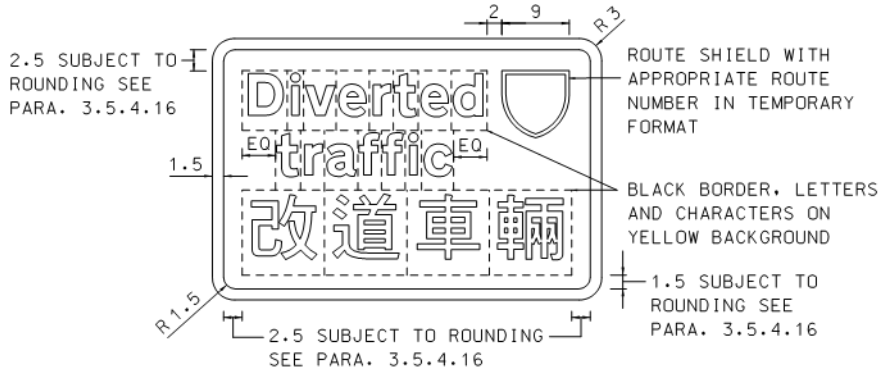
(ii) ROADSIDE ADVANCE INFORMATION SIGN



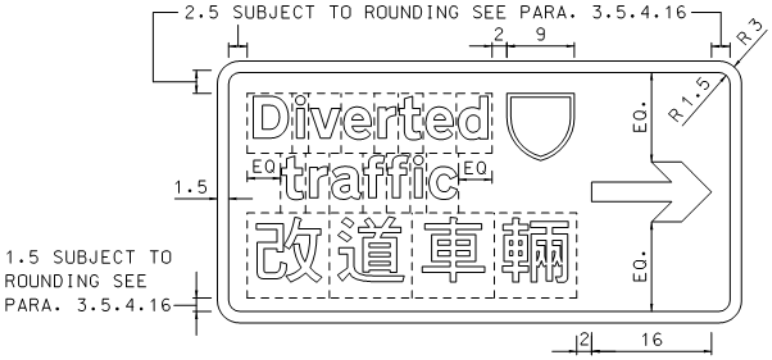
NOTE: SAME FOR ADVANCE DIRECTION SIGN BUT WITH DIFFERENT DISTANCE INDICATION

DIAGRAM 3.6.8.7 : ROADSIDE "DIVERSION" SIGNS WITH ROUTE SHIELD

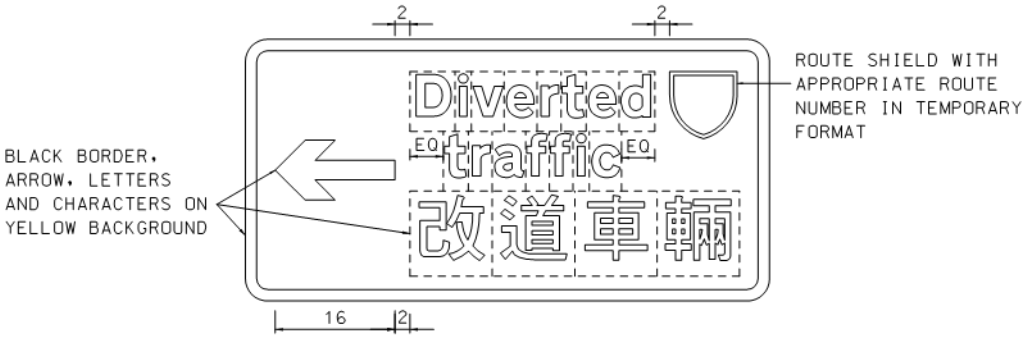
DIMENSIONS IN STROKE WIDTHS



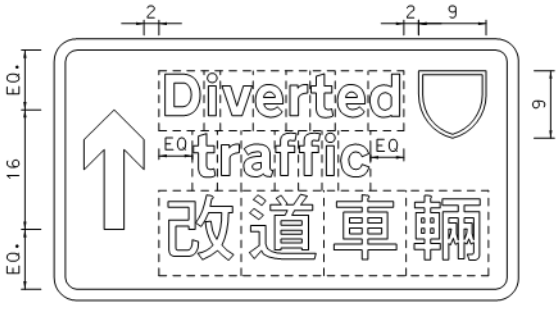
(ii) DIVERSION ROUTE TO THE RIGHT



(iii) DIVERSION ROUTE TO THE LEFT (SIMILAR TO (ii))



(iv) DIVERSION ROUTE STRAIGHT AHEAD (SIMILAR TO (ii))



Temporary Slip Road Closure

3.6.8.14 Where the slip road of a free-flow dual carriageway road is temporarily closed at a grade-separated junction, all traffic is required to stay on the mainline through the junction and traffic seeking to exit via the slip road will need to divert. There are two basic scenarios - diversion at the immediate (i) downstream or (ii) upstream junction. These two scenarios affect the signing schemes for both the junction at closure and the junction for diversion.

(i) Scenario 1: Diversion at Downstream Junction

3.6.8.15 Diagrams 3.6.8.8 (i) and (ii) illustrate the signing arrangements for slip road closure at taper diverge junction and for diversion made at the next downstream junction respectively. Diagram 3.6.8.9 (i) and (ii) illustrate the corresponding signing arrangements for "lane drop" junction.

3.6.8.16 In Diagram 3.6.8.8 (i), the temporary AIS and ADS for the closed slip road have similar designs for either gantry or roadside format and indicate that the exit is closed ahead. For the FADS and DS in gantry format, a separate yellow sign plate showing the diverted destination and the next exit number in a black border but without any inclined arrow is provided as shown. It may be possible, as an alternative to having additional temporary sign, to incorporate suitably the diverted destination into the mainline sign as a yellow panel if space is available and no confusion on lane selection is likely caused. Alternatively, where it is not practicable to erect a temporary sign above the mainline sign, or incorporate the destinations in this sign, for the DS only, a rectangular road side sign (same as the one for roadside sequence) erected some 10m to 20m beyond the gantry DS may be used to confirm the diversion. As regards the DS for the closed slip road, the exit sign plate must be covered.

3.6.8.17 In Diagram 3.6.8.9 (i), the temporary AIS and ADS for the closed slip road should be replaced by "Exit closed" signs in gantry format, or a new design of roadside format for "lane drop" junction (details are in Diagram 3.6.8.13) showing that the exit is closed ahead. For the FADS and DS, a separate yellow sign plate showing the diverted destination and the next exit number is provided as shown. Alternatively, the diverted destination may be incorporated into the mainline sign as a yellow panel where appropriate.

3.6.8.18 Guidance along the diversion route may be in the form of "Diverted traffic" signs, or alternatively, the diverted destination names. The choice between the two will generally depend upon the overall clarity of the diversion signing scheme. For short detours, it will normally be convenient to use the "Diverted traffic" signs. For longer diversions, drivers may become confused and therefore it is preferable to rely on destination names, but these should be kept to not more than two and preferably only one.

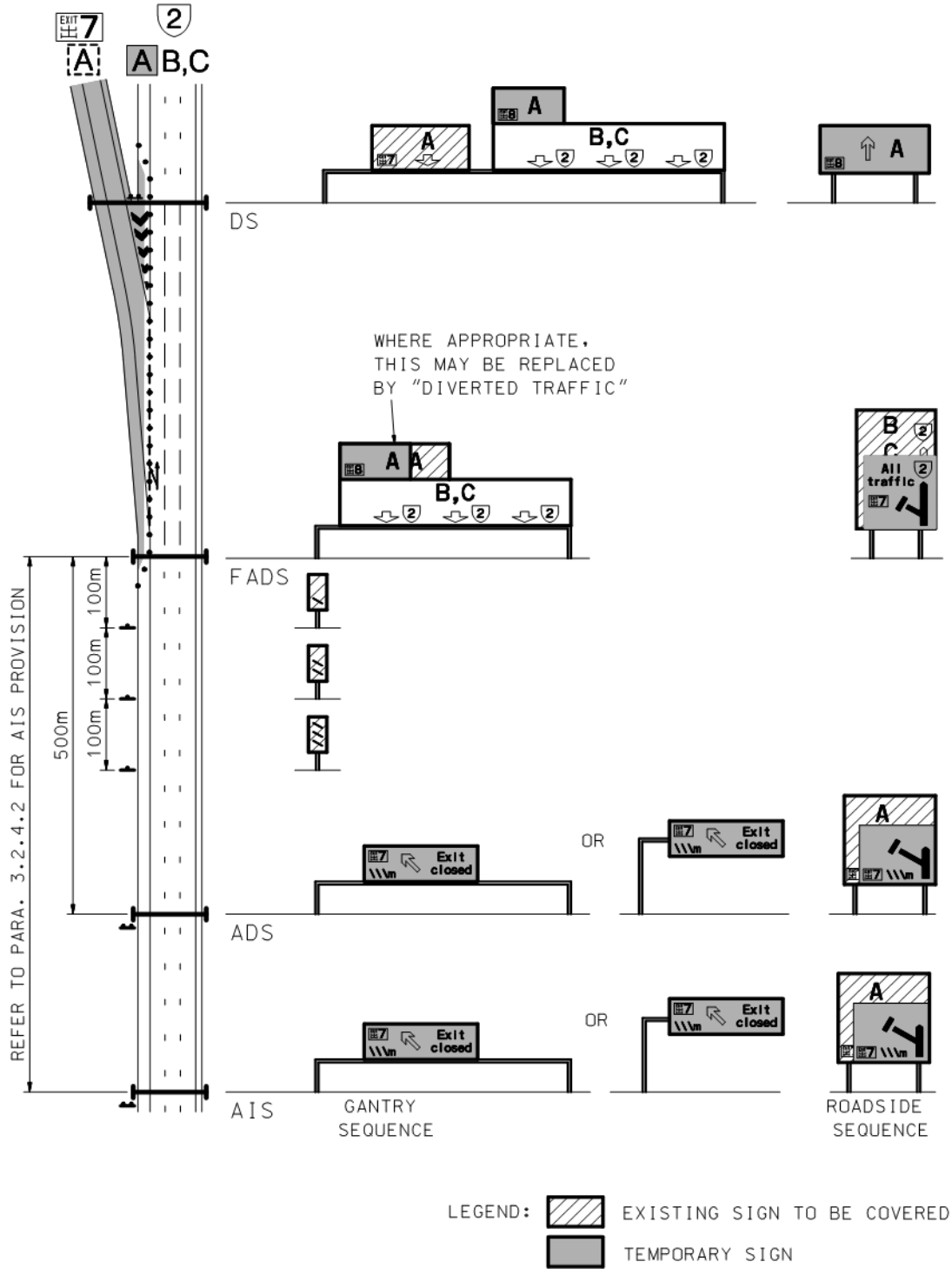
3.6.8.19 After passing the junction where the slip road is closed, if the next junction is 2 km or more away, it may be advisable to provide confirmatory signs where necessary at 500-1000m intervals along the road until the sequence of direction signs for the next junction is reached. This can simply be a roadside stack type sign with a straight ahead arrow.

3.6.8.20 In Diagram 3.6.8.8 (ii), the diverted destination is incorporated into the permanent AIS, ADS and FADS as a yellow panel for the next downstream junction where diversion is made. For the gantry DS, the diverted destination is provided either as a yellow panel within the normal sign face or as a separate yellow sign plate. For the roadside DS, a separate yellow flag type sign is provided above the normal sign.

3.6.8.21 In Diagram 3.6.8.9 (ii), a separate yellow sign plate showing the diverted destination is provided directly above the existing exit sign plate for the next downstream junction. Alternatively, the diverted destination could be incorporated into the permanent signs as a yellow panel where appropriate.

DIAGRAM 3.6.8.8 : SIGNING SCHEME FOR SLIP ROAD CLOSURE AT TAPER DIVERGE JUNCTION WITH DIVERSION AT DOWNSTREAM JUNCTION

(i) JUNCTION WHERE SLIP ROAD IS CLOSED



NOTE : FOR GANTRY DIRECTION SIGN, AN ALTERNATIVE IS TO USE TEMPORARY ROADSIDE DIRECTION SIGN (SEE PARAGRAPH 3.6.8.16) WHICH MAY BE REPEATED AS NECESSARY FURTHER DOWN THE ROAD (SEE PARAGRAPH 3.6.8.19)

(ii) DOWNSTREAM JUNCTION WHERE DIVERSION IS MADE

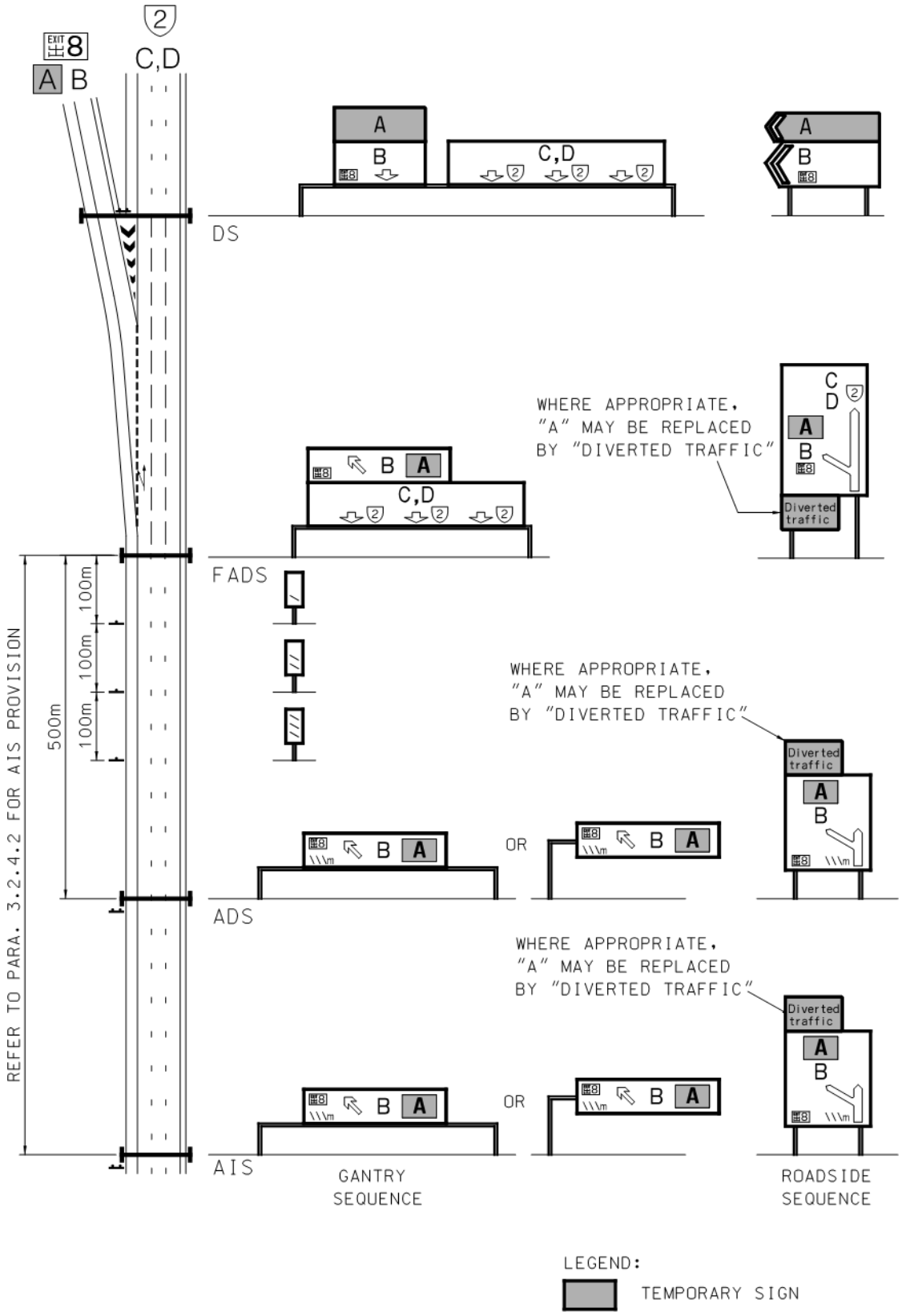
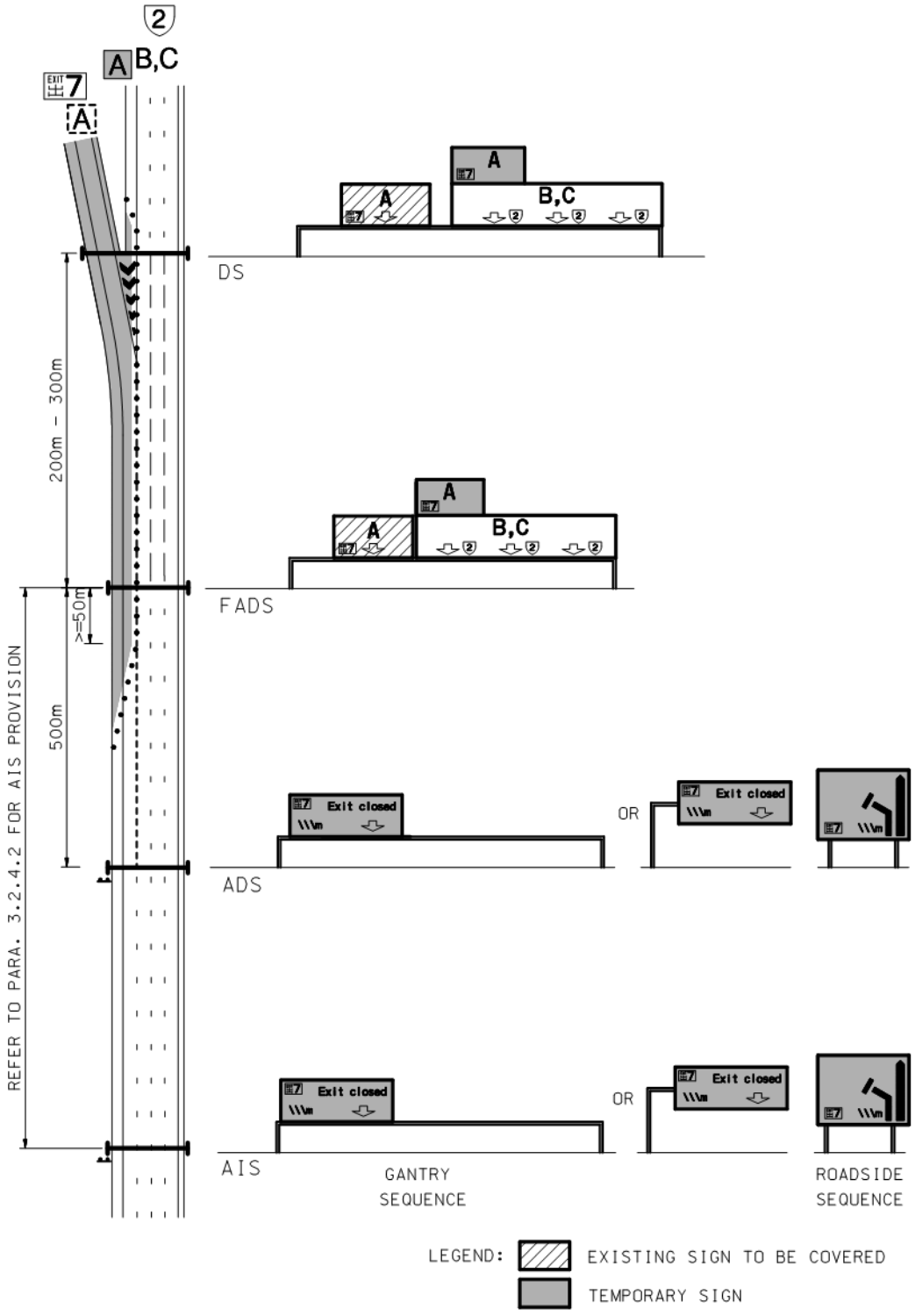


DIAGRAM 3.6.8.9: SIGNING SCHEME FOR SLIP ROAD CLOSRUE AT "LANE DROP" JUNCTION WITH DIVERSION AT DOWNSTREAM JUNCTION

(i) JUNCTION WHERE SLIP ROAD IS CLOSED



NOTE: FOR ADVANCE INFORMATION SIGN AND ADVANCE DIRECTION SIGN IN GANTRY FORMAT, A SEPARATE SIGN PLATE SHOWING THE DIVERTED DESTINATION MAY BE ADDED OVER THE APPROPRIATE LANE WHERE NECESSARY. REFER DIAGRAM 3.6.8.16 FOR SIGN FACE DETAILS.

(ii) DOWNSTREAM JUNCTION WHERE DIVERSION IS MADE



NOTE: THE DIVERTED DESTINATION SHOULD BE PROVIDED AS A YELLOW PANEL WITHIN THE NORMAL SIGN OR AS A SEPARATE YELLOW SIGN PLATE ABOVE THE PERMANENT SIGN AS SHOWN

3.6.8.22 Signing along the slip road and the subsequent roads will need to clearly direct traffic along the diversion route. Sign information serving normal traffic for the slip road will also need to be maintained.

3.6.8.23 Diagram 3.6.8.10 illustrates the general format of roadside map type signs to indicate slip road closure. The FADS format may also be used as an ADS for junctions where only ADS and DS are provided.

3.6.8.24 As illustrated in Diagrams 3.6.8.11 and 3.6.8.12, separate yellow sign plates may be attached to the permanent ADS and FADS as long as the information is clear and there is no adverse effect on the sign structure and external illumination.

3.6.8.25 The design and use of yellow panel is illustrated in Diagram 3.6.8.14. The standard arrangement should be used wherever space is available. If space is critical, as shown in (ii) and (iii) of the diagram, it will be appropriate to adopt the optimum arrangement or even the minimum arrangement. Truncation may also be adopted to better fit a panel into available space.

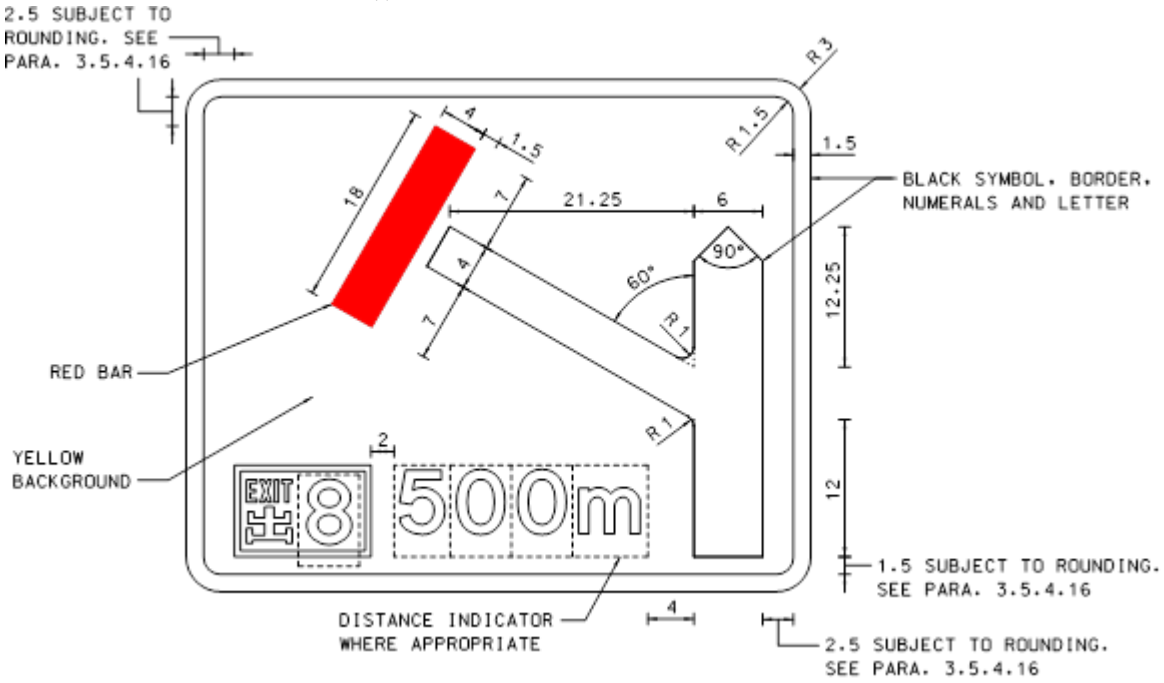
3.6.8.26 Wherever feasible, diverted destinations or the “Diverted traffic” display should be incorporated as a yellow panel within the existing permanent direction signs. Where necessary, this may be achieved by extension of the existing sign face. However if this is not achievable within the existing directional signs, separated temporary sign plates may be provided.

3.6.8.27 Diagrams 3.6.8.15 and 3.6.8.16 show the design of temporary sign faces for taper diverge junctions and “lane drop” junctions respectively. It should be noted that any remaining visible parts of the existing signs should be covered. These diagrams illustrate the use of separate temporary yellow sign plates, but incorporation of yellow panel within the permanent sign face is preferred wherever feasible.

DIAGRAM 3.6.8.10: ROADSIDE TEMPORARY SIGNS FOR SLIP ROAD CLOSURE AT TAPER DIVERGE JUNCTIONS

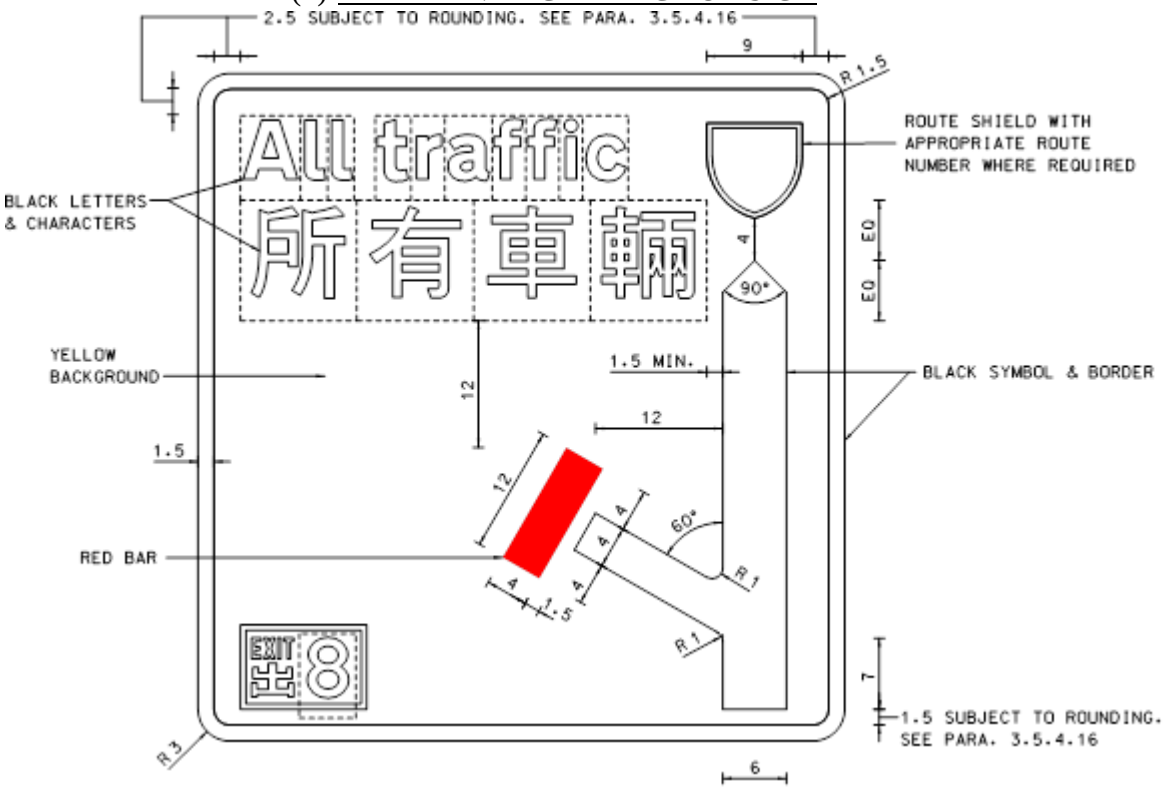
DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN



NOTE: SAME FOR ADVANCE INFORMATION SIGN BUT WITH DIFFERENT DISTANCE INDICATION

(ii) FINAL ADVANCE DIRECTION SIGN

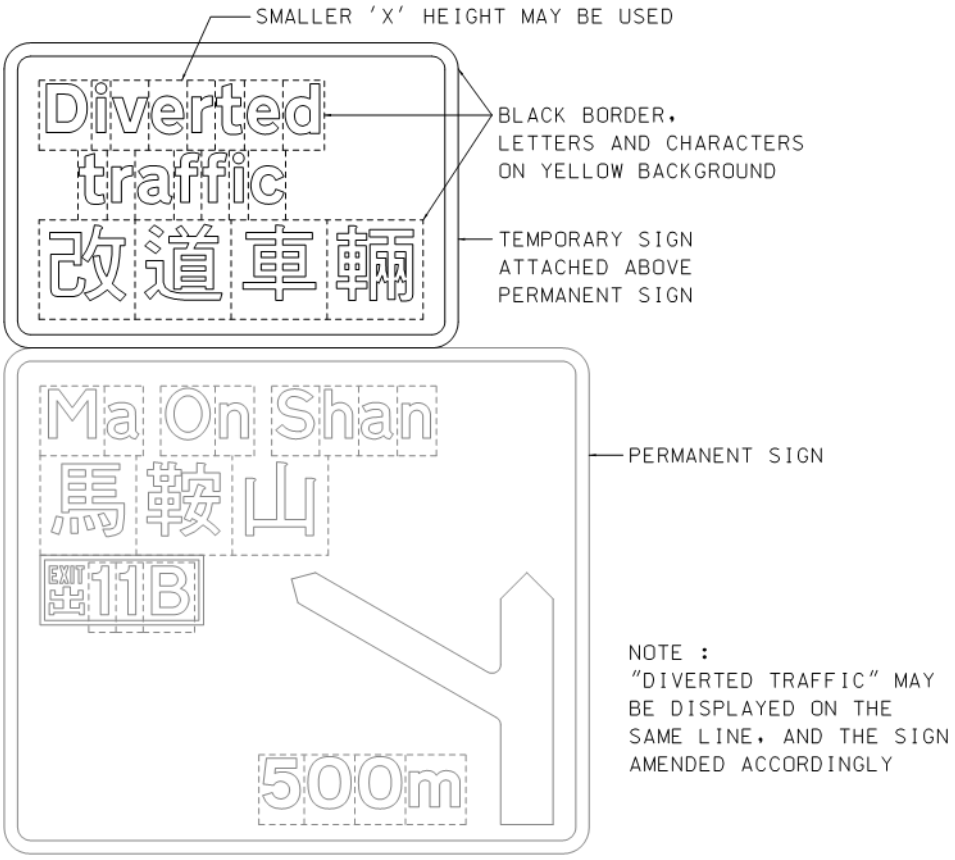


NOTE: IF ON EXPRESSWAY, EXPRESSWAY SYMBOL SHOULD BE ADDED ON TOP OF THE ROUTE SHIELD AS PER THE ARRANGEMENT IN DIAGRAM 3.5.5.2

DIAGRAM 3.6.8.11: ROADSIDE TEMPORARY ADVANCE DIRECTION SIGN FOR DOWNSTREAM TAPER DIVERGE JUNCTION WHERE DIVERSION IS MADE

DIMENSIONS IN STROKE WIDTHS

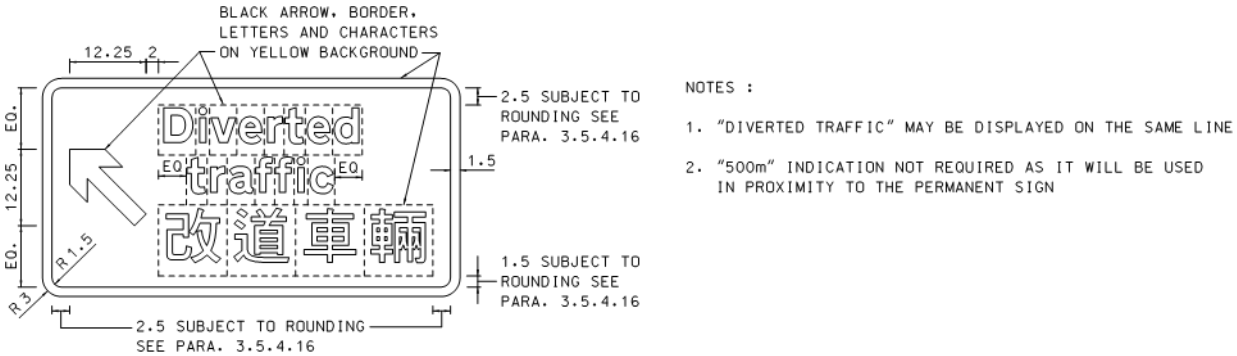
(i) COMBINED TEMPORARY AND PERMANENT ADVANCE DIRECTION SIGN



NOTES

1. AS AN ALTERNATIVE, THE DIVERTED DESTINATION MAY SUITABLY BE INCORPORATED INTO THE MAIN SIGN WHERE APPROPRIATE
2. SAME ATTACHMENT TO THE ADVANCE INFORMATION SIGN WHERE APPLICABLE

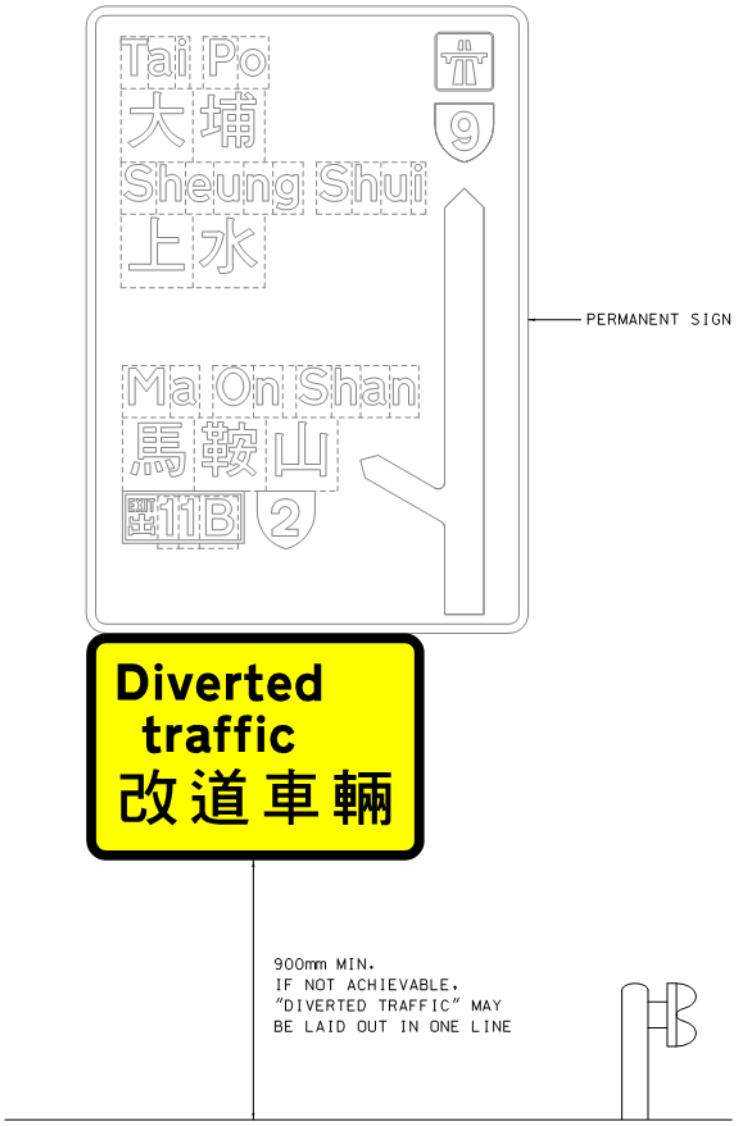
(ii) ALTERNATIVE SEPARATE TEMPORARY ADVANCE DIRECTION SIGN



NOTE: IF ADOPTED, SIGN POSITION SHOULD BE CAREFULLY SELECTED TO AVOID OBSCURING OF THE PERMANENT FINAL ADVANCE DIRECTION SIGN IN ITS PROXIMITY

DIAGRAM 3.6.8.12: ROADSIDE TEMPORARY FINAL ADVANCE DIRECTION SIGN FOR DOWNSTREAM TAPER DIVERGE JUNCTION WHERE DIVERSION IS MADE

(i) COMBINED TEMPORARY AND PERMANENT FINAL ADVANCE DIRECTION SIGN



(ii) ALTERNATIVE SEPARATE TEMPORARY FINAL ADVANCE DIRECTION SIGN (CORRESPONDING TO ADVANCE DIRECTION SIGN)



NOTE: IF ADOPTED, SIGN POSITION SHOULD BE CAREFULLY SELECTED TO AVOID OBSCURING OF THE PERMANENT FINAL ADVANCE DIRECTION SIGN IN ITS PROXIMITY

DIAGRAM 3.6.8.13 : ROADSIDE TEMPORARY ADVANCE DIRECTION SIGN FOR SLIP ROAD CLOSURE AT "LANE DROP" JUNCTIONS

DIMENSIONS IN STROKE WIDTHS

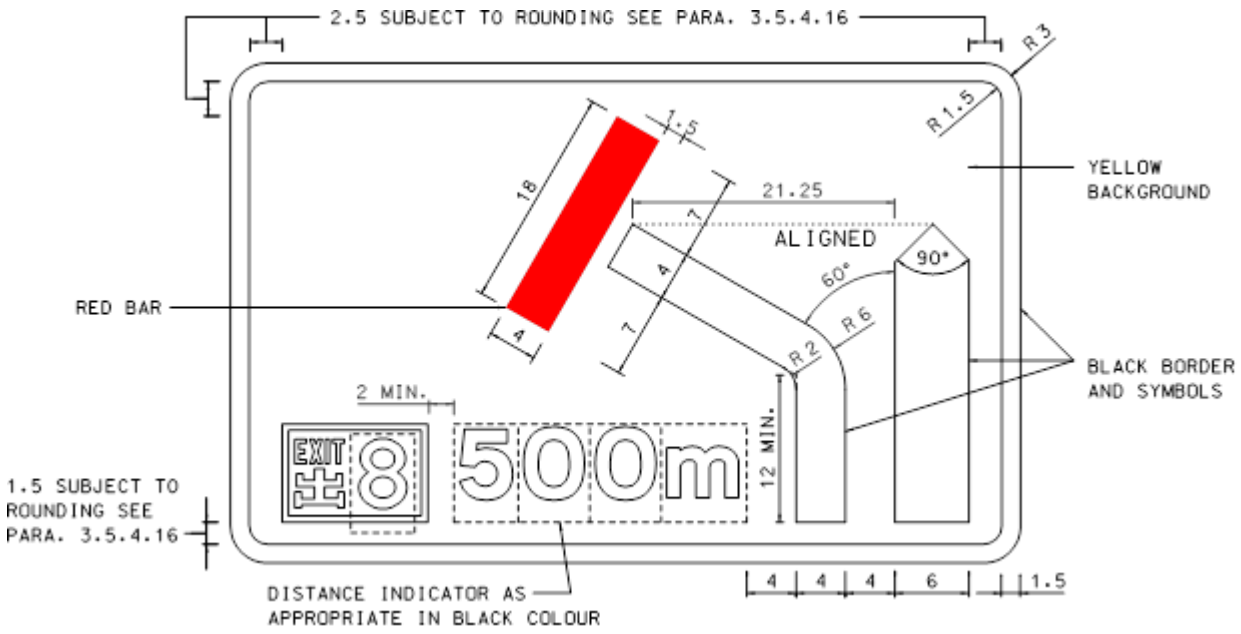
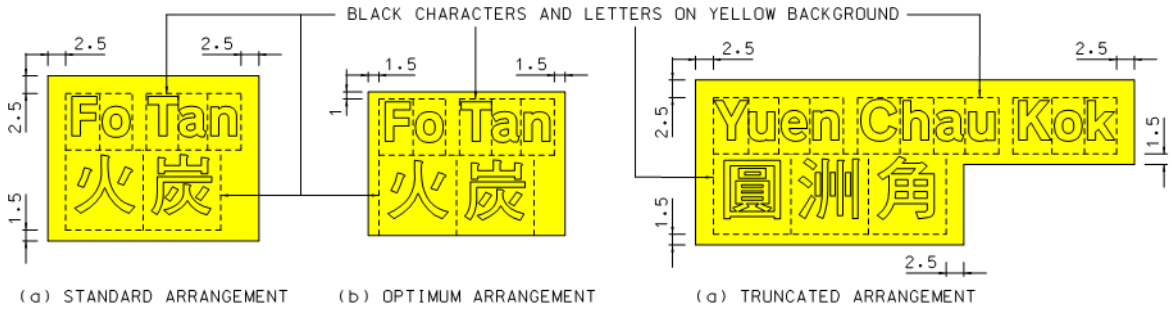


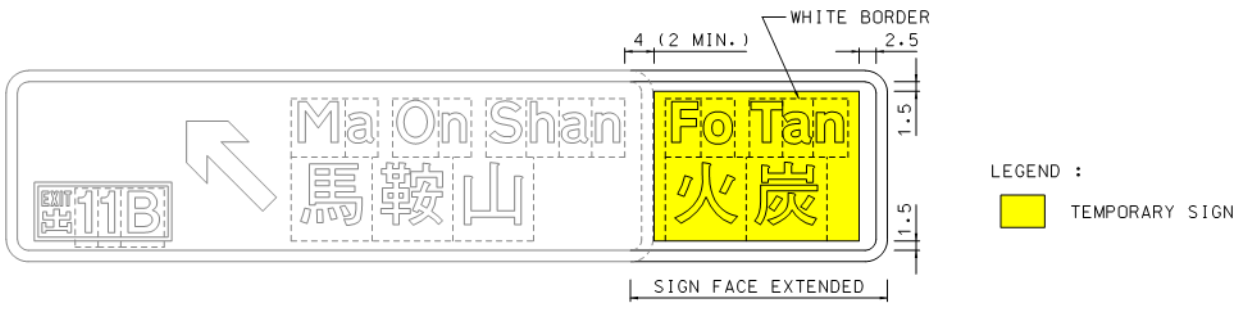
DIAGRAM 3.6.8.14 : INTEGRATION OF YELLOW PANEL ONTO NORMAL SIGN FACES FOR DIVERSION PURPOSE

DIMENSIONS IN STROKE WIDTHS

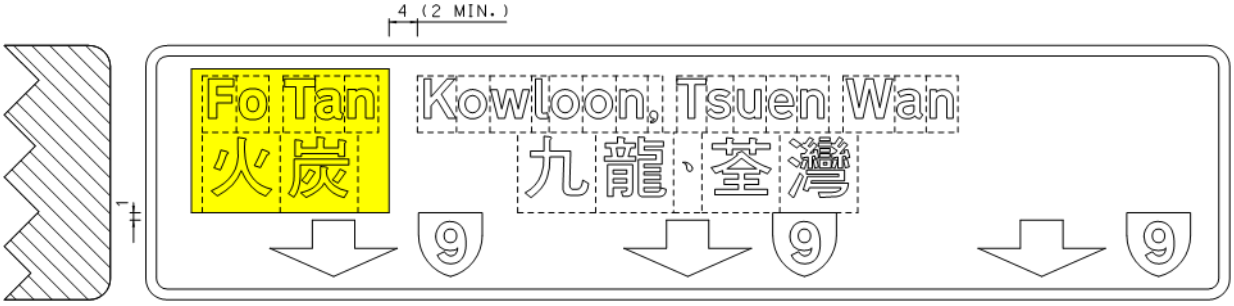
(i) YELLOW PANEL ARRANGEMENT



(ii) DIRECT DIVERGE SIGN PLATE



(iii) "LANE DROP' MAINLINE SIGN PLATE



(iv) EXAMPLE OF (iii)

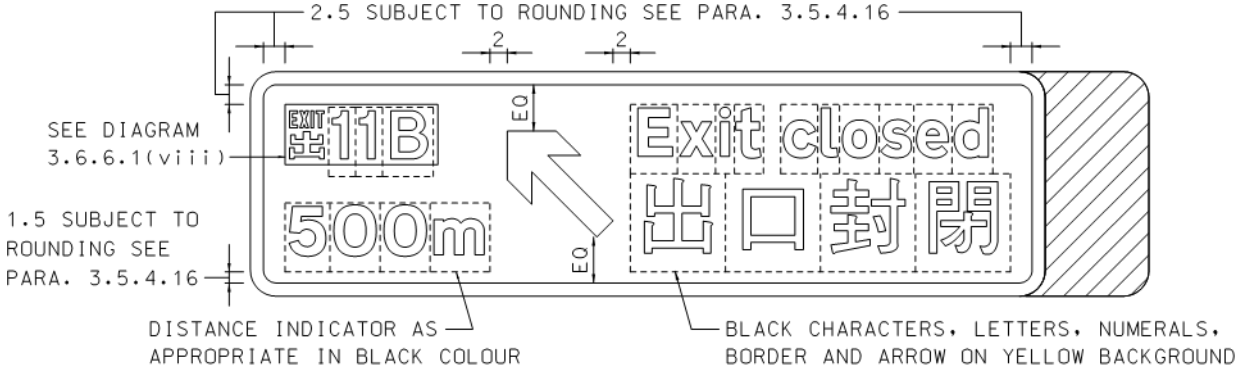


NOTES: THE DESTINATIONS SHOWN ARE DESCRIPTIVE ONLY AND ARE NOT NECESSARILY THOSE TO BE USED ON ANY DIRECTION SIGN.

DIAGRAM 3.6.8.15 : GANTRY TEMPORARY SIGNS FOR SLIP ROAD CLOSURE AT TAPER DIVERGE JUNCTIONS

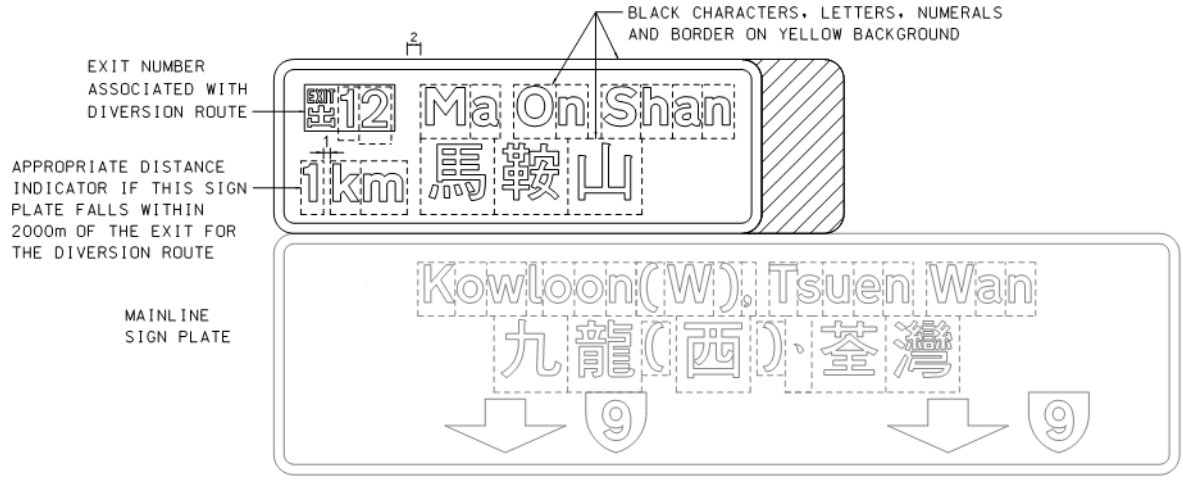
DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN



NOTE : SAME FOR AIS BUT WITH DIFFERENT DISTANCE INDICATION

(ii) FINAL ADVANCE DIRECTION SIGN



(iii) DIRECTION SIGN

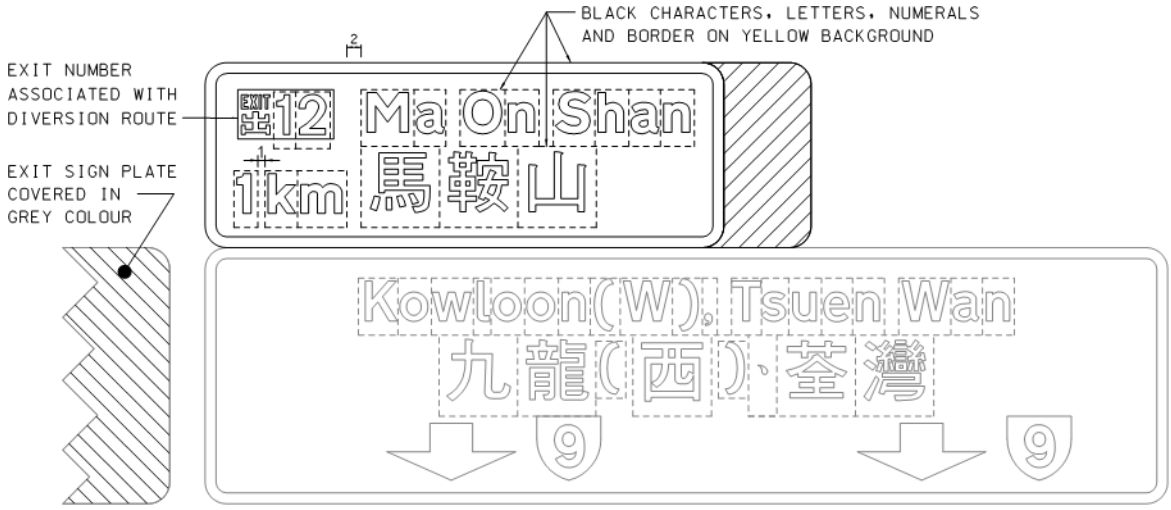
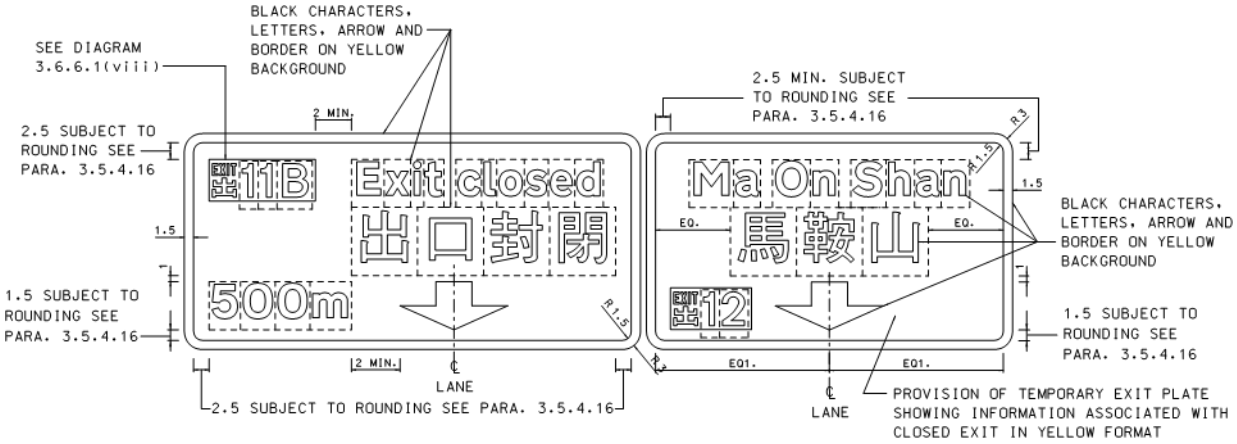


DIAGRAM 3.6.8.16: GANTRY TEMPORARY SIGNS FOR SLIP ROAD CLOSURE AT "LANE DROP" JUNCTIONS

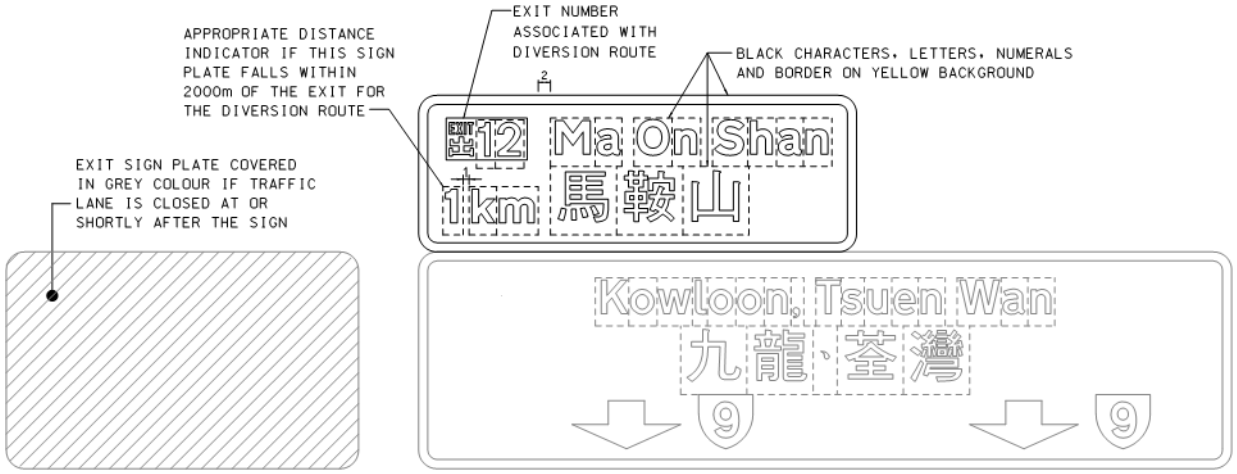
DIMENSIONS IN STROKE WIDTHS

(i) ADVANCE DIRECTION SIGN



NOTE: SAME FOR ADVANCE INFORMATION SIGN IF PROVIDED BUT WITH DIFFERENT DISTANCE INDICATION. A SEPARATE SIGN PLATE SHOWING THE DIVERTED DESTINATION MAY BE ADDED OVER THE ADJACENT LANE AS SHOWN WHERE NECESSARY. ALL THE DOWNWARD POINTING ARROWS SHOULD ALIGN WITH THE CENTRE OF THE CORRESPONDING LANE.

(ii) FINAL ADVANCE DIRECTION SIGN



NOTE: SAME FOR DIRECTION SIGN. THE DOWNWARD POINTING ARROW OF THE DIVERTED DESTINATION SHOULD ALIGN WITH THAT OF THE ONE BELOW AND ALSO THE CENTRE OF THE CORRESPONDING LANE.

(ii) Scenario 2: Diversion Ahead of Closure at Upstream Junction

3.6.8.28 Since the need to divert in advance is not expected by motorists, it is very important to inform motorists explicitly of the diversion on the approach to the upstream junction. The basic technique is to provide adequate advance warning signs which announce the closure. These are then followed by appropriate guidance along the sequence of AIS (if provided), ADS, FADS and DS towards the diversion.

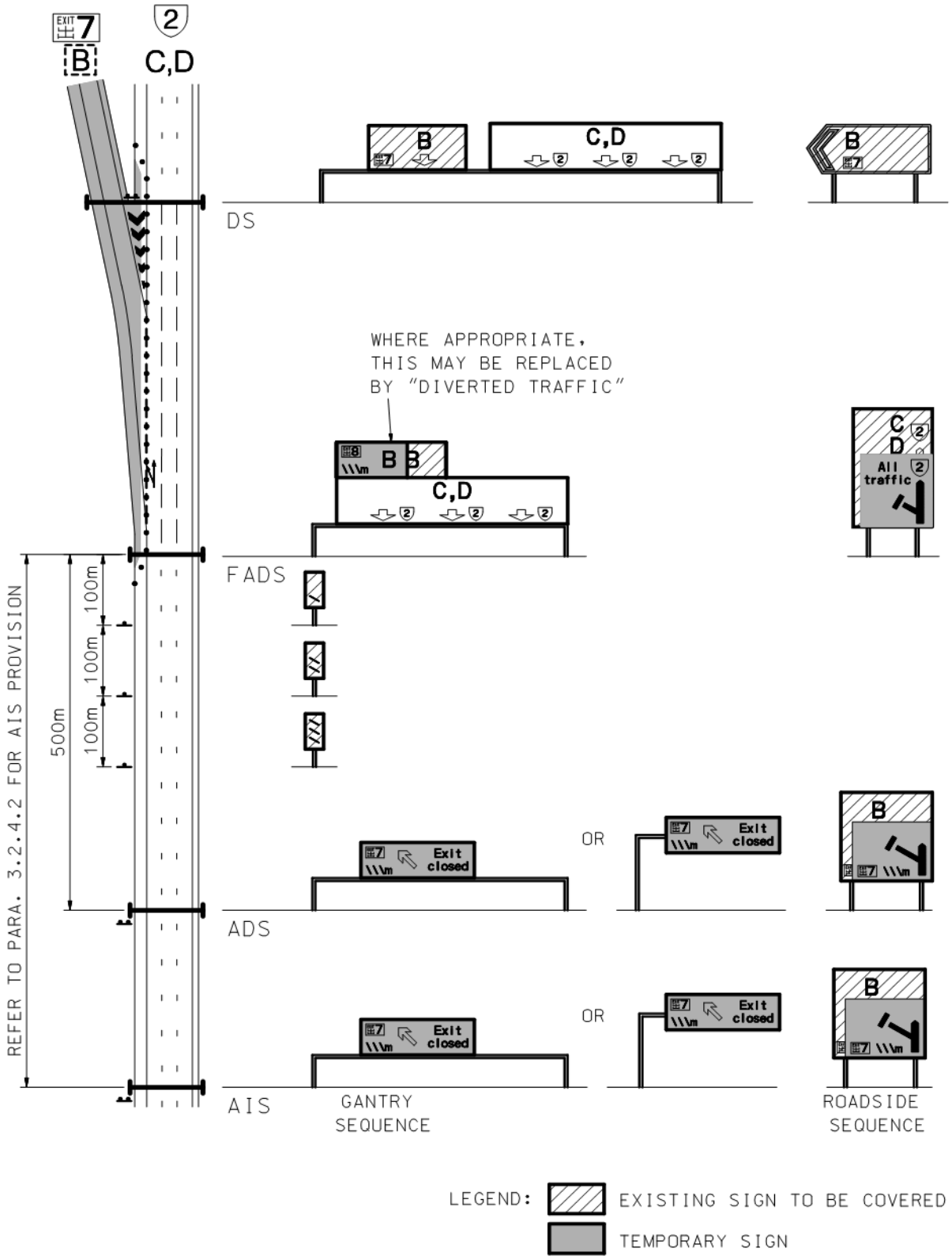
3.6.8.29 Diagrams 3.6.8.17 (i) and (ii) illustrate the signing arrangements for slip road closure at taper diverge junction and for diversion made at the immediate upstream junction respectively. Diagrams 3.6.8.18 (i) and (ii) illustrate the corresponding signing arrangements for "lane drop" junction. In general, exit closure information is provided on the AIS and ADS, and the exit sign plates are covered for the FADS and DS of the closed junction. For the upstream junction, it will be necessary to cover any part of the existing signs which indicates the diverted destinations in the forward direction. In addition, advance warning signs should be erected some 150m to 200m before the ADS and AIS. If there is no AIS, it may be appropriate to provide one more warning sign, some 150m to 200m ahead of the first warning sign on the roadside, to ensure that motorists are aware of the diversion well in advance.

3.6.8.30 Signing along the slip road and subsequent roads will need to clearly direct traffic along the diversion route. Sign information serving normal traffic for the slip road will also need to be maintained.

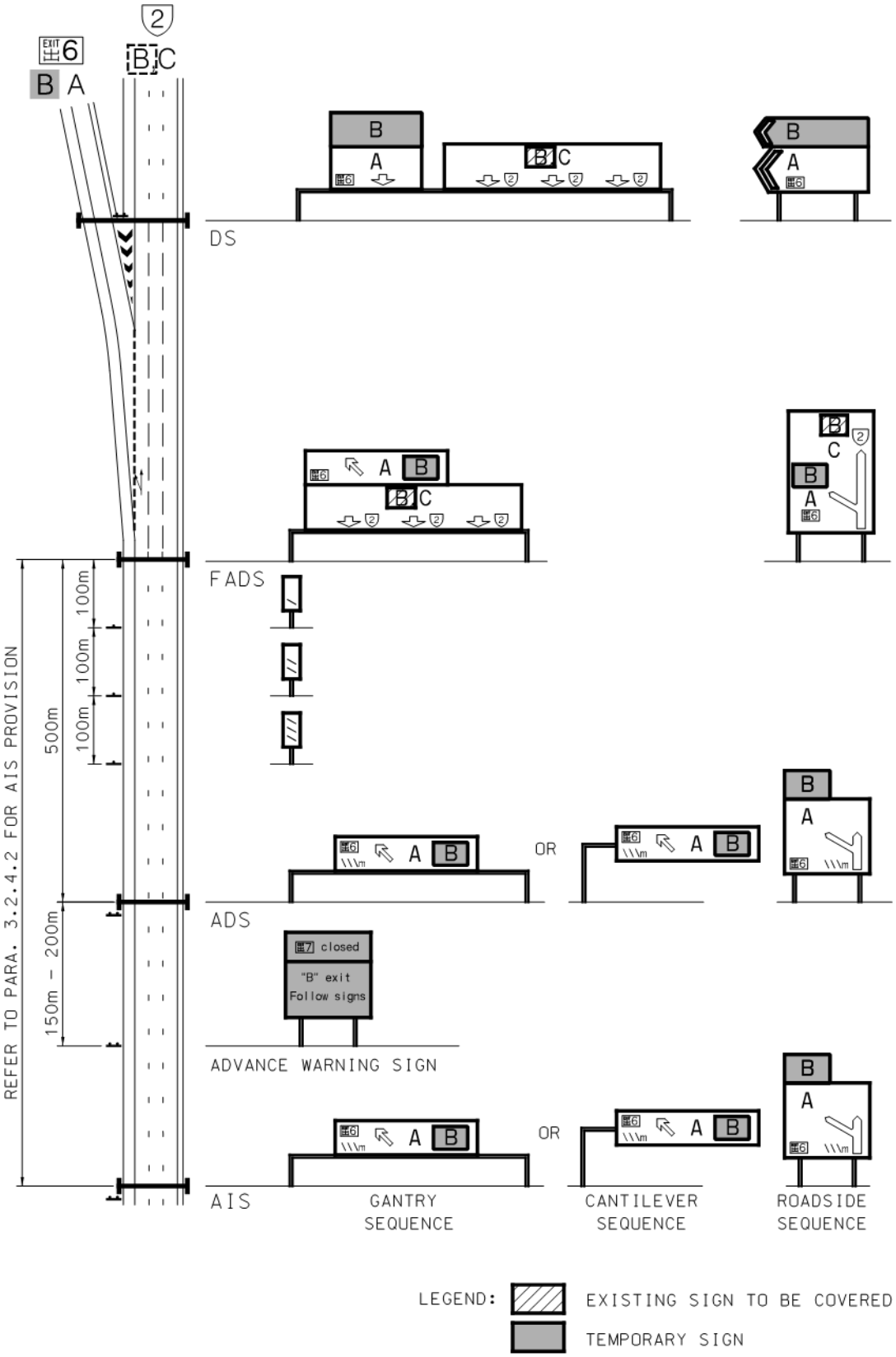
3.6.8.31 The exact contents of the advance warning sign may vary according to the particular circumstances. Diagram 3.6.8.19 provides a typical example of messages. Whatever message is used, simplicity and clarity are essential.

DIAGRAM 3.6.8.17 : SIGNING SCHEME FOR SLIP ROAD CLOSURE AT TAPER DIVERGE JUNCTION WITH DIVERSION AT UPSTREAM JUNCTION

(i) JUNCTION WHERE SLIP ROAD IS CLOSED



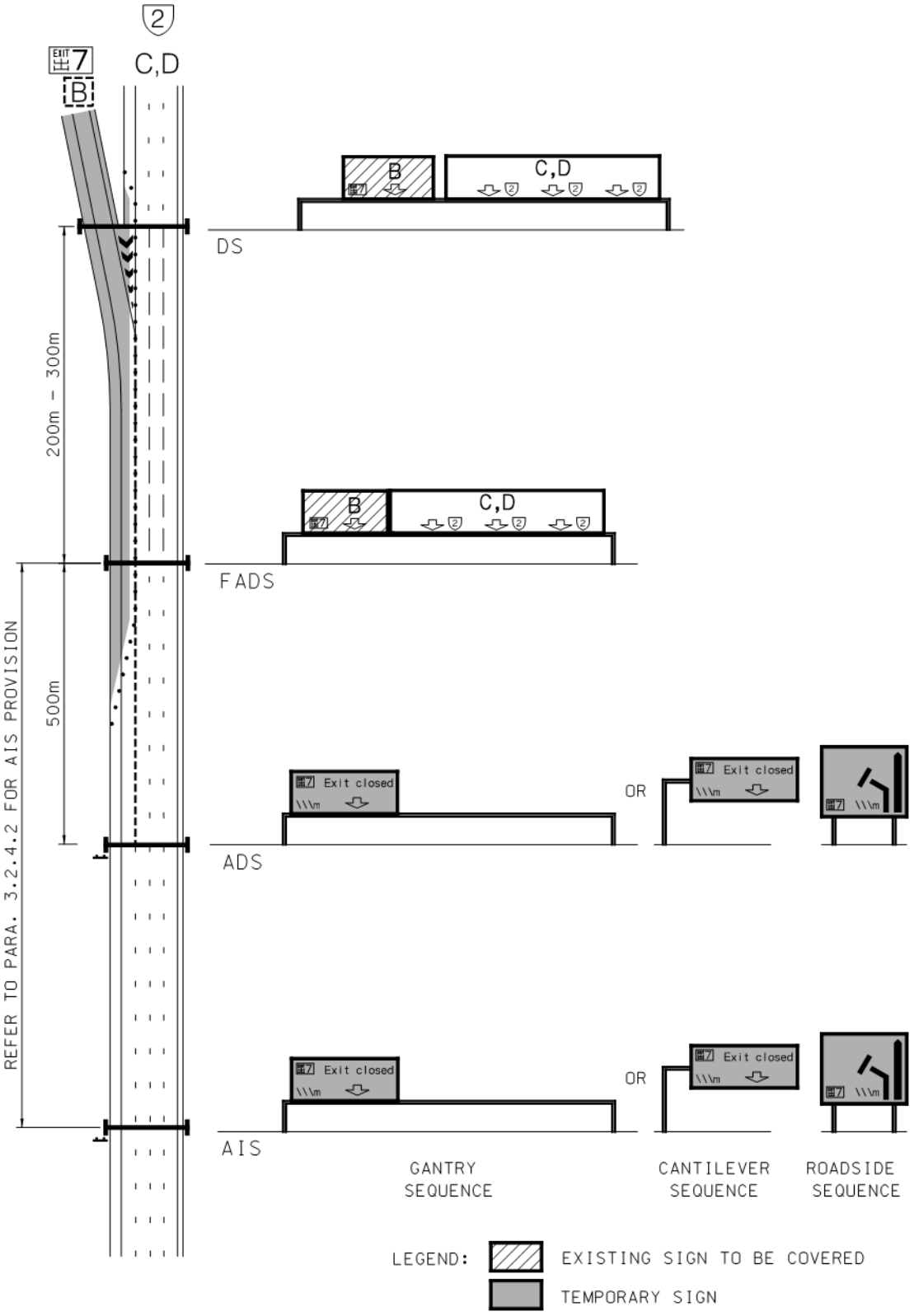
(ii) UPSTREAM JUNCTION WHERE DIVERSION IS MADE



NOTE: AN ADDITIONAL WARNING SIGN SHOULD ALSO BE ADDED AT 150-200M BEFORE THE ADVANCE INFORMATION SIGN IF PROVIDED

DIAGRAM 3.6.8.18 : SIGNING SCHEME FOR SLIP ROAD CLOSRUE AT "LANE DROP" JUNCTION WITH DIVERSION AT UPSTREAM JUNCTION

(i) JUNCTION WHERE SLIP ROAD IS CLOSED



(ii) UPSTREAM JUNCTION WHERE DIVERSION IS MADE

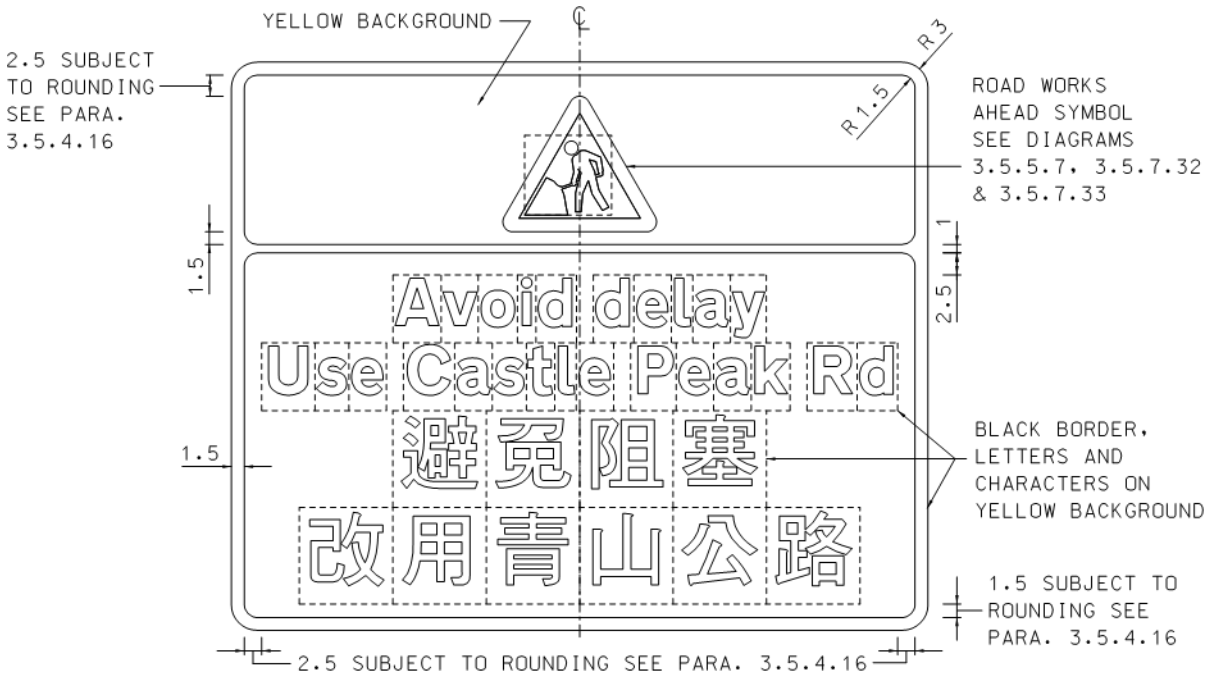


NOTE: AN ADDITIONAL WARNING SIGN SHOULD ALSO BE PROVIDED AT 150-200M BEFORE THE ADVANCE INFORMATION SIGN OR IF NOT AVAILABLE, THE FIRST WARNING SIGN

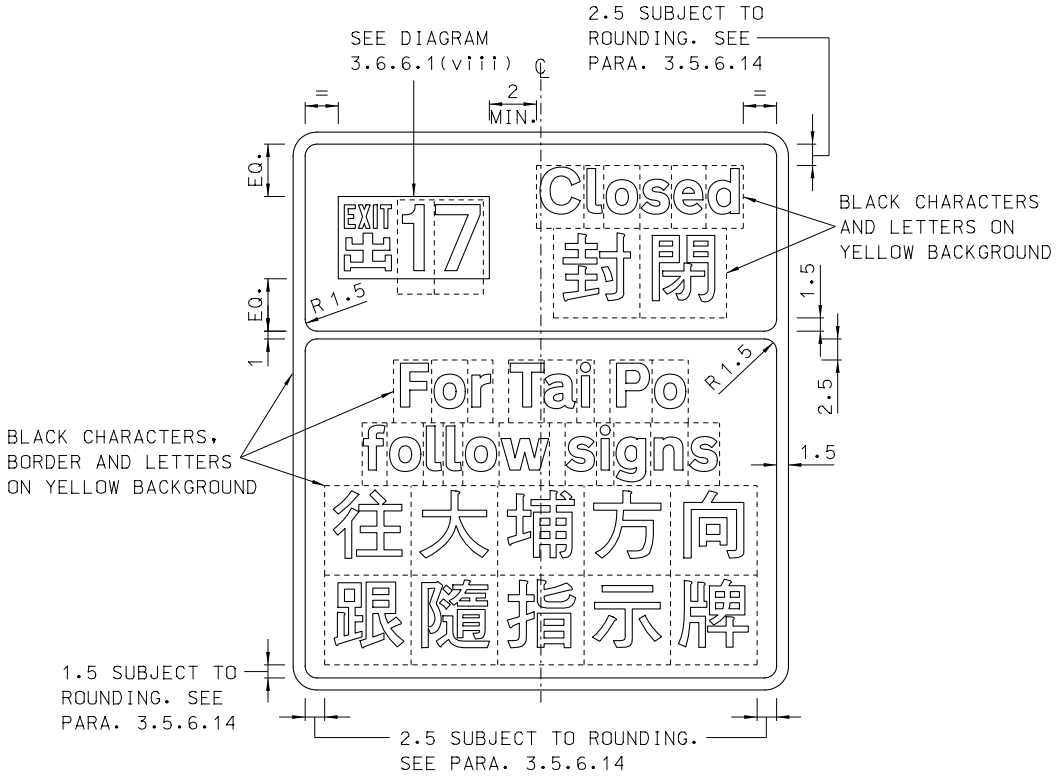
DIAGRAM 3.6.8.19 : ADVANCE WARNING SIGN FOR DIVERSION AT JUNCTION AHEAD

DIMENSIONS IN STROKE WIDTHS

(i) ADVISORY DIVERSION



(ii) EXIT CLOSURE



NOTE: WORDINGS MAY BE VARIED TO SUIT INDIVIDUAL CIRCUMSTANCES

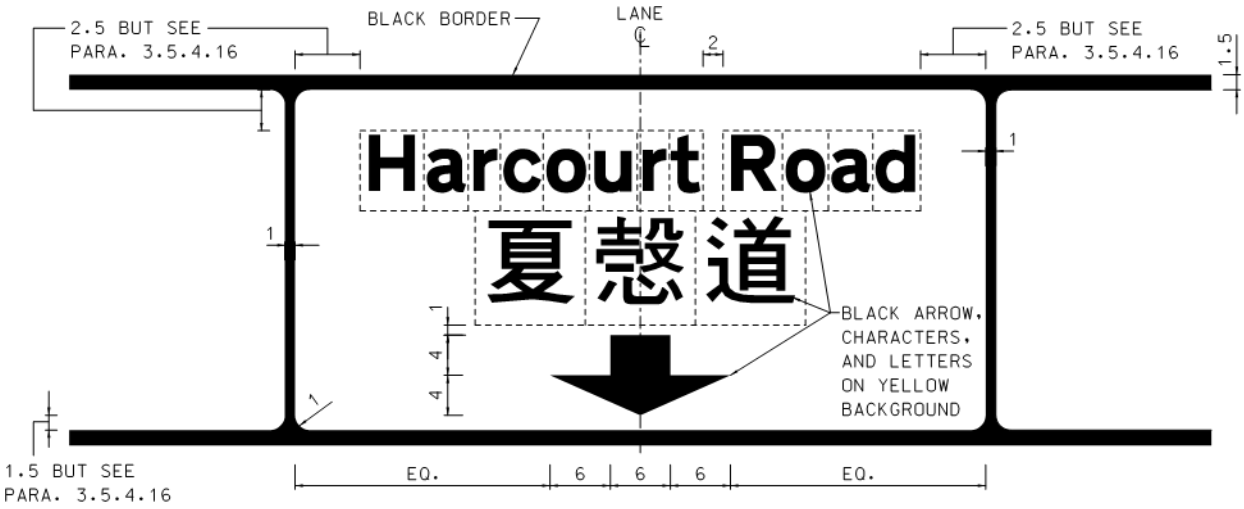
3.6.9 Lane Destination

3.6.9.1 In the vicinity of major road works, it is often necessary contrary to normal signing practice to indicate the destinations to be reached by individual traffic lanes by reference to road names. Gantry signing is particularly advantageous for providing this type of information, and where there are convenient footbridges or overbridges which can be utilised, they should normally be adopted to convey this advice. However, it must be ensured that the structure to which the signs are attached, will not be adversely affected by the additional load, and the signs can be adequately illuminated at night and fixed to the structure. Agreement/approval from the Highways Department regarding the attachment must also be sought.

3.6.9.2 Normally gantry signs of the type described in paragraph 3.6.9.1 will be composed of panels, as indicated in Diagram 3.6.9.1, forming a continuous sign across the carriageway. However, where this is more convenient, it is acceptable for Temporary Direction Signs to consist of individual panels, located above the traffic lanes to which they refer, as illustrated in Diagram 3.6.9.2. Moreover, whatever system is used, it is essential that the normal rules applying to gantry signs are adopted, and that for example only downward pointing arrows and not upward pointing arrows are utilised on the signs. It is also essential that the individual signs are properly secured, and are adequately illuminated so that they can be seen at night.

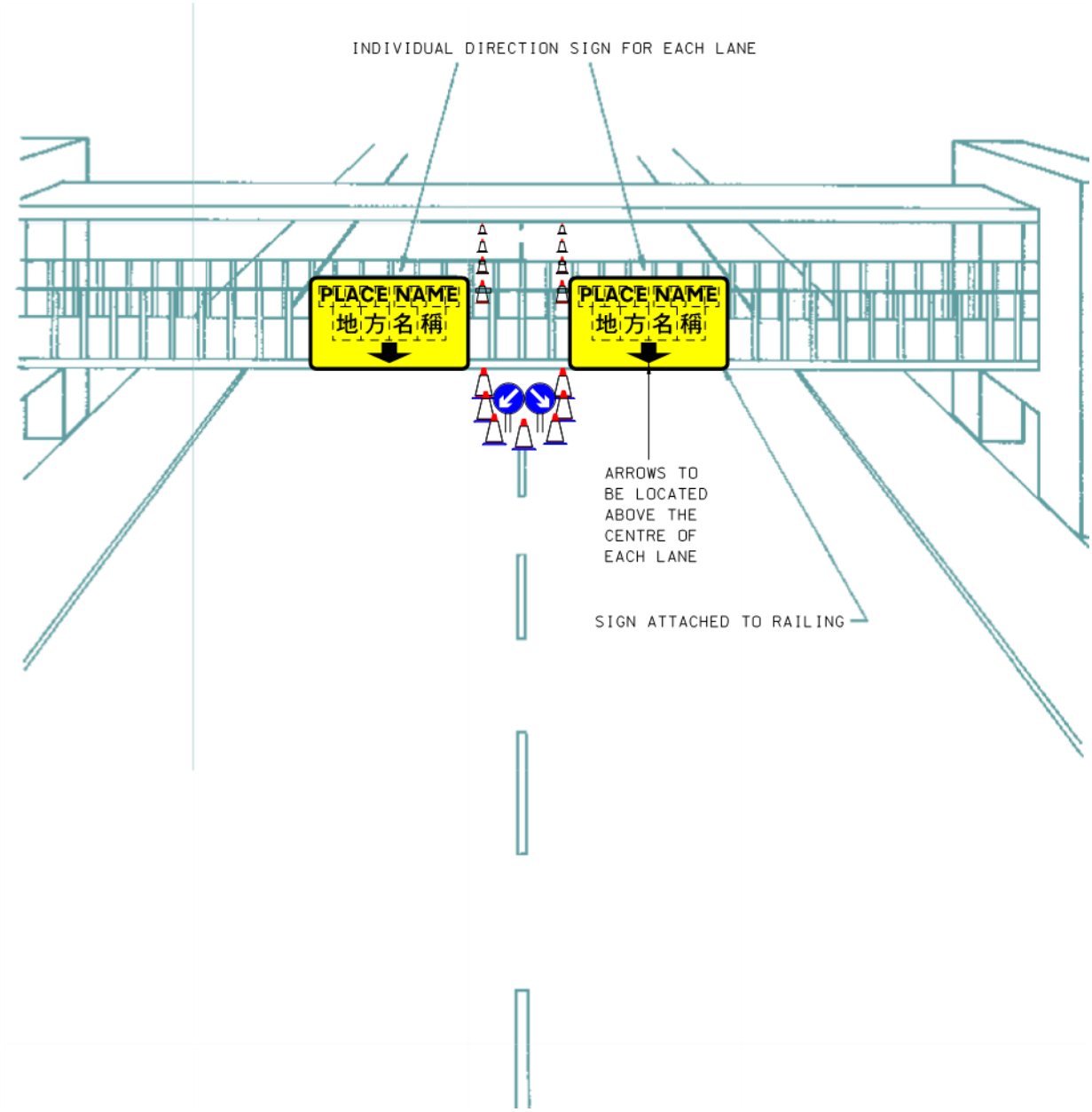
DIAGRAM 3.6.9.1 : GANTRY DIRECTIONAL SIGN

DIMENSIONS IN STROKE WIDTHS



NOTE : 'Road' MAY BE ABBREVIATED AS 'Rd' WHERE NECESSARY TO REDUCE THE WIDTH OF THE SIGN. THE WIDTH OF THE SIGN MAY BE INCREASED TO ACCORD WITH THAT OF THE LANE WHERE APPROPRIATE.

DIAGRAM 3.6.9.2 : UTILISATION OF FOOTBRIDGES FOR LANE DESTINATION SIGNS AT ROADWORKS



3.7 Destination Names

3.7.1 General

3.7.1.1 If too many destination names are included on the same sign, motorists will be unable to absorb the information given. Too many destination names do not impart more information, but likely give no information at all. For this reason, it is recommended that on any one sign assembly, not more than four destination names should be displayed. Where it is considered essential to exceed this number, additional attention should be given to improving the readability of the sign assembly. This may be achieved by increasing the x-height and the clear visibility distances above the minimum values recommended in Table 3.2.5.1. In these circumstances, the recommended maximum number of destinations is six overall. In counting the number, a symbol is counted as 0.5 number of destinations. Arrows, distance indicator, route shield, exit number plate and Expressway symbol are not counted.

3.7.1.2 Some feasible measures that may be used to restrict the number of destinations on a sign assembly are:

(i) limiting the "catchment" of signing a particular destination

(ii) grouping destinations into a more global name of the area, eg. sub-regional destination

(iii) using subsidiary direction signs

(iv) signing harbour tunnel symbol without destination names on remote approaches

3.7.1.3 On a major strategic route, the forward destinations will normally consist of the next sub-regional, district or sub-district destination plus a more remote regional, sub-regional or district destination as shown in Diagram 3.7.1.1. Once a destination name has appeared as a forward destination on a direction sign, it should be retained as a destination on subsequent direction signs until the destination is reached. This is to ensure consistency and continuity of destination displays. The destination(s) signed to leave a major route will normally be the closest sub-regional/district and/or local destination.

3.7.1.4 On a minor route, more local destination names will be appropriate. However, particularly in the vicinity of major routes, regional and/or sub-regional destinations should also be signed to direct traffic to these destinations via the appropriate major route.

3.7.2 Regional, Sub-regional, and District/Sub-district Destinations

3.7.2.1 As regional, sub-regional, and district/sub-district destination names may occur on signs which are quite remote from the actual location, it is necessary to adopt a standard list of such names in order to achieve conformity of practice. Such names should attempt to reflect the destination as perceived by motorists and should not generally be influenced by administrative boundaries which are largely irrelevant. For example, the destination name "Wan Chai" would never be used to indicate Happy Valley or Causeway Bay which are administratively within Wan Chai District Council Electoral Boundary.

3.7.2.2 The standard regional, sub-regional and district/sub-district destination names listed in Table 3.7.2.1 are all place names. Similarly, local destination names in most instances should also be place names. In some cases, however it is permissible to use destinations other than place names, and the following Section 3.7.3 offers some general advice in this respect. Designers should choose the best destination name(s) to suit individual circumstances. All destination names used on signs, whether place names or some other, however, should be names in common usage and generally recognised by motorists. Care should be taken that the English and Chinese names are equivalent and equally recognizable.

DIAGRAM 3.7.1.1 : SIGNING SEQUENCE ALONG A STRATEGIC ROUTE

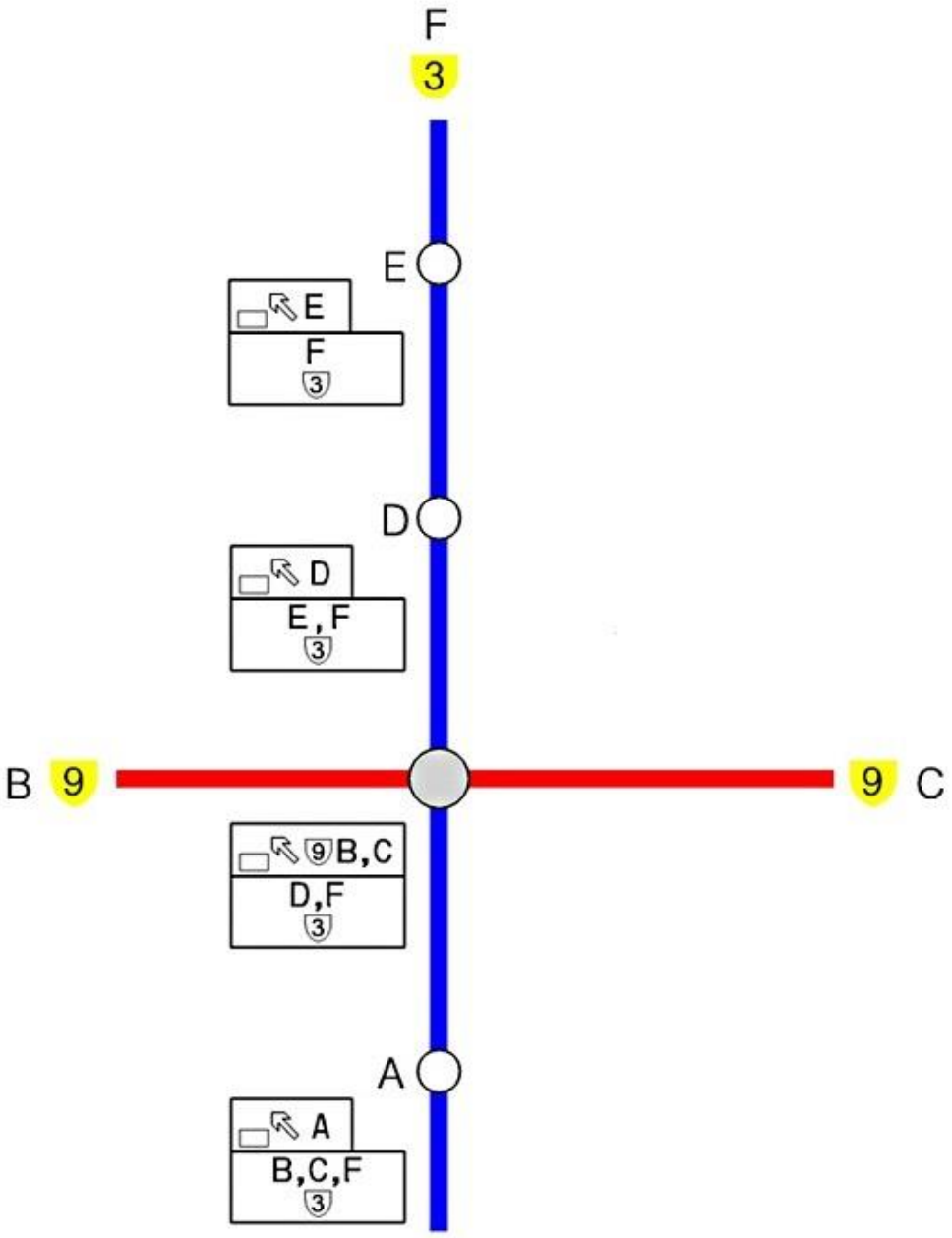


Table 3.7.2.1
Standard Destination Names

Hong Kong Island	Kowloon	New Territories
Region Hong Kong	Region Kowloon	Region -
Sub-region Hong Kong (E) Hong Kong (S) Hong Kong (W)	Sub-region Kowloon (C) Kowloon (E) Kowloon (W)	Sub-region Lantau
District/Sub-district Aberdeen Ap Lei Chau Causeway Bay Central Chai Wan Chung Hom Kok Cyberport Hang Fa Tsuen Happy Valley Kennedy Town Kornhill Mid-levels North Point Pok Fu Lam Quarry Bay Repulse Bay Sai Wan Sai Wan Ho Sai Ying Pun Shau Kei Wan Shek O Shek Tong Tsui Sheung Wan Shouson Hill Stanley Siu Sai Wan Tai Hang Tai Koo Shing The Peak Wah Fu Wan Chai Wan Chai (N) Wong Chuk Hang	District/Sub-district Beacon Hill Cha Kwo Ling Cheung Sha Wan Cheung Sha Wan (W) Choi Hung Chuk Yuen Cruise Terminal Diamond Hill Hang Hau Ho Man Tin Hung Hom Hung Hom Bay Kai Tak King's Park Kowloon Bay Kowloon City Kowloon Tong Kwun Tong Kwun Tong Business Area Lai Chi Kok Lai Chi Kok (S) Lam Tin Lok Fu Ma Tau Wai Mei Foo Mong Kok Ngau Chi Wan Ngau Tau Kok Ngong Shuen Chau (previous “Stonecutters Island”) Ping Shek Po Lam San Po Kong Sham Shui Po Sham Shui Po (W) Shek Kip Mei Sau Mau Ping Tai Kok Tsui Tai Kok Tsui (W) Tiu Keng Leng To Kwa Wan Tsim Sha Tsui Tsim Sha Tsui East Tsz Wan Shan Wang Tau Hom West Kowloon Cultural District West Kowloon Terminus Wong Tai Sin Yau Ma Tei Yau Ma Tei (W) Yau Tong Yau Yat Chuen	District/Sub-district Airport Au Tau Clear Water Bay Discovery Bay Fairview Park Fanling Fo Tan Ha Tsuen Hin Tin Heung Yuen Wai Hong Lok Yuen Hung Shui Kiu Kam Tin Kwai Chung Kwai Fong Kwai Hing Kwu Tung Lai King Lam Tei Lantau(S) or South Lantau Lau Fau Shan Lei Muk Shue Lok Ma Chau Long Ping Luen Wo Hui Luk Keng Lung Kwu Tan Ma On Shan Ma On Shan Town Centre Ma Liu Shui Ma Wan Man Kam To Mui Wo Ngong Ping On Lok Tsuen Pak Shek Kok Pak Tam Chung Pat Heung Ping Che Ping Shan Pui O River Trade Terminal Sai Sha Sai Kung Sam Shing Hui San Tin San Hui Science Park Sha Tau Kok Sha Tin Sha Tin Central [see para. 3.7.3.12] Sham Tseng Shek Kong Shek Lei Shek Pik

		Shek Wu Hui Shek Yam Shenzhen Bay Sheung Shui Sheung Tak Siu Lam Siu Lek Yuen So Kwun Wat Tai Hing Tai Mei Tuk Tai O Tai Po Tai Po Industrial Estate Tai Po Kau Tai Po Market Tai Po Town Centre Tai Po (N), (S) Tai Shui Hang Tai Wai Tin Shui Wai Tai Lin Pai Tai Wo Hau Tin Sam Tin Shui Wai (N), (S), (E), (W) Ting Kau Tiu Keng Leng Tseung Kwan O Tseung Kwan O (E) Tseung Kwan O Industrial Estate Tseung Kwan O Town Centre Tsing Lung Tau Tsing Yi Tsing Yi Town Centre Tsing Yi (N), (S), (E) Tsuen Wan Tsuen Wan Central Tsuen Wan (N), (S) Tsui Lam Tuen Mun Tuen Mun Town Centre Tuen Mun (W) Tung Chung Tung Chung Town Centre Tung Chung (W), (N) Tung Tau Industrial Area Wo Hop Shek Wu Kai Sha Yuen Chau Kok Yuen Long Yuen Long (C), (S) Yuen Long Industrial Estate

3.7.3 Local Destination Names

General

3.7.3.1 Local destination names will normally only be applicable on signs located close to the destinations. In general, they should not be signed on strategic road network (SRN). If really necessary, consideration may be given to using subsidiary direction signs near the relevant exit(s) of the SRN. Also, the appropriateness of destination names is likely to change with time as a result of new development. At any one time therefore, the respective Transport Department's Chief Traffic Engineer/Region or Chief Engineer/Traffic Survey and Support is in the best position to advise on the appropriateness of destination names, taking account, if necessary, of the views of the District Office and other relevant government departments.

3.7.3.2 The inclusion of the <Regional Name> such as "Hong Kong" or the <District Name> such as "Tai Po" in local destination signing is generally not necessary when these facilities are unique in the territory or area and confusion will unlikely arise. For example, "Hong Kong Convention and Exhibition Centre" → "Convention and Exhibition Centre", and "Tai Po Waterfront Park" → "Waterfront Park".

The use of tunnel (and other major infrastructure) names

3.7.3.3 In normal situations, it will be appropriate to include on the signs, a place name which is accessed through the tunnel rather than the name of the tunnel itself. In some particular cases, the use of a tunnel name and/or a place name via a tunnel name may be appropriate, such as "Sha Tin (via Lion Rock Tunnel)" and "Sha Tin (via Tai Po Road)". In such cases, it may adopt a smaller x-height for "via xxx Tunnel" and "via xxx Road" in both English and Chinese where necessary.

3.7.3.4 Upon the opening of a tunnel, a generous use of temporary signs bearing the name of the tunnel is to be encouraged.

The use of cross-boundary names

3.7.3.5 At present, there are six boundary crossings with the mainland of the People's Republic of China (PRC) and Macao as listed in Table 3.7.3.1 below.

Table 3.7.3.1
Destination Names for Boundary Crossings

Boundary Crossing	PRC/Macao Region	PRC/Macao Sub-region/district
Man Kam To	Shenzhen	Luohu
Sha Tau Kok	Shenzhen	Yantian
Lok Ma Chau	Shenzhen	Huanggang
Shenzhen Bay	Shenzhen	Shekou
Hong Kong Boundary Crossing Facilities	Zhuhai	Zhuhai
	Macao	Macao
Heung Yuen Wai	Shenzhen	Liantang

3.7.3.6 The names of “Lok Ma Chau”, “Man Kam To”, “Sha Tau Kok” and “Shenzhen Bay” should be used on the more remote approaches to the boundary crossings. However, when signing in the vicinity of the crossing facilities, it will be more appropriate to use the corresponding regional and district destination names within the PRC mainland or Macao in the Putonghua version such as “Shenzhen (Huanggang)”, “Shenzhen (Luohu)”, “Shenzhen (Yantian)” and “Shenzhen (Shekou)”.

The use of development, building or estate names

3.7.3.7 The names of major developments which are of landmark value or large housing estates of a significant size including both public and private ones may be used as destinations if there are no suitable sub-regional, district or sub-district place names. Consideration should also be given to the scale of the developments, importance of buildings, community value, public facilities provided and the availability of loading/unloading and car parking spaces for the general public. It should however be noted that the use of private housing names should be avoided as far as possible unless the private development is a major representative development in the local area or the use of its name is the most appropriate, for example, Tai Koo Shing and Fairview Park.

3.7.3.8 For new large development of public interest or a significant importance, a generous use of temporary signing in their immediate vicinity is to be encouraged. However, any such signs must not be erected along any part of an Expressway.

The use of road names

3.7.3.9 Place name destinations are to be preferred and road name destinations are generally not advisable. Road names are acceptable where the road represents a linear development area without a widely recognised district/sub-district name and there is no other satisfactory alternative. Moreover, the road is well understood by the general public and its use offers clear advantages.

The use of major transport termini names

3.7.3.10 All major transport termini/stations, where significant "park and ride" and/or "kiss and ride" activities are expected, may be signed in their vicinities. All major terminals for external marine transportation such as Macau Ferry, China Ferry and Cruise Terminals should be signed using their full names. For public ferry piers such as Central Piers and Hung Hom Ferry Concourse, the use of “Ferry Pier” or “Ferry Concourse” is recommended. For airport express stations and high speed rail station, they may be signed using their full names. However, if there is space constraint, use of abbreviation such as “Stn” for “Station”, and “高鐵站” for “高速鐵路站” may be considered. See Section 3.5.7 for signing MTR/railway stations.

The use of compass direction (N, S, E, W or C)

3.7.3.11 Compass direction is normally used to indicate a sub-region such as "Kowloon (C)" or “Hong Kong (W)” where a widely recognised district name is not available. The directions are assigned in accordance with the geographical characteristics of a region/area. Care is required to ensure that such suffixes should not be used to indicate district/sub-district and are used only in exceptional circumstances where such designations are in common usage and the area is generally recognised by motorists. See Section 3.7.5 for use of abbreviations.

The use of town centre names

3.7.3.12 A town centre should be a sub-district zone defined by traditional developments or concentration of public service or commercial activities. It is normally found in rural areas or new towns.

3.7.3.13 The format of usage is to put “Town Centre” or “Central” after the relevant District Name, for example “Tuen Mun Town Centre”, and “Sha Tin Central” (or “Sha Tin (C)”, “Sha Tin Town Centre”).

3.7.3.14 As there is usually only one town centre within a district, the District Name may be omitted (i.e. to use "Town Centre" alone) where necessary to reduce the complexity of sign faces but it is only appropriate where there is no confusion caused.

The use of industrial estate/ area names

3.7.3.15 For the following three major industrial zones i.e. Tseung Kwan O Industrial Estate, Yuen Long Industrial Estate and Tai Po Industrial Estate, where their operation is managed, the use of their full names should be adopted. For other general industrial area, simply "Industrial Area" is recommended unless confusion is caused to motorists, e.g. two industrial areas/ estates are located in close vicinity.

The use of convention / exhibition centre names

3.7.3.16 Major venues with its own public car parking and loading/unloading areas such as the Hong Kong Convention and Exhibition Centre and Asia World Expo may be signed using their full name.

The use of major public park or theme park names

3.7.3.17 Major parks with its own car parking facilities such as the Hong Kong Wetland Park, Hong Kong Ocean Park, Hong Kong Disneyland Resort and Tai Po Waterfront Park may be signed using their full name or logo (if the logo is well understood by the public and subject to the approval of the Transport Department). Country park is generally not signed.

The use of major public beach and stadium names

3.7.3.18 Large public gazetted beaches and stadiums with car parking facilities such as Repulse Bay Beach and Hong Kong Stadium respectively may be signed using their full name.

The use of freight facility names

3.7.3.19 Specific facilities managed by the Marine Department such as Western District Public Cargo Working Area may be signed using "Public Cargo Working Area". In general, it is not necessary to include the District Name or area name in front, unless it is necessary to distinguish two facilities in close vicinity.

3.7.3.20 Container terminals may be signed on roads leading to various terminals in the nearby areas.

The use of university and tertiary institution names

3.7.3.21 Universities and tertiary institutions may be signed using their full names. As the full name in this case could be quite long, simply using "University" is recommended where there is no confusion caused or abbreviations may be used where necessary.

The use of government, institution or community (GIC) facility names

3.7.3.22 As the majority of the public are expected to access GIC facilities such as government offices, public recreation and sports facilities or similar using public transport services, these facilities should generally not be signed unless they are of significant importance such as the Central Government Offices and Legislative Council at Tamar.

The use of landfill site and works area names

3.7.3.23 Landfill sites and works area may simply be signed using "Landfill" and "Works area" respectively, though both will normally employ Temporary Direction Signs.

3.7.4 Symbolised destinations names

3.7.4.1 Certain destinations including the airport, cross harbour tunnels, hospitals with 24-hour accident and emergency services and parking places are signed via the use of symbols. Advice pertaining to the use of such symbols is given in Section 3.5.7 of this Chapter.

3.7.5 Abbreviations

3.7.5.1 Where necessary, abbreviations may be used to reduce the overall length of any English legend. Abbreviation is particularly useful for Temporary Direction Signs with limited space or for local destination names which are of substantial length. Abbreviated destinations should be understandable by the general public at a glance and a consistent abbreviation be adopted along a route or over an area. Common abbreviations are illustrated below: -

	Word	Abbreviation
(a)	Hong Kong	HK
(b)	Kowloon	Kln
(c)	New Territories	NT
(d)	Estate	Est
(e)	Garden	Gdn
(f)	Building	Bldg
(g)	Terrace	Terr
(h)	Centre	Ctr
(i)	Station	Stn
(j)	Road	Rd
(k)	Street	St
(l)	Government	Govt
(m)	Central	(C)
(n)	North	(N)
(o)	South	(S)
(p)	East	(E)
(q)	West	(W)
(r)	and	&

Notes

1. The notation of (C), (N), (S), (E) and (W) should always be used instead of (Central), (North), etc. such as “Kowloon (W)”. However, if abbreviation is used for defined place names such as “Tsim Sha Tsui East”, it should be used without any bracket and the correct display should be “Tsim Sha Tsui E”.

2. Abbreviations of “Hong Kong”, “Kowloon” “Tseung Kwan O” are not appropriate where these are used in the regional or sub-regional context, but may be appropriate where these form part of a local destination, for examples,

   “HK Convention and Exhibition Centre”

   “TKO Government Secondary School”

   In this example, other alternatives such as “Convention & Exhibition Ctr”, “會議展覽中心” or “會展中心” may be considered where appropriate.

Appendix 1 –
Guidelines for Assigning Exit Numbers and Choice of Exits

Principle for Assigning Exit Number

1. Exit numbers will begin with 1 at the first exit normally from the most easterly or southerly start point of an expressway and is increased by 1 at the next exit. Exits in both bounds at the same interchange (symmetric exists) will have same exit number. If there is no exit in the opposite bound at the interchange, these non-symmetric exits in between interchanges will be numbered with alphabet suffix as the preceding exit, such as 1A 1B, 1C, etc. if the preceding exit number is 1.

2. In case the first few exits are non-symmetric, they will be numbered as 1A, 1B, 1C, etc. until the next symmetric exit, which will be numbered 2. In this way, all exits at the same interchange will have identical exit number. Also, exits in each bound will be numbered in a consecutive order.

3. For circular routes, a convenient point should be chosen as beginning of exit numbers, preferably at the fringe of a district.

4. If there are plans and/or Public Works Programme items for future extensions of or connections to an existing strategic route, adequate exit numbers should be reserved now at the start point or along the strategic route to avoid changing exit numbers in future. For future additions of exits to an existing strategic route but no exit numbers have been reserved for them, suffixes will be used, even if it is a symmetric exit. If suffixes have already been used, the existing suffixed numbers will have to be re-arranged. For example, if the new exit is to be provided between exits 7A and 7B, then all the suffixed exit numbers between exits 7A and 8 will have to be re-arranged so as to accommodate the new exit. However, it may need to be judged individually to strike a balance between convenience to the motorists and minimising change of signs.

5. A schematic diagram showing the arrangement of exit numbers should be prepared for the detail design of directional signs. Using Route 3 as an illustration, a schematic diagram of exit numbers is prepared as shown in Annex I.

Choice of Exits for Assigning Exit Numbers

6. All exits along strategic route network (SRN) should be assigned with numbers as far as

possible.

7. For signalised junctions and T-junctions, each case should be studied individually in providing exit number signs. Advance information signs for these exit numbers should be provided as far as possible, e.g. by mounting signs on lamp posts, existing signs, traffic signal posts, etc. If under current arrangement, no turning movement is allowed, hence drivers cannot exit SRN at these junctions, exit number plates would not be provided. However, exit numbers should still be reserved for these junctions so as to cater for possible future changes to permit turning movements. Please refer to Annex II for the schematic diagram showing the above road configuration and the relevant signage arrangement when exit number plates are provided.

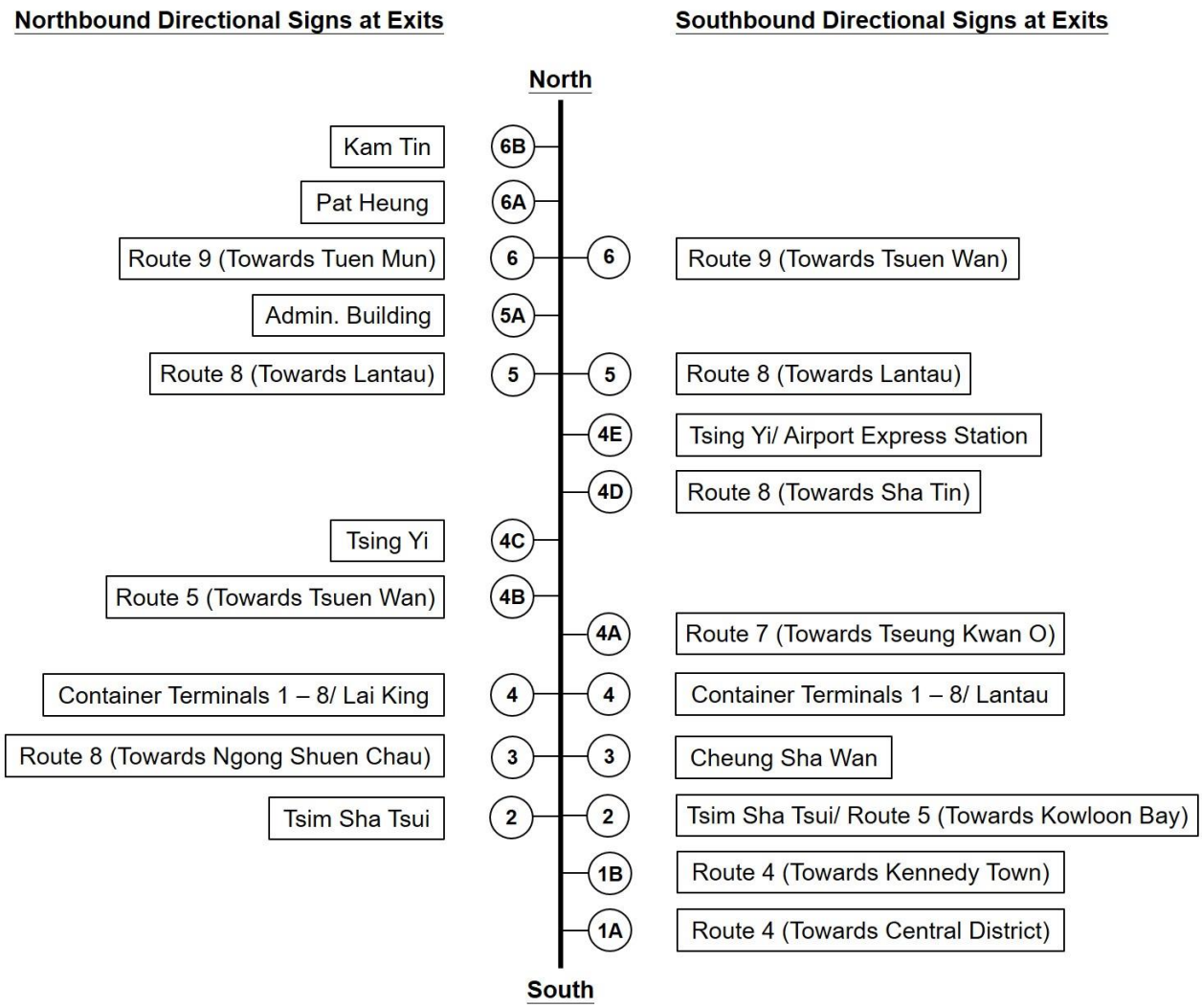
8. If the concerned road section has elevated/underpass part, only the elevated/underpass part would be classified as SRN. The lanes connected to non-elevated/underpass section would be considered as an exit of SRN. Please refer to Annex III for the schematic diagram showing the above road configuration and the relevant signage arrangement. However, more careful planning is necessary for signing of such type of exits, as the exit points are actually determined by road markings.

9. Service road may exist along SRN. For these cases, each exit should be studied individually. Please refer to Annex IV for the schematic diagram showing the above road configuration and the relevant signage arrangement.

Successive Exits

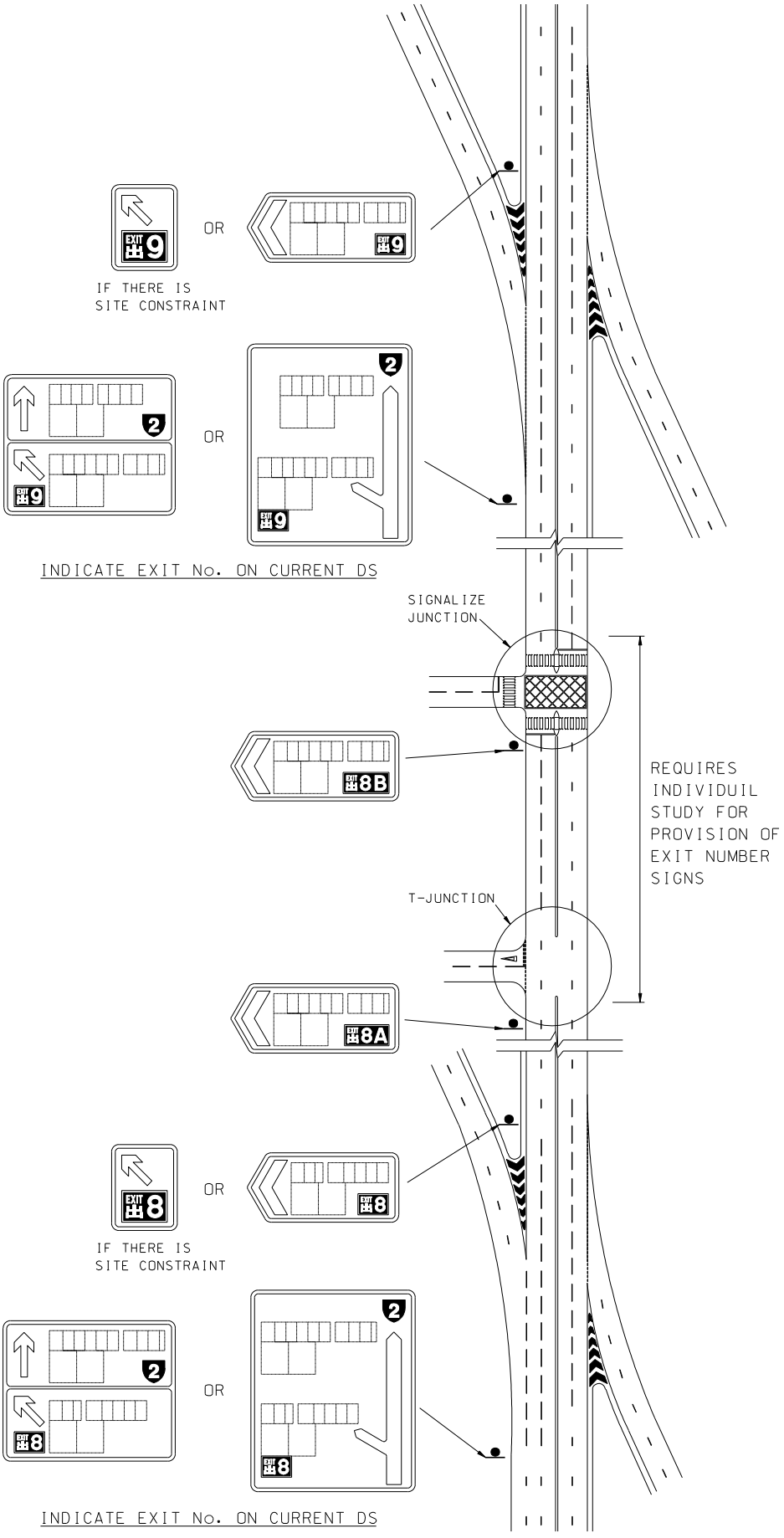
10. Map-type roadside directional signs should be used for successive exits (see Annex V).

App 1 - Annex I

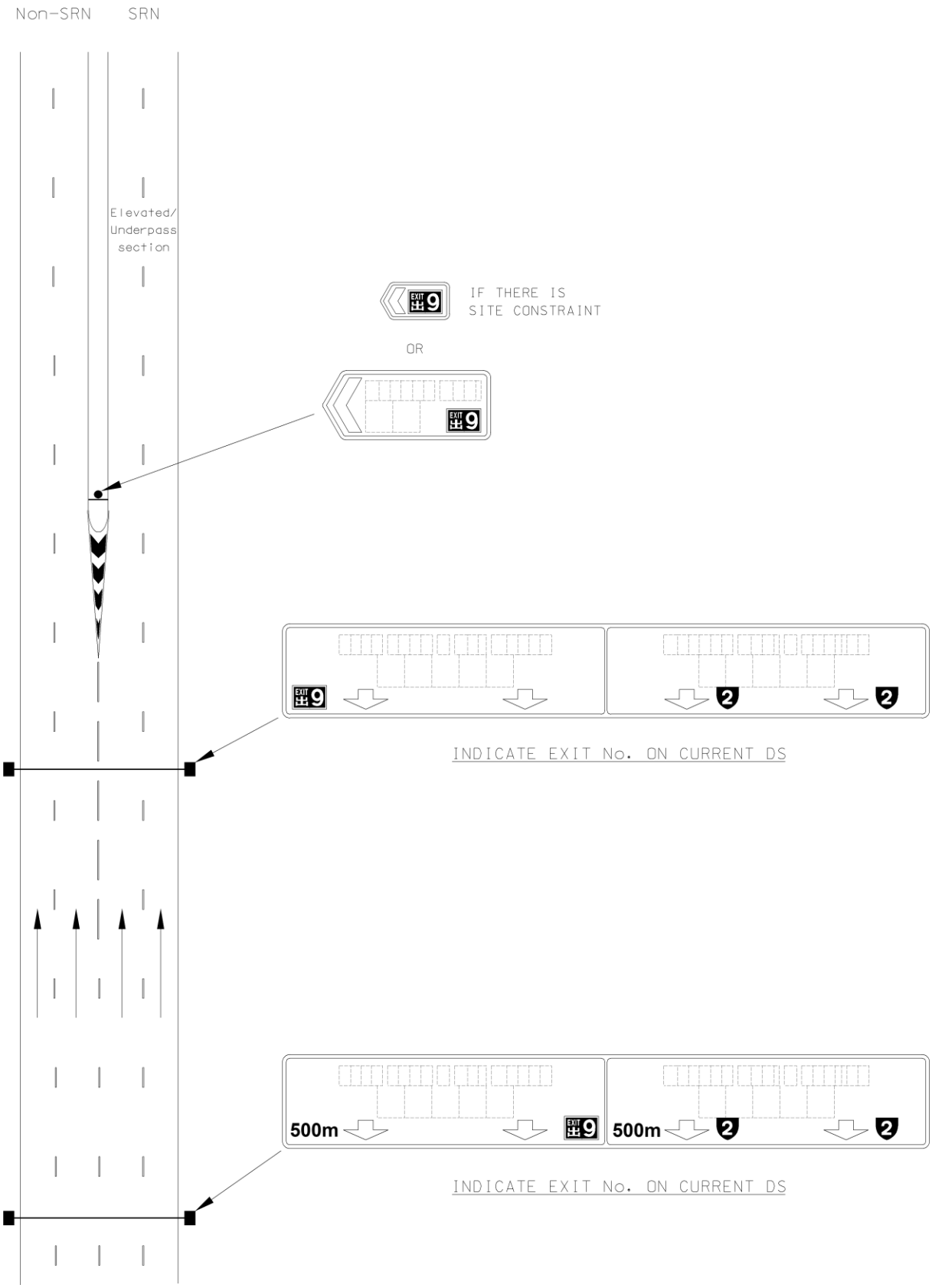


Schematic Arrangement of Exist Numbering along Route 3

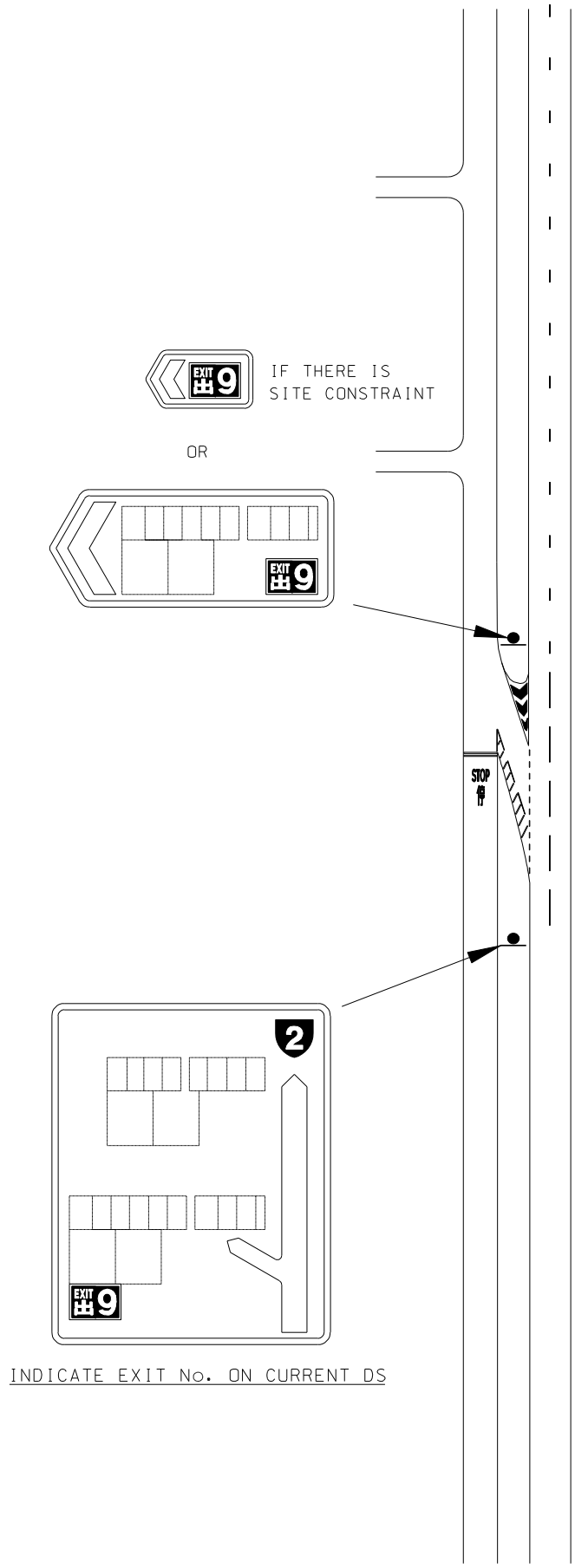
App 1 - Annex II



App 1 - Annex III



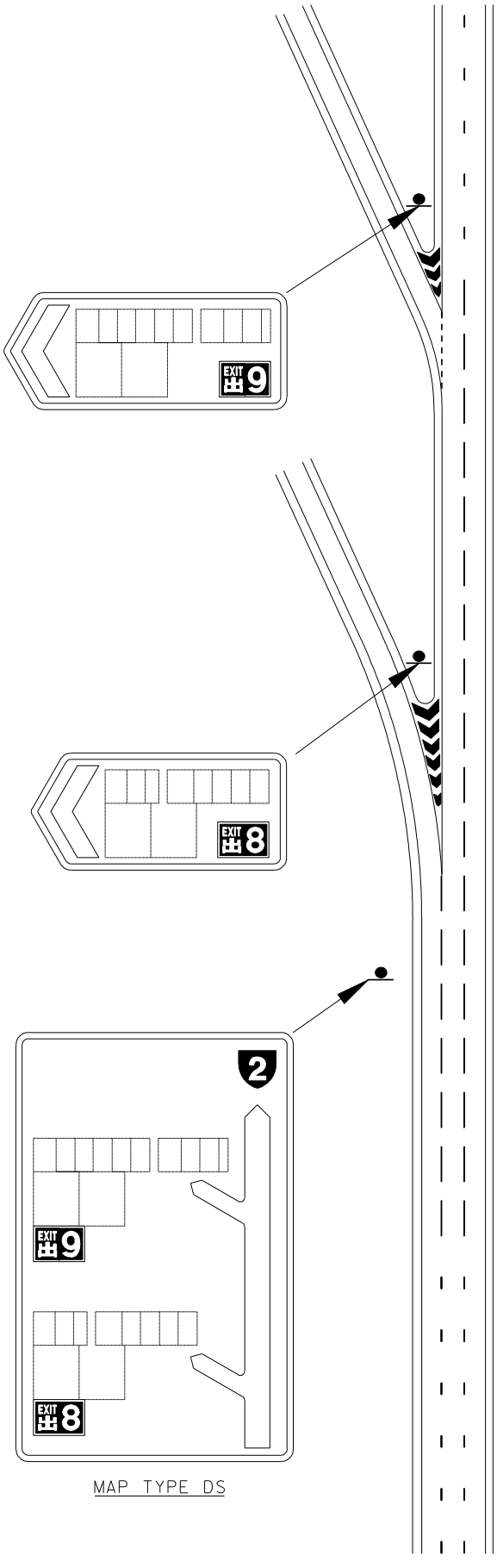
App 1 - Annex IV



INDICATE EXIT No. ON CURRENT DS

SRN WITH EXIT TO SERVICE ROAD

App 1 - Annex V



MAP TYPE DS

SUCCESSIVE EXIT

TPDM Volume 3 Chapter 4 – Tunnel Signs

4.1 References

1. Road Tunnels (Government) Ordinance, Chapter 368
2. Road Tunnels (Government) Regulations
3. Highways Office, P.W.D., "Draft Guidance Note for the signing and Signalling of Tunnel, Bridge and other Controlled Areas, and Segregated Roads", 1982.H
4. Maunsell Consultants Asia, "Comprehensive Traffic Surveillance and Control Study, Main Report", 1980
5. Transport Planning and Design Manual Vol. 4 "Road Traffic Signals"
6. Transport Planning and Design Manual Vol. 11 "Tunnels"
7. Highways Department, H.K., "Code of Practice for the Lighting, Signing and Guarding of Road Works", 5th Issue
8. West Harbour Crossing Ordinance, Chapter 436
9. West Harbour Crossing Regulation
10. West Harbour Crossing By-law
11. Tai Lam Tunnel and Yuen Long Approach Ordinance, Chapter 474
12. Tai Lam Tunnel and Yuen Long Approach Regulation
13. Tai Lam Tunnel and Yuen Long Approach By-law
14. Discovery Bay Tunnel Link Ordinance, Chapter 520
15. Discovery Bay Tunnel Link Regulation
16. Discovery Bay Tunnel Link By-law

4.2 Introduction

4.2.1 The Road Tunnels (Government) Ordinance and Road Tunnels (Government) Regulations form the legislation for tunnel signs.

4.2.2 Due to the enclosed traffic environment, a tunnel in general forms a traffic system which differs greatly from ordinary traffic systems. Therefore, additional signs are required for the tunnel. The schedule to the Road Tunnel (Government) Regulations contains additional signs which may only be used in Government Tunnels.

4.2.3 In addition to the traffic sign prescribed in the Schedule to the Road Tunnel (Government) Regulations, any traffic signs prescribed by the Road Traffic (Traffic Control) Regulations may be displayed at the tunnel.

4.2.4 The standards on the provision of signs and signals for private tunnels should meet that for Government Tunnels.

4.2.5 Signs and signals (including pavement inset light) are used to control traffic when a two tube tunnel is operating with tube closure or lane closure. Further information on this is given in Chapter 2 of Volume 11.

4.3 Matrix Signals

4.3.1 Matrix Signal Displays (See diagram 4.3.1.1 for typical matrix signal display arrangement)

4.3.1.1 Matrix Signals are signs with variable displays which are used only in conjunction with lane signalling. Matrix signal displays shall comply with Road Tunnels (Government) Regulations. Each signal could display the following :-

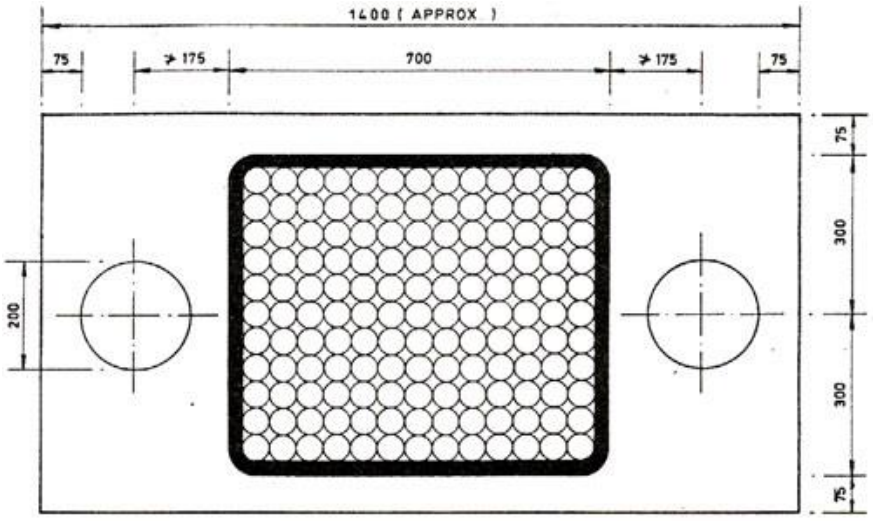
(i) Steady Red Cross - indicates the prohibition that traffic shall not proceed beneath or beyond the red cross in the traffic lane in the direction opposite to that in which the red cross faces. It may also be used at a toll booth to indicate that vehicles may not proceed in that lane. (Diagram 4.3.1.2)

(ii) Steady Green Downward Pointing Arrow - indicates that traffic may proceed or continue to do so in the lane beneath or beyond the arrow and in the direction opposite to that in which the arrow faces. It may be used at a toll booth to indicate that vehicles may proceed in that lane. (Diagram 4.3.1.3).

(iii) Steady Green Downward Oblique Arrow - indicates that vehicles must proceed to the right-hand lane for steady green downward oblique arrow pointing to the right. If the direction of the arrow is reversed to the left, vehicles must proceed to the left-hand lane. (Diagram 4.3.1.4).

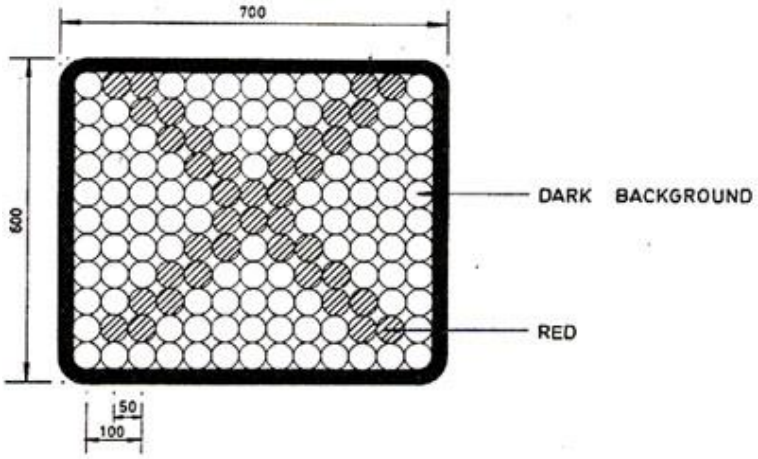
(iv) Steady Green Cranked Arrow - indicates that traffic must leave the lane at the next exit on the left for steady green crank arrow pointing to the left. The direction of the crank arrow may be reversed to indicate that vehicles must leave at the next exit on the right. (Diagram 4.3.1.5). The Steady Green Crank Arrow is not prescribed and is therefore not regulatory.

DIAGRAM 4.3.1.1 : TYPICAL MATRIX SIGNAL DISPLAY ARRANGEMENT
T.S. 266



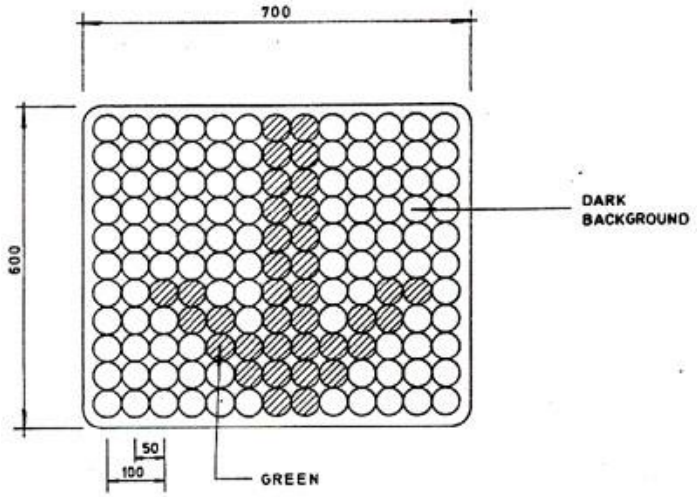
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.3.1.2 : MATRIX LANE SIGNAL
RED CROSS
(T.S. 261)



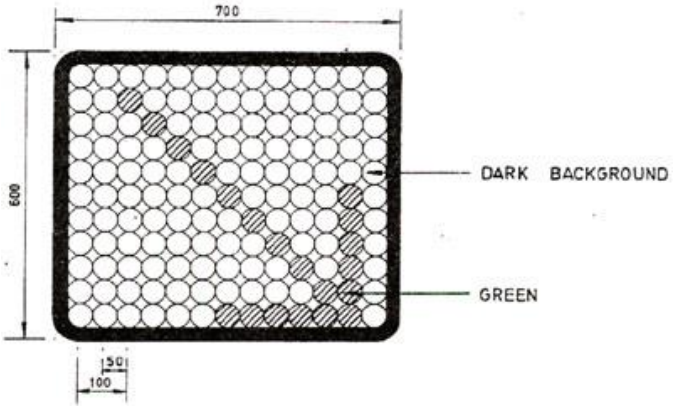
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.3.1.3 : MATRIX LANE SIGNAL
GREEN ARROW
(T.S. 260)



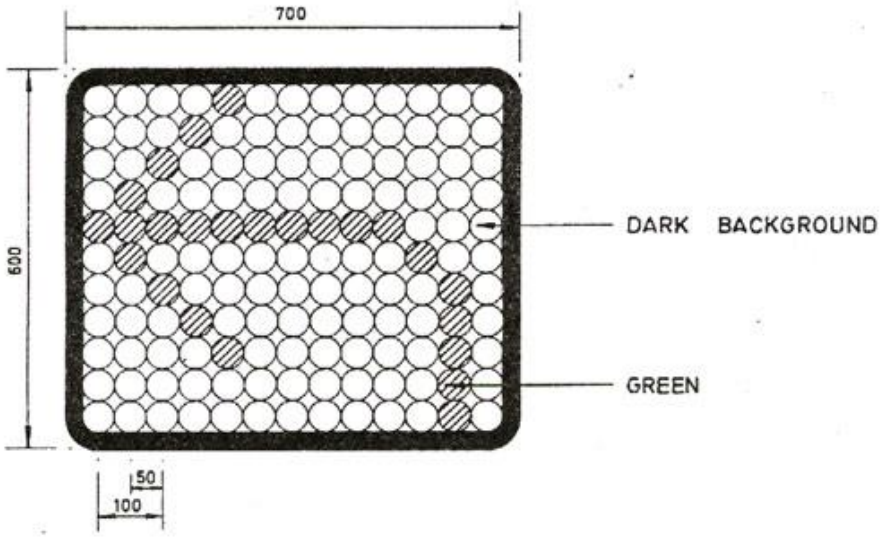
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.3.1.4 : MATRIX LANE SIGNAL
PROCEED RIGHT OR KEEP RIGHT
(T.S. 262)
OR
PROCEED LEFT OR KEEP LEFT
(T.S. 263)



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.3.1.5 : MATRIX LANE SIGNAL
LEAVE AT NEXT EXIT ON LEFT
(T.S. 264)
OR IT MAY BE REVERSED TO GIVE :
LEAVE AT NEXT EXIT ON RIGHT
(T.S. 265)



ALL DIMENSIONS IN MILLIMETRES

4.3.1.2 Two amber signals of the type shown in Diagram 4.3.1.1 shall always be erected in conjunction with each matrix signals and shall be mounted about the horizontal axis on either side of the signal. When activated, the amber light shall flash at a rate of not less than 60 nor more than 90 flashes per minute and in such manner that the light is always shown at a time when the light of the other signal is not shown.

4.3.1.3 A black backing board for the matrix signals should be provided. It should cover an area of 1400 mm x 750 mm.

4.3.1.4 Preferably a visor is provided on top of the matrix signal in order to improve the visibility of the signal.

4.3.2 Use of Matrix Signals

4.3.2.1 Matrix signals are used for lane signalling in areas which are specifically gazetted under the Road Tunnel (Government) Ordinance or similar Ordinance.

4.3.2.2 Matrix Signals should display signalling symbols in accordance with section 4.3 though it is not necessary that individual signals will need to incorporate all symbols shown in Diagrams 4.3.1.2, 4.3.1.3, 4.3.1.4 and 4.3.1.5, as this will need to be tailored to specific site locations and overall objectives of the particular lane signalling system.

4.3.2.3 The possible display combination of the alternating flashing ambers and the matrix lane signals are as following : -

(i) Steady green downward pointing arrow without flashing amber lights.

(ii) Steady green downward pointing arrow with flashing amber lights.

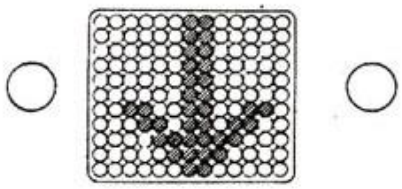
(iii) Steady green downward oblique arrow with flashing amber lights.

(iv) Steady green crank arrow with flashing amber lights.

(v) Steady red cross with flashing amber lights.

DIAGRAM 4.3.3.1

STATE 1

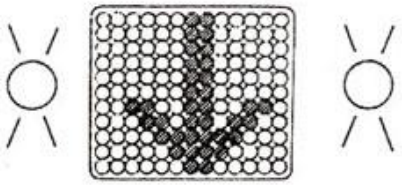


LANE OPEN

SIGN DISPLAYED

AMBER LIGHTS NOT SHOWING

STATE 2

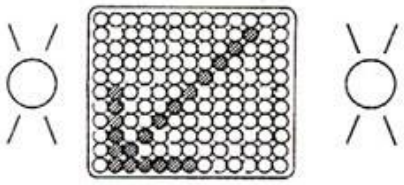


START OF LANE SIGNALLING

SIGN DISPLAYED

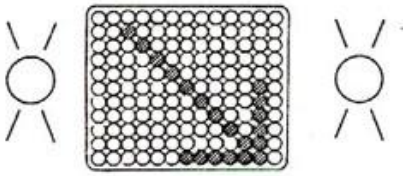
AMBER LIGHTS FLASHING

STATE 3



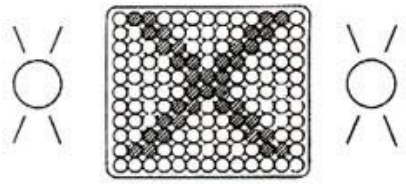
MOVE TO LANE ON LEFT
SIGN DISPLAYED
AMBER LIGHTS FLASHING

STATE 4



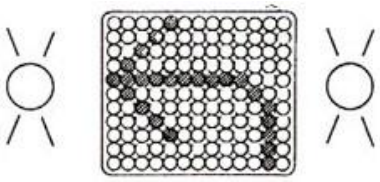
MOVE TO LANE ON RIGHT
SIGN DISPLAYED
AMBER LIGHTS FLASHING

STATE 5



LANE CLOSED
SIGN DISPLAYED
AMBER LIGHTS FLASHING

STATE 6



LEAVE AT NEXT EXIT ON RIGHT/LEFT
SIGN DISPLAYED
AMBER LIGHTS FLASHING

4.3.3 Matrix Signals Sequence (See Diagram 4.3.3.1)

4.3.3.1 Matrix signals will normally display the steady green downward pointing arrow (state 1) until such time as lane signalling is actually required.

4.3.3.2 When switching the matrix signals from state 1 to state 3, 4, 5 or 6, it will pass through state 2 for a minimum time of 5 seconds before the final destination state is reached.

4.3.3.3 When the matrix signals are switched from state 3 to state 4 or vice versa, it will pass through intermediate state 2 for a minimum time of 5 seconds before the final destination state is reached.

4.3.3.4 Except for the matrix switching sequence described in 4.3.3.2 and 4.3.3.3, there will be no intermediate signal switching state.

4.3.4 Mounting of Matrix Signal on Gantry

4.3.4.1 Matrix signals are mounted on the gantry as shown in Diagrams 4.3.4.1 and 4.3.4.2. The matrix signals could be either mounted on their own gantries or on their own gantries together with direction signs.

4.3.4.2 Gantry for mounting matrix signals will normally be in accordance with the Standard Gantry designs produced by Highways Department. Gantries for matrix signals may need to be specially designed to suit the prevailing circumstances.

4.3.4.3 Gantries should be grey or a similar colour.

DIAGRAM 4.3.4.1 : SIDE ELEVATION SHOWING GENERAL ARRANGEMENT OF MATRIX SIGNALS & SIGNS ON GANTRY

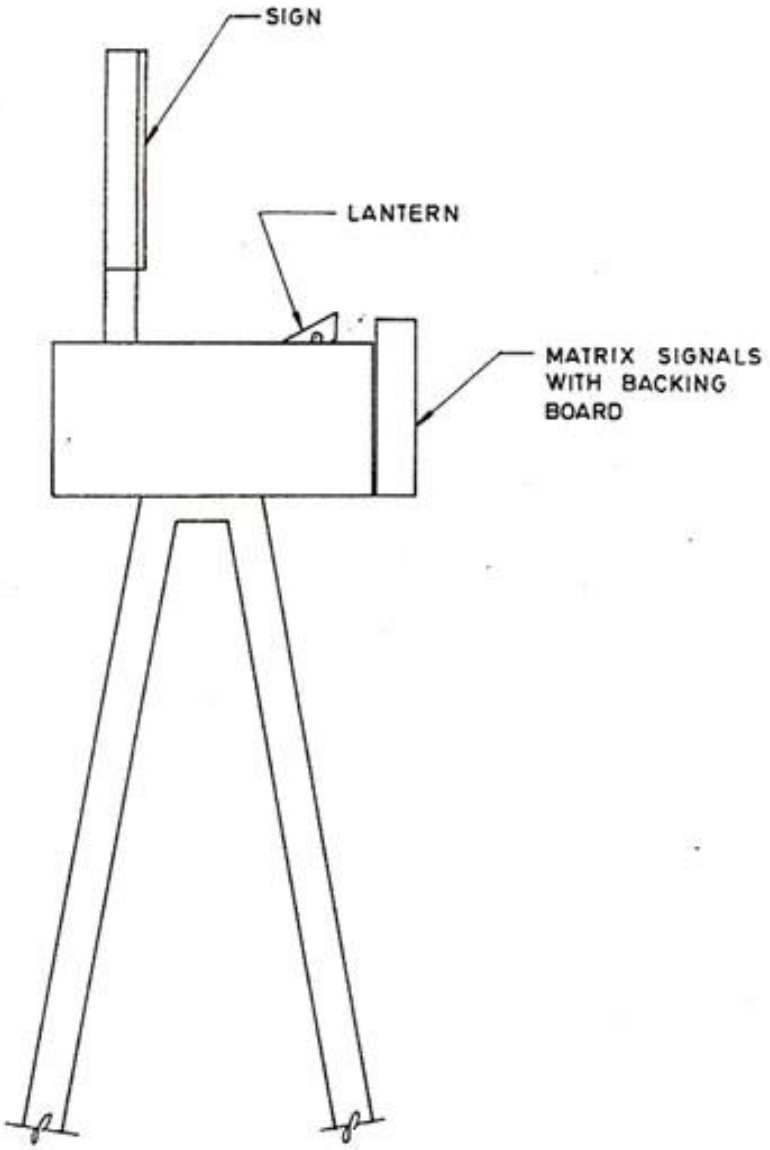
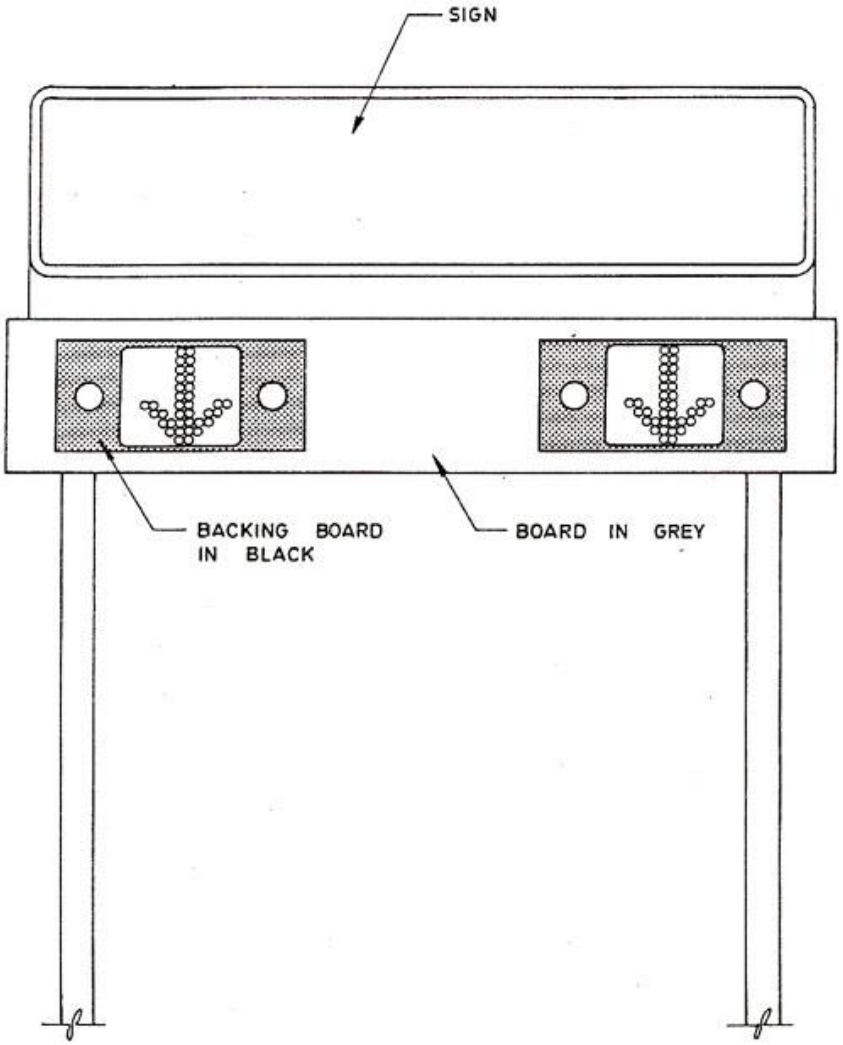


DIAGRAM 4.3.4.2 : FRONT ELEVATION SHOWING GENERAL ARRANGEMENT OF MATRIX SIGNALS & SIGNS ON GANTRY



4.4 Three Aspect Lane Signals

4.4.1 Lane Signal Displays (See diagram 4.4.1.1 for typical three aspect lane signal display)

4.4.1.1 Three aspect lane signals in tunnel area are used for traffic lane control which are capable of displaying a red cross aspect, a green arrow aspect and a flashing amber aspect.

4.4.1.2 The significance of the signal aspect shall be as follows :-

(i) Green Arrow - indicates that vehicular traffic proceeding in the traffic lane above or at the side of and in relation to which it is displayed may proceed along that lane.

(ii) Flashing Amber - indicates that vehicular traffic proceeding in the traffic lane above or at the side of and in relation to which it is displayed shall proceed along that lane with caution and be prepared to stop.

(iii) Red Cross - indicates that vehicular traffic proceeding in the traffic lane above or at the side of and in relation to which it is displayed shall not proceed beneath or beyond or pass the red cross.

4.4.1.3 Ordinary road side traffic light signals prescribed by the Road Traffic (Traffic Control) Regulation can also be used in the tunnel area for lane metering purpose.

4.4.2 Use of Lane Signals

4.4.2.1 Three aspect lane signals are used in areas which are specifically gazetted under the Road Tunnel (Government) Ordinance or similar Ordinance.

4.4.2.2 Three aspect lane signals are used for lane signalling. In tunnels or similar covered roads which have height limitation and where the double white line system is used for lane marking, three aspect lane signals are used for lane signalling. Also, in situation where there may be two tunnels, or enclosed roads, not greater than 300 m apart and double white lines are used to separate traffic lanes on the carriageway between the tunnels, three aspect signals may be used for lane signalling on this latter carriageway if they are also used in the tunnels, in order that there is a continuity of signal type.

4.4.2.3 Oblique green arrow indicating lane changing shall not be used with three aspect signals.

4.4.3 Lane Signals Sequence

4.4.3.1 Three aspect signals will normally have a constant display of the green arrow until such time as a change of signal is required.

4.4.3.2 It shall be possible to switch from one aspect (i.e. green arrow or flashing amber or red cross) to either of the other two aspects independently.

4.4.3.3 Only one aspect is displayed at any time.

4.4.3.3 The amber aspect should flash at a rate of between 60 and 90 flashes per minute.

4.4.4 Mounting of Lane Signals

4.4.4.1 Three aspect lane signals will normally be placed horizontally above the centre of each lane being controlled, but may in the case of a carriageway having one or two lanes be erected at the side of the road at the normal traffic signal mounting height in vertical position. However, for consistency and to avoid confusion to motorist, the mounting of the lane signals in a vertical position should be avoided wherever possible.

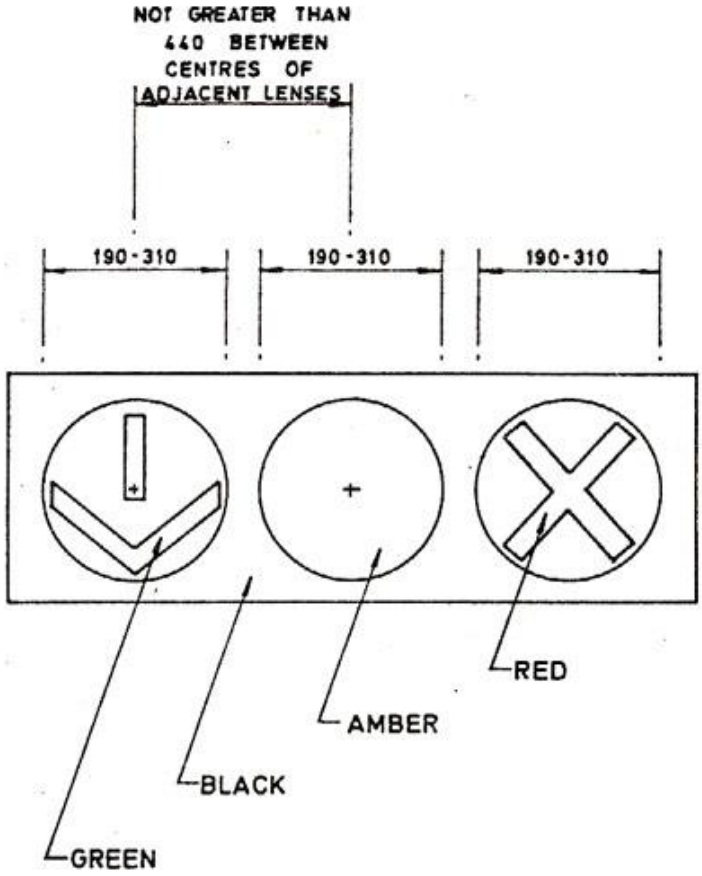
4.4.4.2 When placed above the carriageway, the green arrow of a three aspect signal shall point downward and shall be located nearest to the left hand side of the lane as viewed by approaching motorists. The red cross shall be nearest to the right hand side of the lane as viewed by approaching motorists. (Diagram 4.4.1.1).

4.4.4.3 When placed by the side of the road, the green arrow of the three aspect signals shall point upwards and shall be located such that it is the lowermost signal and the red cross the uppermost signals. (Diagram 4.4.1.2).

4.4.4.4 Lane signals should preferably be mounted independently of other signs.

4.4.4.5 Side of road three aspect lane signals should be mounted as for normal traffic signals.

DIAGRAM 4.4.1.1 : THREE ASPECT LANE SIGNALS
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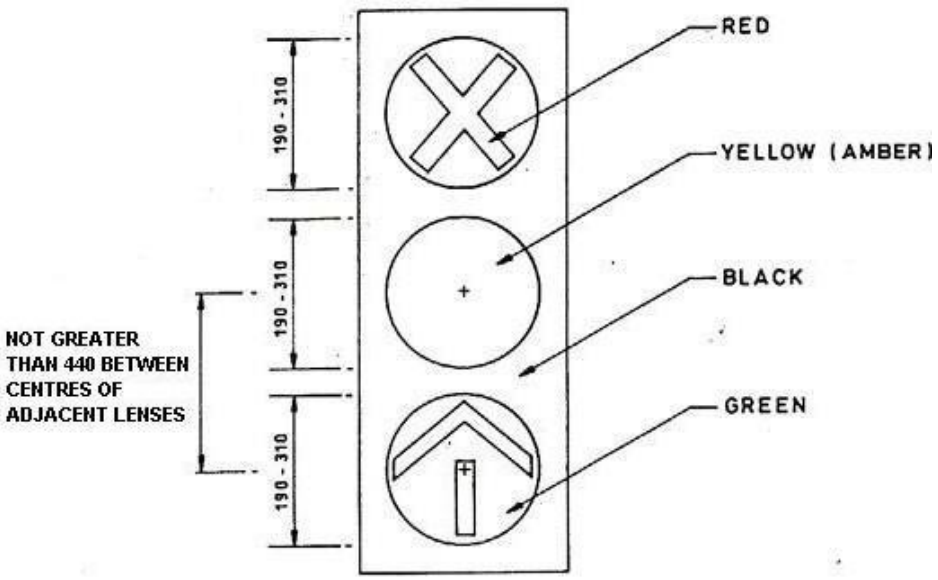
NOTES:

(i) MAY BE USED IN A VERTICAL POSITION WHEN POSITIONED AT THE SIDE OF A ROAD THOUGH IN THESE CASES THE ARROW SHALL POINT UPWARDS.ALL

(ii) DIMENSIONS ARE IN MILLIMETRES

DIAGRAM 4.4.1.2 : THREE ASPECT LANE SIGNALS

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ALL DIMENSIONS ARE IN MILLIMETRES

4.5 Signs in Tunnel Area

4.5.1 General

4.5.1.1 Only prescribed signs should normally be used. Any traffic sign prescribed in the First Schedule of the Road Tunnels (Government) Regulations or prescribed by the Road Traffic (Traffic Control) Regulations is permitted to be displayed at the tunnel area.

4.5.1.2 Where signs other than prescribed signs are required the approval of the Commissioner for Transport must be obtained.

4.5.2 Space for Signs

4.5.2.1 Adequate space must be provided fro the erection of the signs and this must be taken into account during the design stage of the project.

4.5.2.2 It should be noted for example that the "Tunnel Area" sign in Diagram 4.5.3.1 is nearly 2 m wide and therefore adequate provision in verges or central reservations must be made for this.

4.5.3 Use and Mounting of Signs

4.5.3.1 General information on prescribed signs in Tunnel Area in respect of their orientation, location and mounting may be found in Chapter 2of this Volume.

4.5.3.2 In Tunnel Area, certain restrictions are already included in the Regulations although it may in certain respects be desirable to also erect these signs. Therefore, in Tunnel Area which falls within the Road Tunnel (Government) Ordinance and Subsidiary Regulations the following signs are not normally required to be displayed as the prohibition or restrictions are specifically referred to in the Regulations :-

(i) Prohibiting buses, goods vehicles of a permitted gross vehicle weight exceeding 5.5 tones, a vehicle requiring a permit, or a vehicle towing another vehicle from using the right-hand lane.

(ii) Prohibiting a vehicle from driven at a speed of less than 25 km/h.

(iii) Prohibiting vehicle stopping

(iv) Prohibiting pedestrians

(v) Prohibiting the use of horns

(vi) Prohibiting U turns

(vii) Prohibiting cyclists

(viii) Prohibiting overheight vehicles or warning of a height restriction unless the available headroom is less than 5 m.

(ix) Prohibiting Dangerous Goods Vehicles referred to in Classes 1, 2, 3, 3A of the Dangerous Goods Classification. Where other classes of dangerous goods are to be prohibited, a sign will be required.

4.5.3.3 The "Tunnel Area" sign and "Tunnel Area End" signs in Diagrams 4.5.3.1 and 4.5.3.2 must be erected at the beginning and end respectively of the tunnel area. Otherwise the prohibitions mentioned in section 4.5.3.2 may not be enforceable. Alternatively, the "Tunnel Area" sign may be mounted overhead, providing that there is a convenient gantry which either coincides exactly with the limits of the tunnel area, or is within the tunnel area. The "Tunnel Area" sign should never be erected outside of the Tunnel Area Limits as there may be problems of enforcement. Where the "Tunnel Area" sign is erected overhead it must be directly illuminated, and may also be reflectorised if this is considered desirable.

DIAGRAM 4.5.3.1 : TUNNEL AREA

THIS SIGN INDICATES THE END OF THE AREA WHERE THE PROHIBITIONS AND RESTRICTONS IMPOSED BY THE ROAD TUNNELS (GOVERNMENT) ORDINANCE AND THE ROAD TUNNELS (GOVERNMENT) REGULATIONS APPLY

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DIAGRAM 4.5.3.2 : TUNNEL AREA END

THIS SIGN INDICATES THE END OF THE AREA WHERE THE PROHIBITIONS AND RESTRICTONS IMPOSED BY THE ROAD TUNNELS (GOVERNMENT) ORDINANCE AND THE ROAD TUNNELS (GOVERNMENT) REGULATIONS APPLY

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4.5.3.4 Where signs in addition to those mentioned in Section 4.5.3.2 are required at the start of the tunnel area advantage may be taken of the width of the Tunnel Area sign as shown in Diagram 4.5.3.6.

4.5.3.5 In order to provide explicit indication to the traffic, it is preferable to place the traffic sign "Dangerous Goods Prohibited" (Diagram 4.5.3.3) in conjunction with traffic sign "Classes 1, 2, 3, 3A" (Diagram 4.5.3.4) at the entrance to the tunnel area.

4.5.3.6 Traffic Sign "Keep in Lane" (Diagram 4.5.3.5) preferably is provided before the tunnel portal. It indicates that vehicles must keep in their lanes.

4.5.3.7 The use of all traffic signs prescribed in the First Schedule of the Road Tunnels (Government) Regulations is described in the above sections. In addition to the traffic signs prescribed in the Road Tunnels (Government) Regulations, there are other traffic signs commonly used in the tunnel area. Detailed information on the use of these signs is given in Chapter 2of this Volume. These commonly used traffic signs, generally in the form of secret signs, are listed as follows :-

(i) Traffic sign 409 "Traffic Signals Ahead" is used in association with traffic light signals.

(ii) Traffic sign 407 "Two Way Traffic" indicates the start of two way traffic on a single tunnel tube.

(iii) Traffic sign 501 provides advance warning when a tunnel tube is closed for traffic and it is necessary to divert traffic to the other tunnel tube. Traffic sign 502 provides advance warning to the diverted traffic in the tunnel tube of a return to the other carriageways.

(iv) Traffic sign 109 "Keep Left" and Traffic sign 110 "Keep Right" are used at tunnel portal where traffic could divert from one carriageways to the other. Traffic sign 110 is used to divert traffic from the carriageways to the other tunnel tube when a tunnel tube is closed. Traffic sign 109 guides the diverted traffic of a return to the carriageways after passing through the tunnel tube.

(v) Variable speed limit signs with speed limits of 50 km/h and 70 km/h are used in connection with tunnel operation. When the tunnel is operating with one way traffic in each tunnel tube, a 70 km/h speed limit is indicated. When two ways traffic is operating in a tunnel tube, the speed limit of 50 km/h is used.

DIAGRAM 4.5.3.3 : DANGEROUS GOODS PROHIBITED
T.S. 270



DIAGRAM 4.5.3.4 : CLASSES 1, 2, 3, 3A
T.S. 3721

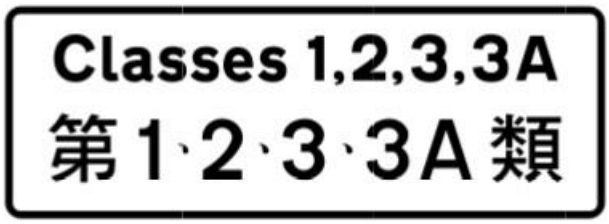


DIAGRAM 4.5.3.5 : KEEP IN LANE

THIS SIGN INDICATES THAT VEHICLES MUST KEEP IN THEIR LANES

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DIAGRAM 4.5.3.6 : COMBINED "TUNNEL AREA" AND OTHER SIGNS



4.5.4 Secret Signs

4.5.4.1 Secret signs are variable signs which only display information when the sign face with the information is activated to be shown. A blank sign face is displayed when the active sign face is not activated. The blank sign face should be grey.

4.5.4.2 Secret signs showing regulatory or warning information will need to be specially manufactured to meet particular requirements. They may be of electro-mechanical type consisting of rotating triangular prisms. Secret signs should not be of matrix signs.

4.5.4.3 Background not part of the regulatory or warning signs must be grey to increase the target value of these signs rather than the whole sign assembly.

4.5.4.4 Whenever the signs are displayed they must be illuminated by external lighting at all time that information is displayed when incidental lighting is insufficient.

4.5.4.5 Secret signs are sued in tunnel operation. They are used for lane closure, tube closure and tidal flow operation. The blank aspect of these secret warning signs are displayed when the tunnel is in normal traffic operation. Examples of secret signs are given in section 4.5.3.7.

4.5.5 Tunnel Closed Sign

4.5.5.1 Use and Location

4.5.5.1.1 Along Trunk Roads and Primary Distributor Roads, the "tunnel closed" symbol in Diagram 4.5.5.1should be incorporated into the Advance Direction Sign, the Final Advance Direction Sign and the Direction Sign at the last junction where motorists will be committed to a tunnel.

4.5.5.1.2 For gantry directional signs the display should be similar to that in Diagram 4.5.5.10 with, when the tunnel route is straight ahead, the equivalent of a free standing sign being used on the Advance Direction Sign. However when the tunnel route is via the slip road, the "tunnel closed" symbol will appear in the side route destination part of a sign, and therefore there will not be a separate "tunnel closed" sign on the Advance Direction sign gantry.

4.5.5.1.3 For road side signs the display should be as shown in Diagram 4.5.5.11, and it should be noted that for the Direction Sign rather than incorporate the "tunnel closed" symbol in the sign, the free standing sign in Diagram 4.5.5.8 may be used erected behind the Direction Sign, though not necessarily immediately adjacent to it, but in such a position that it can be seen over the top of the Direction Sign. For the Advance Direction Sign the incorporation of the amber flashing lights into the sign face will generally not be possible and for these situations they should be mounted above the sign as shown in Diagram 4.5.5.3.

4.5.5.1.4 On other roads leading to a tunnel route the series of Advance Direction Sign, Final Advance Direction Sign and Direction Sign may not always be present. Therefore the aim should be to have at least two "tunnel closed" signs, the first some 200 m in advance of the slip road leading to the tunnel, and the second in the immediate vicinity of the slip road. If the "tunnel closed" signs can be incorporated into directional signs this is preferable, but if not free-standing signs as shown in Diagram 4.5.5.8 or 4.5.5.9 should be used.

4.5.5.1.5 In addition to the locations mentioned in paragraphs 4.5.5.1.1 and 4.5.5.1.4, where there is a major junction at which traffic will generally pass through to reach a tunnel route or may turn in another direction to take an alternative route consideration should be given to erecting the free standing sign, either in Diagram 4.5.5.8 or 4.5.5.9, at this junction to provide advance information that the tunnel is closed and thus avoid unnecessary traffic taking the route to the tunnel.

4.5.5.1.6 The "tunnel closed" sign must be used and operated in accordance with the following : -

	Type of closure	"Tunnel Closed" sign operation
(i)	All tubes of a tunnel are closed	"Tunnel Closed" signs on all approaches must be displayed.
(ii)	One tube is closed, one tube is open but for uni-directional flow only	"Tunnel Closed" signs on the approaches to the tube that is closed must be displayed, those on the approaches to the tube that is not closed must not be displayed.
(iii)	One tube is closed, one tube operates bi-directionally	"Tunnel Closed" signs must not be displayed on either of the approaches.

4.5.5.1.7 The operation of "tunnel closed" signs will be the responsibility of the tunnel control staff of the tunnel to which they apply and therefore arrangements must be made so that these signs can be displayed by the tunnel control staff quickly and efficiently when required.

4.5.5.1.8 For the route leading to the closed tunnel, it is desirable to employ lane control signals to step down the number of lanes available in advance of the diversion. But at present lane signals are legal only in tunnel areas and on expressways. Hence the stepping down arrangement is appropriate only in these two areas. However, it is likely that in the future the legislation will be amended to permit lane signals on other roads.

4.5.5.2 Format

4.5.5.2.1 The basic format for the "Tunnel Closed" sign should be as shown in Diagram 4.5.5.1, and in accordance with the detailed dimensions given in Diagram 4.5.5.2.

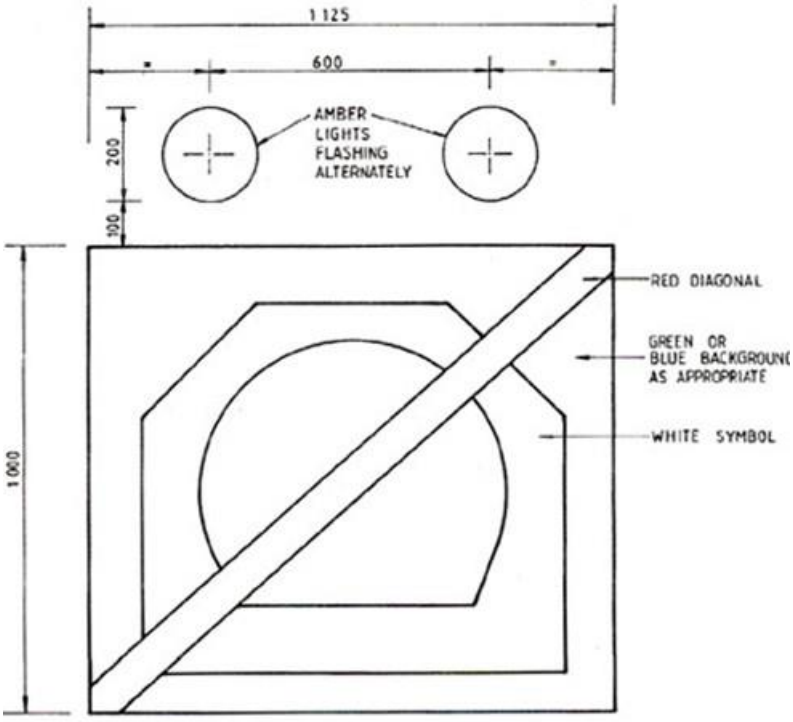
4.5.5.2.2 The "Tunnel Closed" sign must be variable and should normally be incorporated into Directional Signs in the manner shown. For gantry Directional Signs this should be as in Diagrams 4.5.5.4 and 4.5.5.5, and for Road Side Directional Signs as in Diagrams 4.5.5.6 and 4.5.5.7. When the tunnel is not closed then in accordance with Chapter 3 of Volume 3, T.P.D.M., a tunnel symbol as shown in Diagrams 4.5.5.4 to 4.5.5.7should be displayed, other than in the situation described in paragraph 4.5.5.2.4.

4.5.5.2.3 The "Tunnel Closed" sign must be accompanied by amber flashing lights as indicated in Diagram 4.5.5.1 having 200 mm nominal diameter lenses, flashing at a rate of 60 to 90 flashes per minute, and such that when one lamp is lit the other is extinguished. For gantry signs and some directional signs it will not be possible to incorporate the flashing light into the directional sign itself and for these situations the lights should be mounted above the sign as indicated in Diagram 4.5.5.3.

4.5.5.2.4 In the situation that the "tunnel closed" sign cannot be incorporated into a directional sign the information that a tunnel is closed should be displayed in the form of the free standing sign illustrated in Diagram 4.5.5.8. As noted in Diagram 4.5.5.8 whilst it is preferred that the standard sized sign shown in the Diagram should generally be used, smaller dimensions may be utilised where site difficulties would prevent the erection of the standard sized sign. However the diameter of the amber flashing lights should be a nominal 200 mm for all sign sizes, and the "tunnel closed" display should not be less than an area of 600 mm in depth by 650 mm in width. The minimum size free standing sign is shown in Diagram 4.5.5.8A. For the free standing sign when the "tunnel closed" symbol is not displayed the sign should have a blank face.

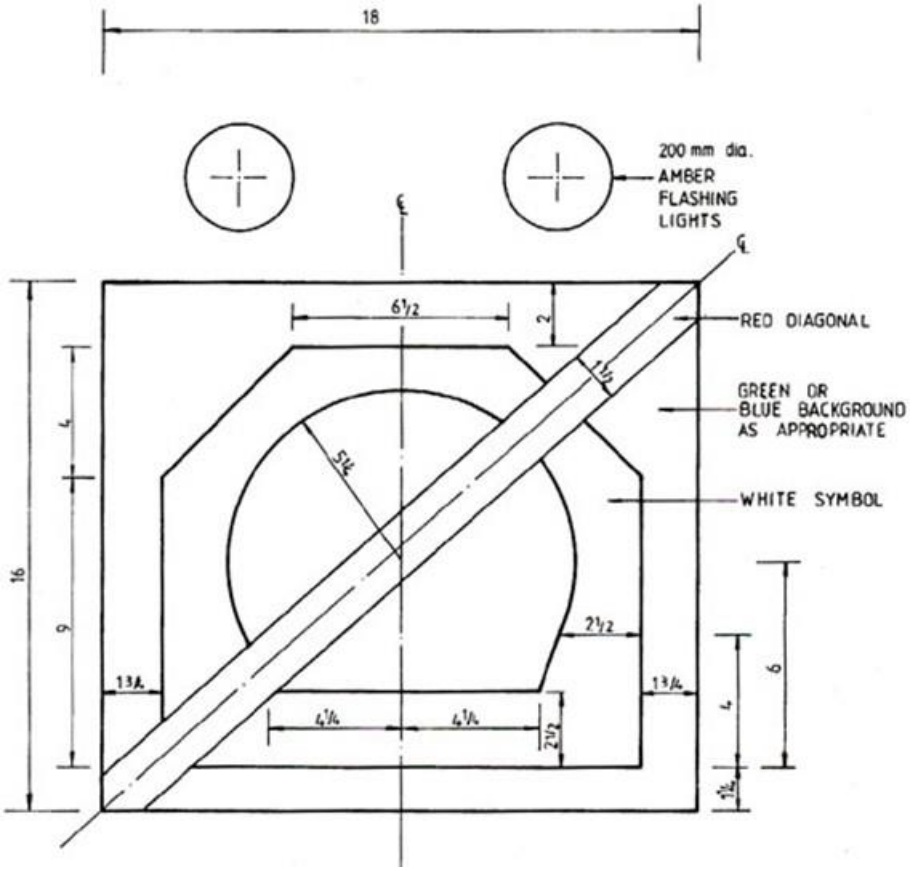
4.5.5.2.5 The free-standing sign may, where this is considered desirable, incorporate a diversion route message indicating the alternative route to be taken. The message should be positioned beneath the "Tunnel Closed" symbol as shown in Diagram 4.5.5.9, in the form of a rectangular type sign, as also shown in this Diagram, with the arrow pointing in the appropriate direction.

DIAGRAM 4.5.5.1 : BASIC "TUNNEL CLOSED" SYMBOLIC SIGN FOR DIRCTIONAL SIGN OF x-HEIGHT = 250mm



ALL DIMENSIONS IN MILLIMETRES

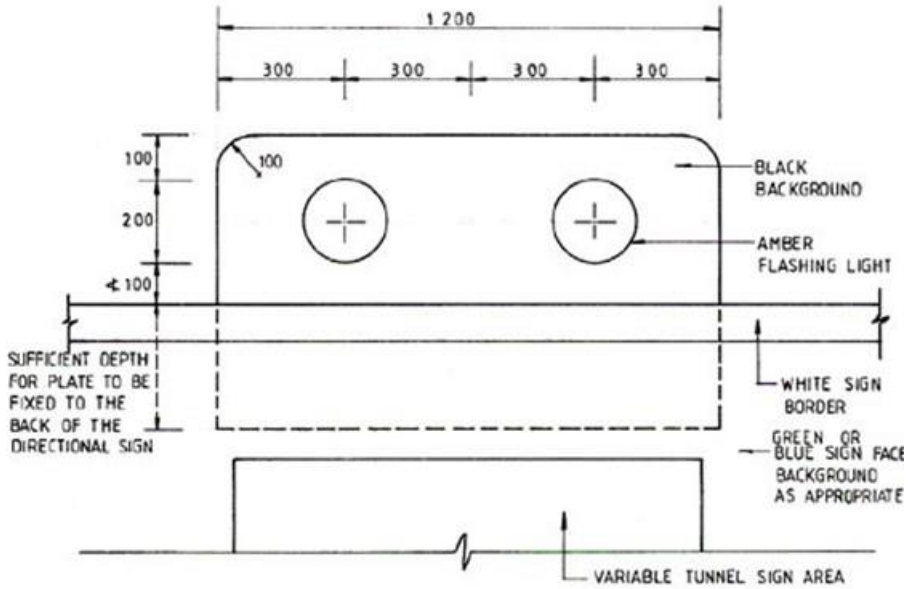
DIAGRAM 4.5.5.2 : DETAILED DIMENSIONS OF "TUNNEL CLOSED" SYMBOLIC SIGN



ALL DIMENSIONS IN STROKE WIDTHS

DIAGRAM 4.5.5.3 : LOCATION AND DETAILS OF AMBER FLASHING LIGHTS ON GANTRY SIGNS AND ON CERTAIN ROAD SIDE SIGNS

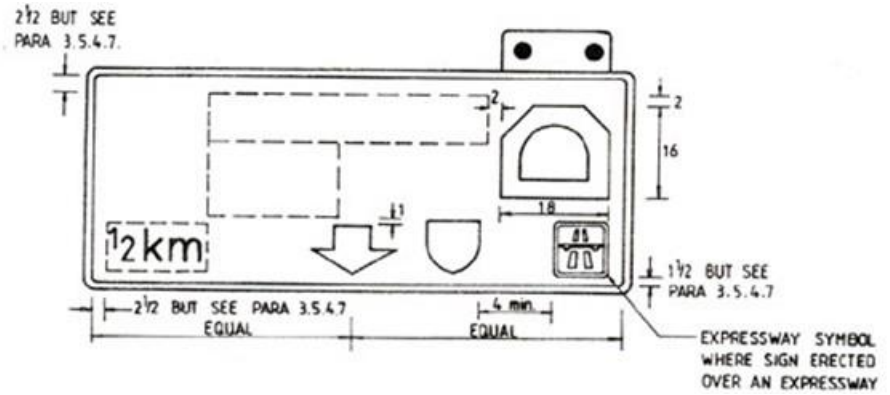
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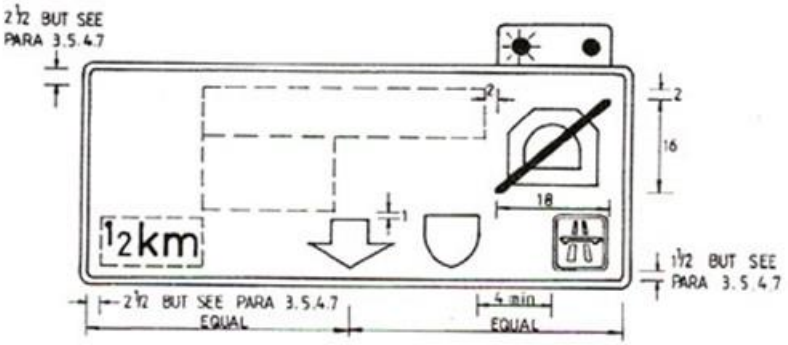
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.5.5.4 : LOCATION OF "TUNNEL CLOSED" ON GANTRY DIRECTIONAL SIGNS

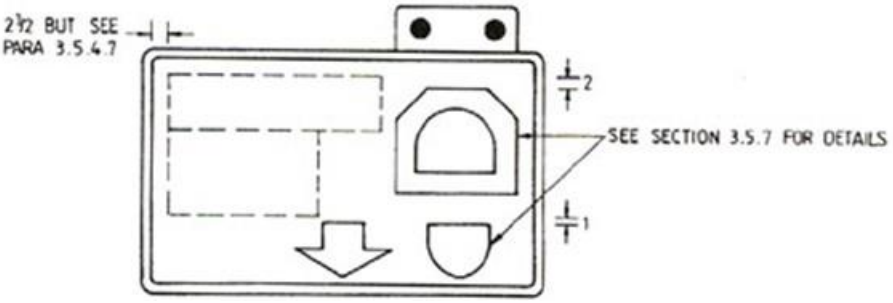
TUNNEL OPEN



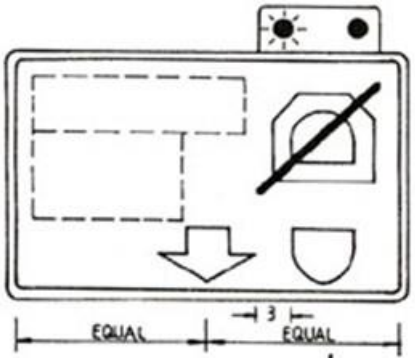
TUNNEL CLOSED



TUNNEL OPEN



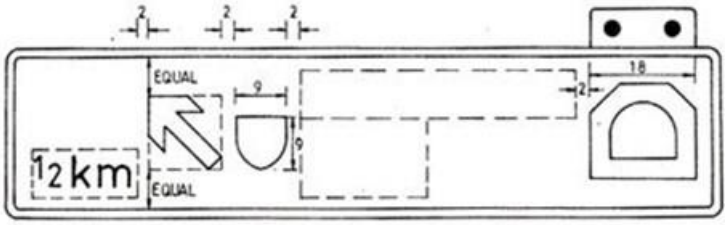
TUNNEL CLOSED



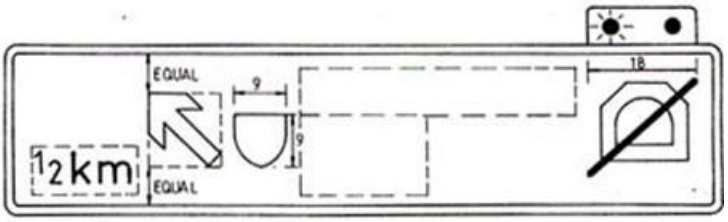
ALL DIMENSIONS IN STROKE WIDTH

DIAGRAM 4.5.5.5 : LOCATION OF "TUNNEL CLOSED" SIGNS ON GANTRY DIRECTIONAL SIGNS

(i) TUNNEL OPEN



(ii) TUNNEL CLOSED

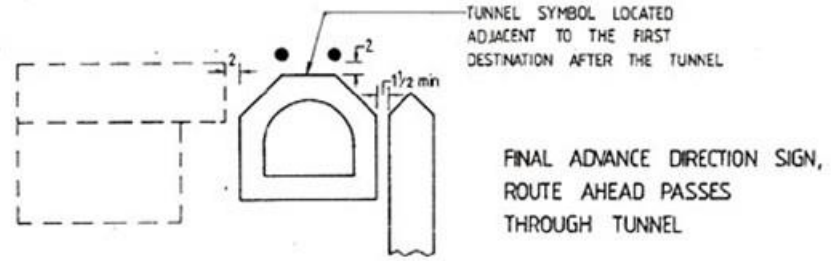


ALL DIMENSIONS IN STROKE WIDTH

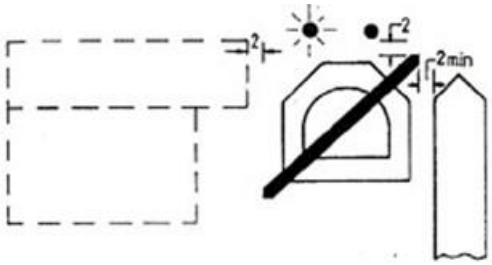
NOTE : WITHOUT THE "½ km" INDICATION THE FORMAT FOR THE FINAL ADVANCE DIRECTION SIGN WOULD BE THE SAME.

DIAGRAM 4.5.5.6 : ROADSIDE DIRECTIONAL SIGNS DISPLAYING "TUNNEL CLOSED" SIGN

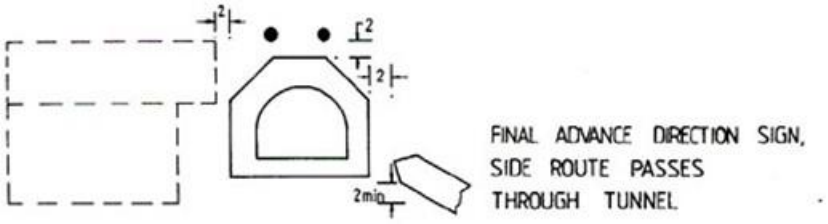
TUNNEL OPEN



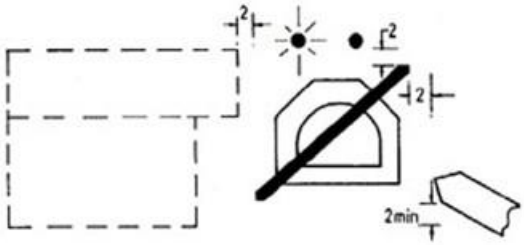
TUNNEL CLOSED



TUNNEL OPEN



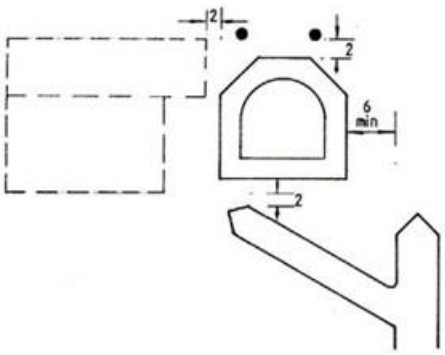
TUNNEL CLOSED



ALL DIMENSIONS IN STROKE WIDTH

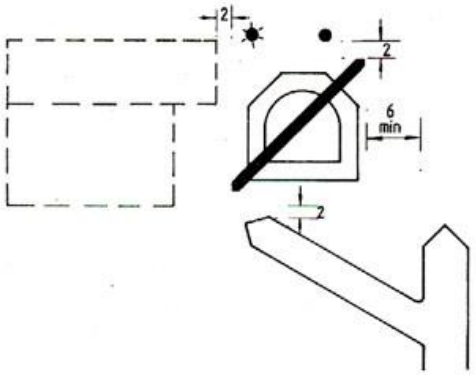
DIAGRAM 4.5.5.7 : ROAD SIDE ADVANCE DIRECTION SIGN DISPLAYING "TUNNEL CLOSED" SIGN

TUNNEL OPEN



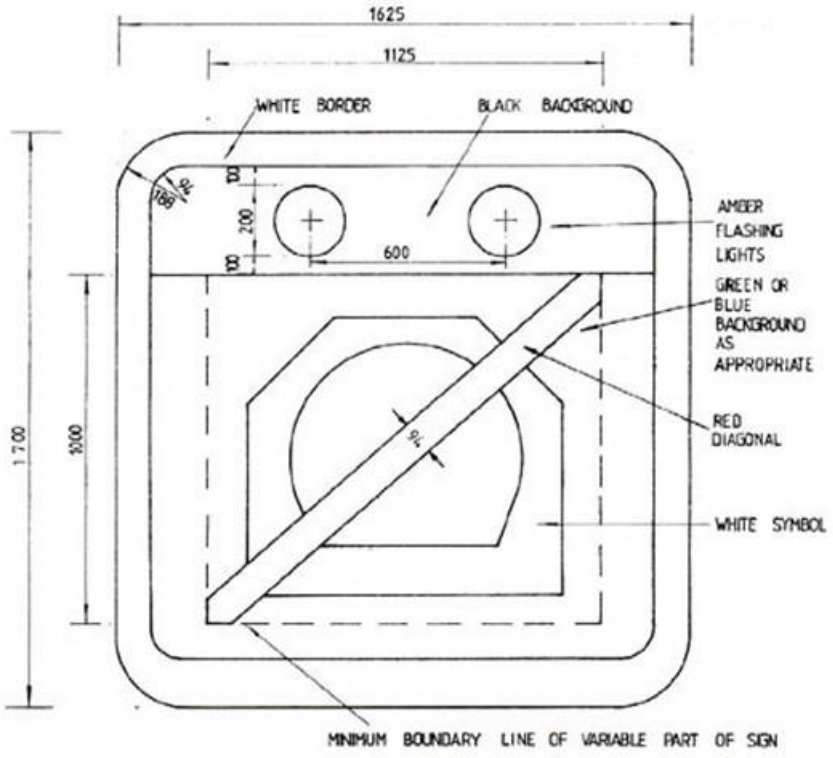
ADVANCE DIRECTION SIGN, SIDE ROUTE PASSES THROUGH TUNNEL

TUNNEL CLOSED



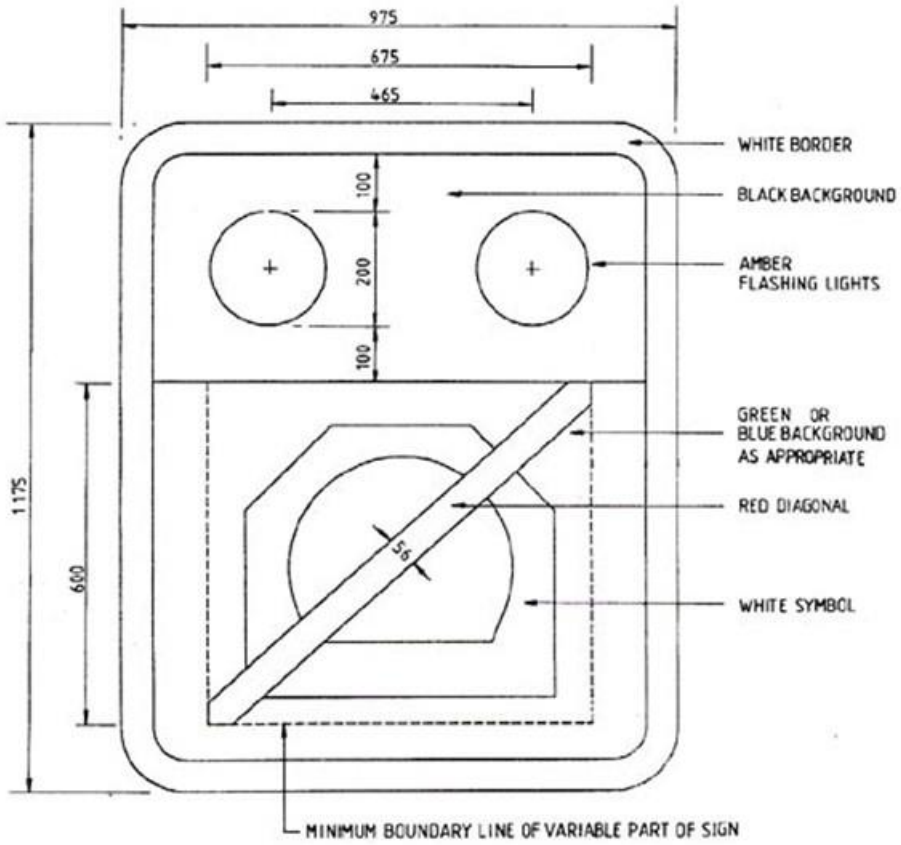
ALL DIMENSIONS IN STROKE WIDTH

DIAGRAM 4.5.5.8 : FREE STANDING "TUNNEL CLOSED" SIGN
T.S. 561



NOTES :
(i) THE SIGN MAY BE REDUCED IN SIZE TO MEET PARTICULAR CIRCUMSTANCES BUT THE AREA DISPLAYING THE "TUNNEL CLOSED" SYMBOL MUST NEVER BE LESS THAN 600mm x 675mm AND THE AMBER FLASHING LIGHTS MUST BE A NOMINAL 200mm DIAMETER.
(ii) THE DEPTH, AND, IF NECESSARY, THE WIDTH OF THE SIGN MAY BE INCREASED TO ACCOMMODATE A ROUTE DIVERSION MESSAGE WHEN THE TUNNEL IS CLOSED.
(iii) THE VARIABLE PART OF THE SIGN SHOULD BE BLANK, DISPLAYING A BLUE OR GREEN AREA AS APPROPRIATE WHEN THE TUNNEL IS NOT CLOSED.
(iv) ALL DIMENSIONS IN MILLIMETRES.
(v) x - HEIGHT = 250 mm

DIAGRAM 4.5.5.8A : MINIMUM SIZE FREE STANDING "TUNNEL CLOSED" SIGN



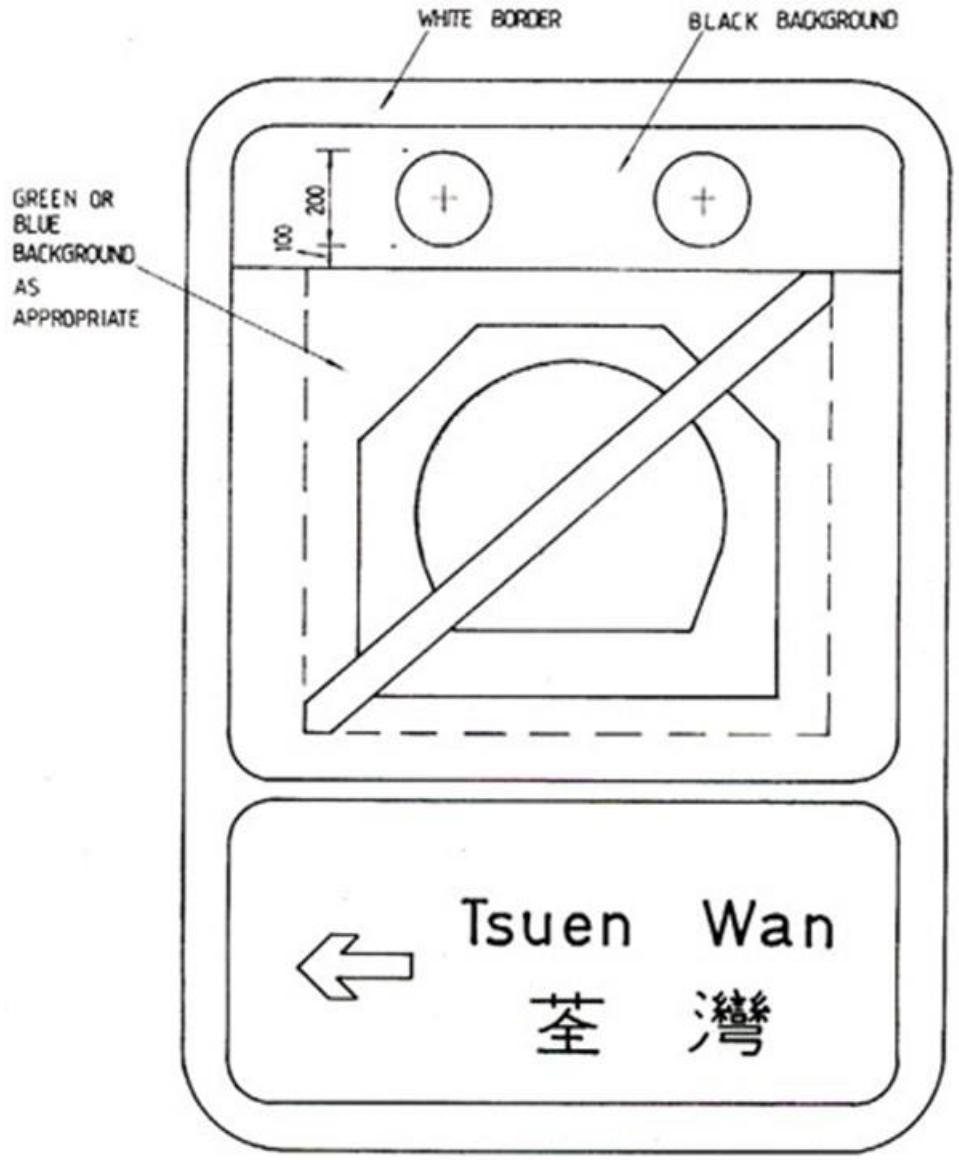
NOTES :

(i) THE VARIABLE PART OF THE SIGN SHOULD BE BLANK, DISPLAYING A BLUE OR GREEN AREA AS APPROPRIATE WHEN THE TUNNEL IS NOT CLOSED.

(ii) x - HEIGHT = 150 mm

(iii) ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.5.5.9 : FREE STANDING "TUNNEL CLOSED" SIGN INCOPRORATING DIVERSIONARY SIGNING



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 4.5.5.10 : USE OF "TUNNEL CLOSED" SIGN ON GANTRIES

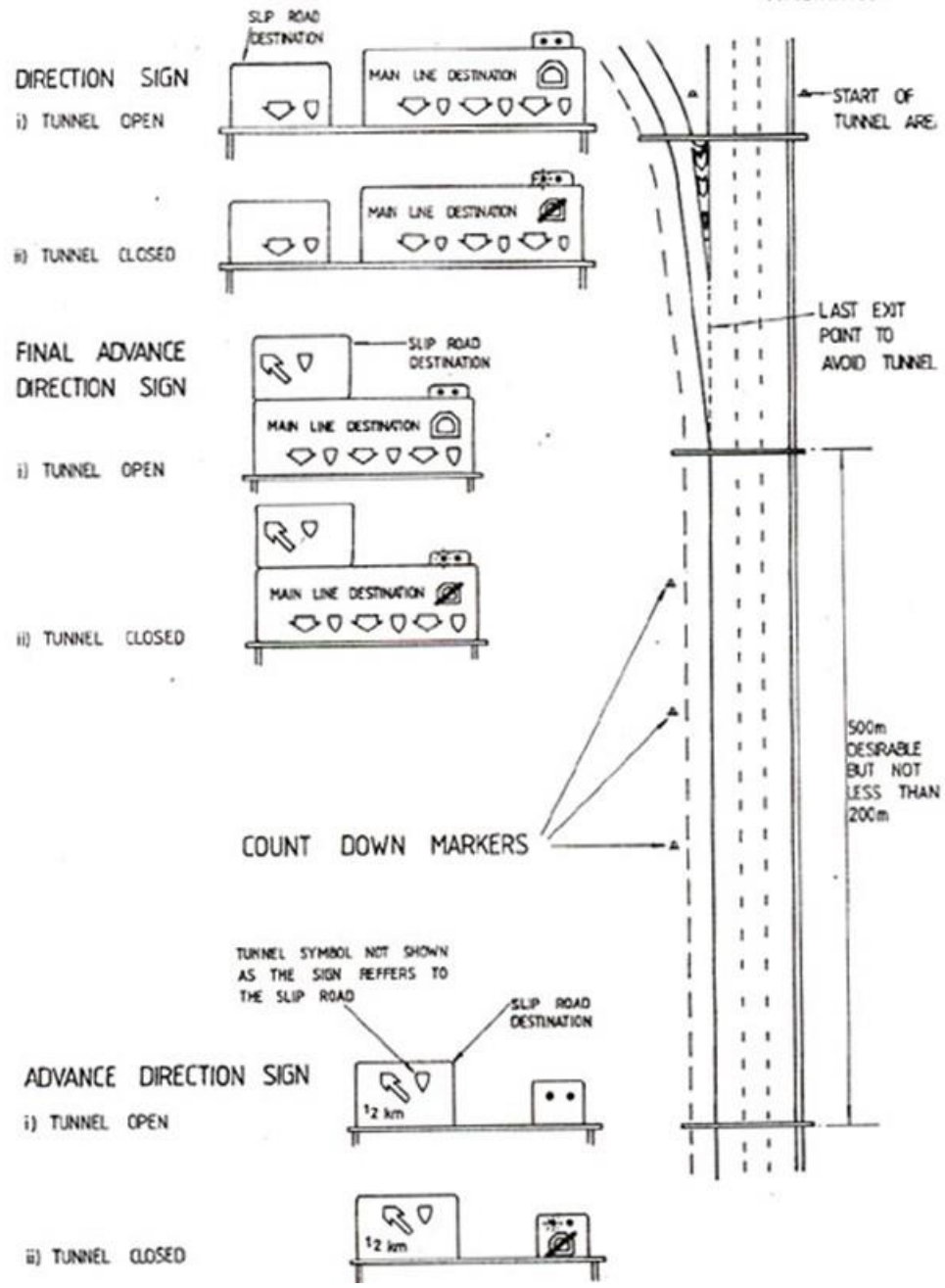
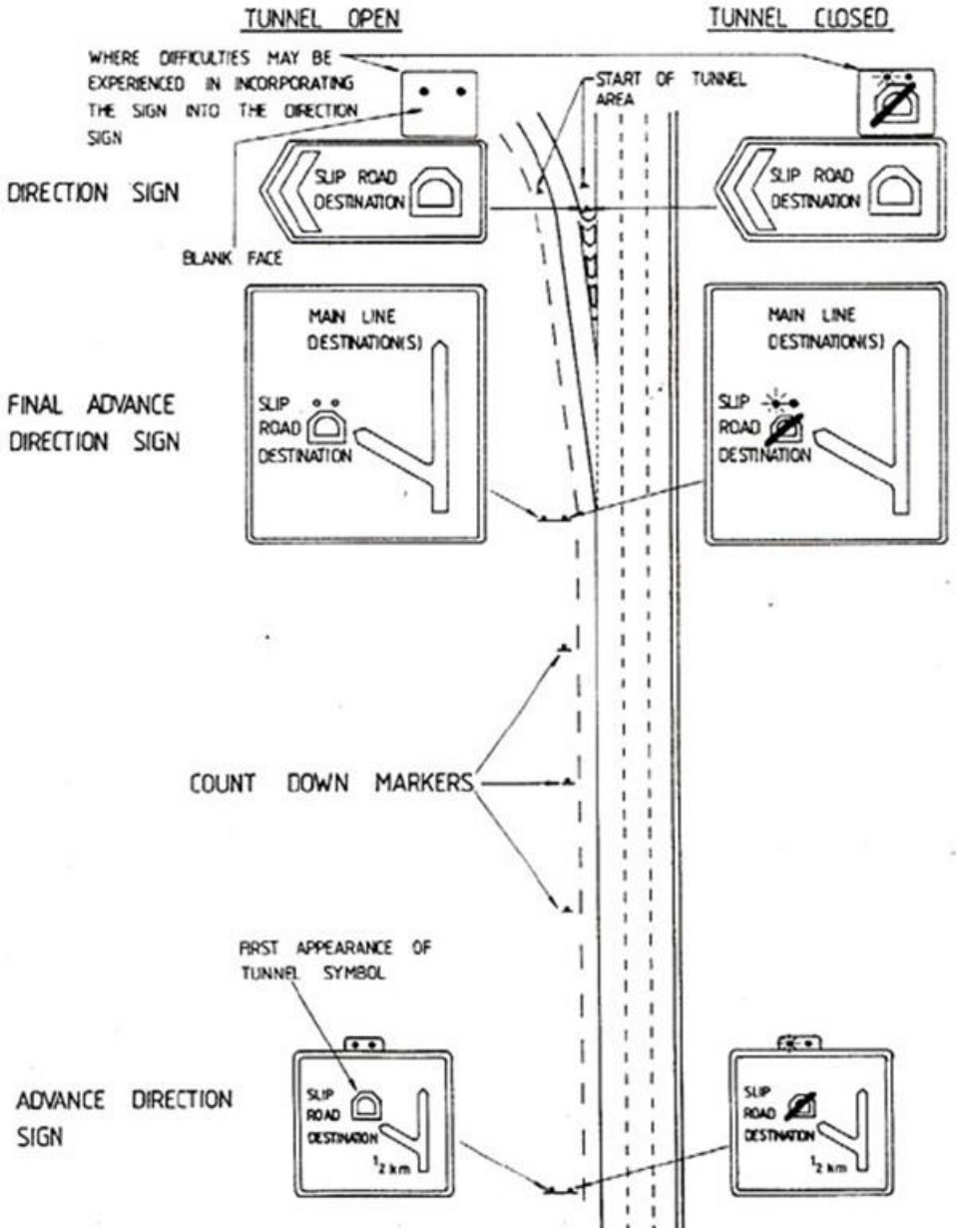


DIAGRAM 4.5.5.11 : USE OF "TUNNEL CLOSED" SIGN ON ROAD SIDE SIGNS



4.6 Barricades

4.6.1 General

4.6.1.1 Barricades may be used to temporarily closed carriageways or lanes, or to channelise traffic from one lane to another.

4.6.1.2 To close carriageways or lanes a barricade should be positioned perpendicular to the line of traffic. A sign in accordance with that shown in Diagram 4.6.1.1should be fixed to the barricade.

4.6.1.3 Where the barricade is used to channelise traffic from one lane to another, the barricade should be positioned at approximately 45 degrees to oncoming traffic. There may be advantage in some locations if the red and white reflective chevrons (Diagram 4.6.1.2) are used instead of the red and white reflective stripes. (Diagram 4.6.1.1).

4.6.1.4 Barricades may be mechanically or manually positioned. If mechanically positioned, barricades may achieve their closed positions either by a horizontal (swing) or vertical (drop) movement.

4.6.1.5 When used in conjunction with traffic signals, the traffic signals should be positioned in front of the barrier in respect of oncoming traffic.

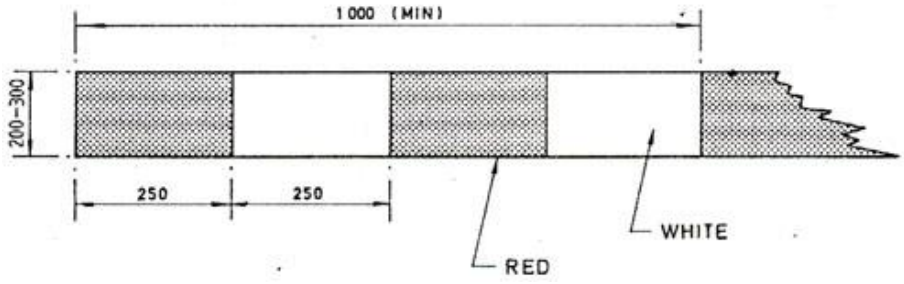
4.6.1.6 Barricades should not be positioned such that they obscure other signs.

4.6.1.7 Barriers at toll booths of the tunnel are barricades used to close the lane. One barrier is provided for one direction toll lane while two barriers are provided for reversible lanes.

4.6.1.8 Horizontal barriers at tunnel portals are barricades for traffic channelisation. Two barriers are provided. The position of the barrier could vary from 0 to 90 degree to oncoming traffic depending on tunnel traffic plan operated at that time.

4.6.1.9 Typical layouts of barricades are shown in Diagram 4.6.1.3 and Diagram 4.6.1.4.

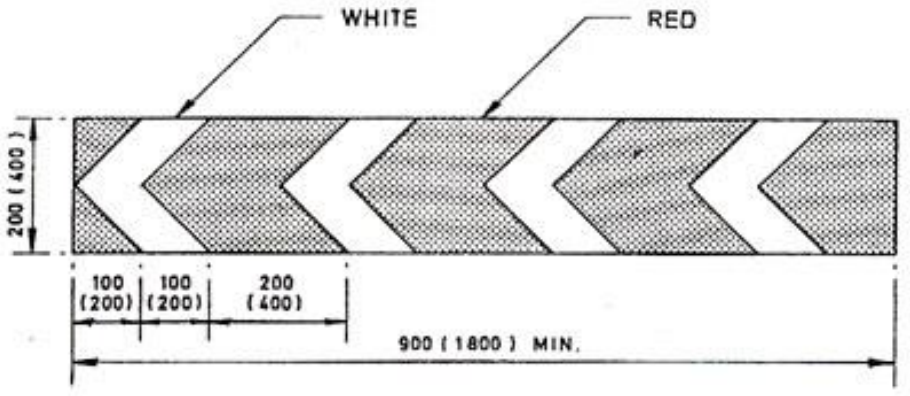
DIAGRAM 4.6.1.1 : BARRICADE MARKINGS
T.S. 504



ALL DIMENSIONS IN MILLIMETRES

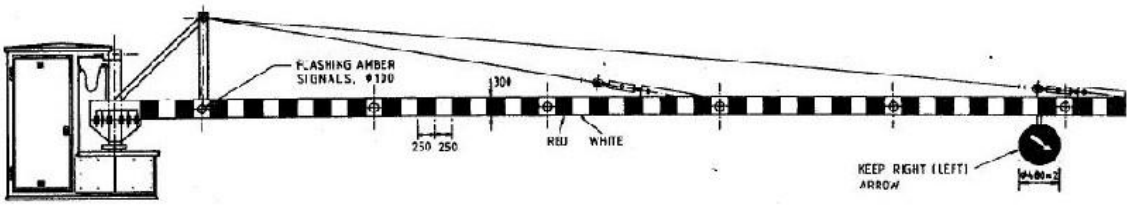
DIAGRAM 4.6.1.2 : ALTERNATIVE MARKING WHEN BARRICADE USED TO CHANNELISE TRAFFIC

T.S. 503



ALL DIMENSIONS IN MILLIMETRES

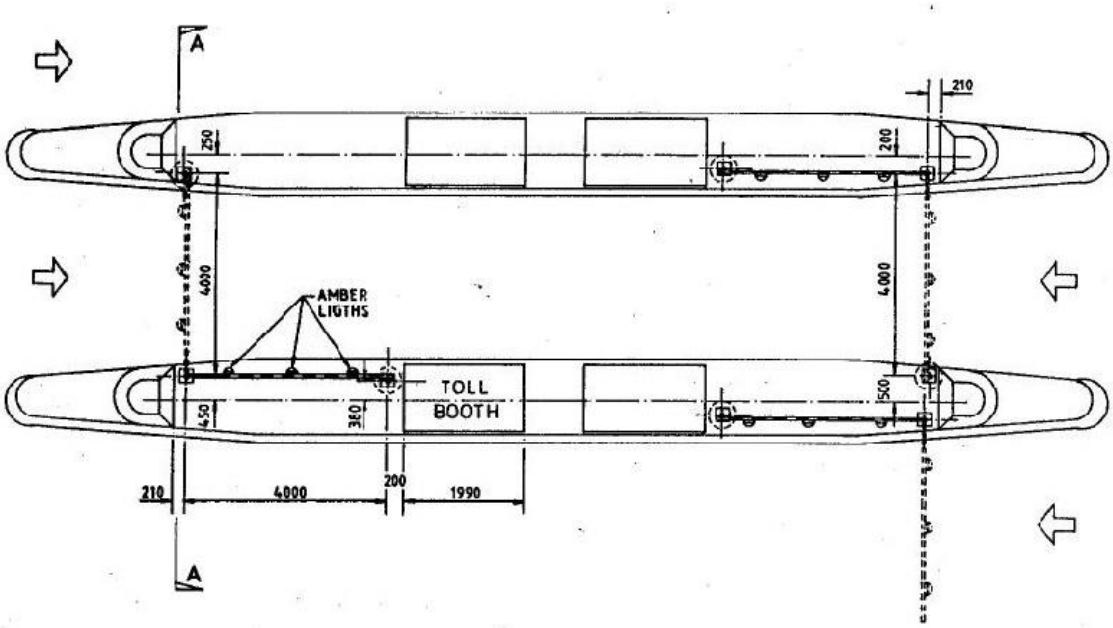
DIAGRAM 4.6.1.3 : HORIZONTAL BARRIER

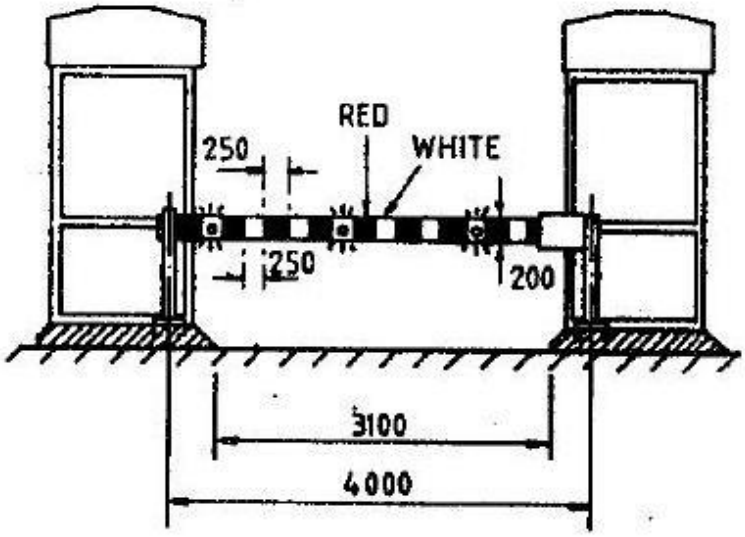


ALL DIMENSIONS IN MILLIMETRES

NOTE : THE BARRICADE MARKING / FLASHING AMBER SIGNAL COMBINATION HAS A T.S. NUMBER OF T.S. 559. ALSO SEE PARAGRAPH 4.6.3

DIAGRAM 4.6.1.4 : BARRIERS AT TOLL BOOTHS





SECTION A - A

ALL DIMENSIONS IN MILLIMETRES
NOTE :
THE BARRICADE MARKING / AMBER LIGHTS COMBINATION HAS A T.S. NUMBER OF T.S. 560. ALSO SEE PARAGRAPH 4.6.3

4.6.2 Barricade Construction

4.6.2.1 The construction design must accord with the following :-

(i) the top of the barricade must not be greater than 800 mm above the carriageway;

(ii) the barricade must be of such construction that on impact by a private car serious damage would not be occasioned to the car. The barricade must not swing into the opposite carriageway if struck by a vehicle.

4.6.3 Barricade Signs

4.6.3.1 Signs may be attached to barricades but they should be of light weight construction.

4.6.3.2 Amber lights may also be attached to the barricade but they must conform with the standards for Road Hazard Warning Lanterns in the Code of Practice for Lighting, Signing and Guarding of Road Works.

4.6.3.3 The amber lights may be positioned on top of the barricade. When the barricade is in its "lane closed" position, the lamps must be directed at oncoming traffic, and the centre of the lens of the lamp should not be greater than 1200 mm above the adjacent carriageway.

4.6.3.4 Amber lights when used in conjunction with barricades, should mark the extremities of the barricade in relation to the lane or lanes it is positioned over, and be intermediately spaced not greater than 3000 mm apart. One amber light should be positioned over the centre of the lane.

4.6.3.5 Horizontal barrier at tunnel portals used for traffic channelisation should be provided with flashing amber lights.

4.6.3.6 Toll booth lane barrier may be provided with steady amber lights.

4.7 Autotoll Signage and Road Markings

4.7.1 Signage and Road Markings Arrangement for Autotoll

4.7.1.1 The provision of autotoll signage and road markings is to assist motorists in getting into the correct lanes before arriving at the appropriate toll booth. This can reduce vehicle conflicts and improve road safety at the toll plaza. A typical layout of the arrangement of traffic signs and road markings for directing traffic to autotoll lanes is shown in Diagram 4.7.1.1. The arrangement is applicable to tolled roads including tunnels and bridges.

4.7.1.2 At the point where speed limit is lowered to 50 km/h, a pair of speed limit signs of 50 km/h T.S. 174 should be erected and 50 km/h speed limit road marking RM 1031 should be provided at the same location on each of the traffic lanes.

4.7.1.3 If site condition permits, at least 50 nos. of 600mm wide transverse yellow bar markings RM 1077, in accordance with Table 5.6.5.1 of TPDM Volume 3 Chapter 5, should be installed towards the point where speed limit is lowered to 50 km/h to alert the approaching motorists on speed reduction. However, in order to avoid confusion, they should not be provided into the 50 km/h speed limit zone.

4.7.1.4 A pair of advance informatory signs showing the autotoll lanes leading to the booths (see Diagram 4.7.1.2(i) and (ii)) should be provided in advance of the 50 km/h speed limit signs. This distance should be about 20m to 30m in general, but it may be adjusted if maintaining the visibility to the 50 km/h speed limit signs and other traffic signs is needed.

4.7.1.5 Subject to actual site constraints, a minimum of 5 No. autotoll road markings RM 1016 (see Diagram 4.7.1.2(iii)) should be provided on each of the approaching lane leading to the autotoll booths. The clear spacing between autotoll road markings should be 20m. The first one should be set out from the tip of the chevron marking of the booth and extending to the start of 50 km/h speed limit zone of the approach road.

4.7.1.6 If the approach road is already at the speed limit of 50 km/h, the autotoll road marking RM 1016 should start from the tip of the chevron marking leading to the toll booth and extend backward along the approaching autotoll lanes. The road markings RM 1016 should be provided along the autotoll lanes for at least 100m long for guidance of traffic and lane selection. The advance informatory signs should be placed a further 20-30 m before the RM 1016.

4.7.1.7 Road markings RM 1002 and RM 1003 with broken lines inside should be applied on the autotoll lane on the first 25m (approximate) prohibiting vehicles from moving into it from adjacent lanes, but allowing vehicles to move out of the lane. Following these markings is 25m (approximate) of the road marking RM 1001 terminating at the tip of the chevron marking of the toll booth, to prohibit any lane changing.

4.7.1.8 In accordance with the Road Tunnels (Government) Regulations, Cap. 368A, a prescribed traffic lane (autotoll only) sign (see Diagram 4.7.1.3(i)) should be displayed above a traffic lane that leads to an autotoll booth, and a prescribed autotoll booth sign (see Diagram 4.7.1.3(ii)) should be mounted at each autotoll booth. The "T" number refers to the figure number in the above Regulations.

DIAGRAM 4.7.1.1 : TYPICAL SIGNING ARRANGEMENT FOR AUTOTOLL

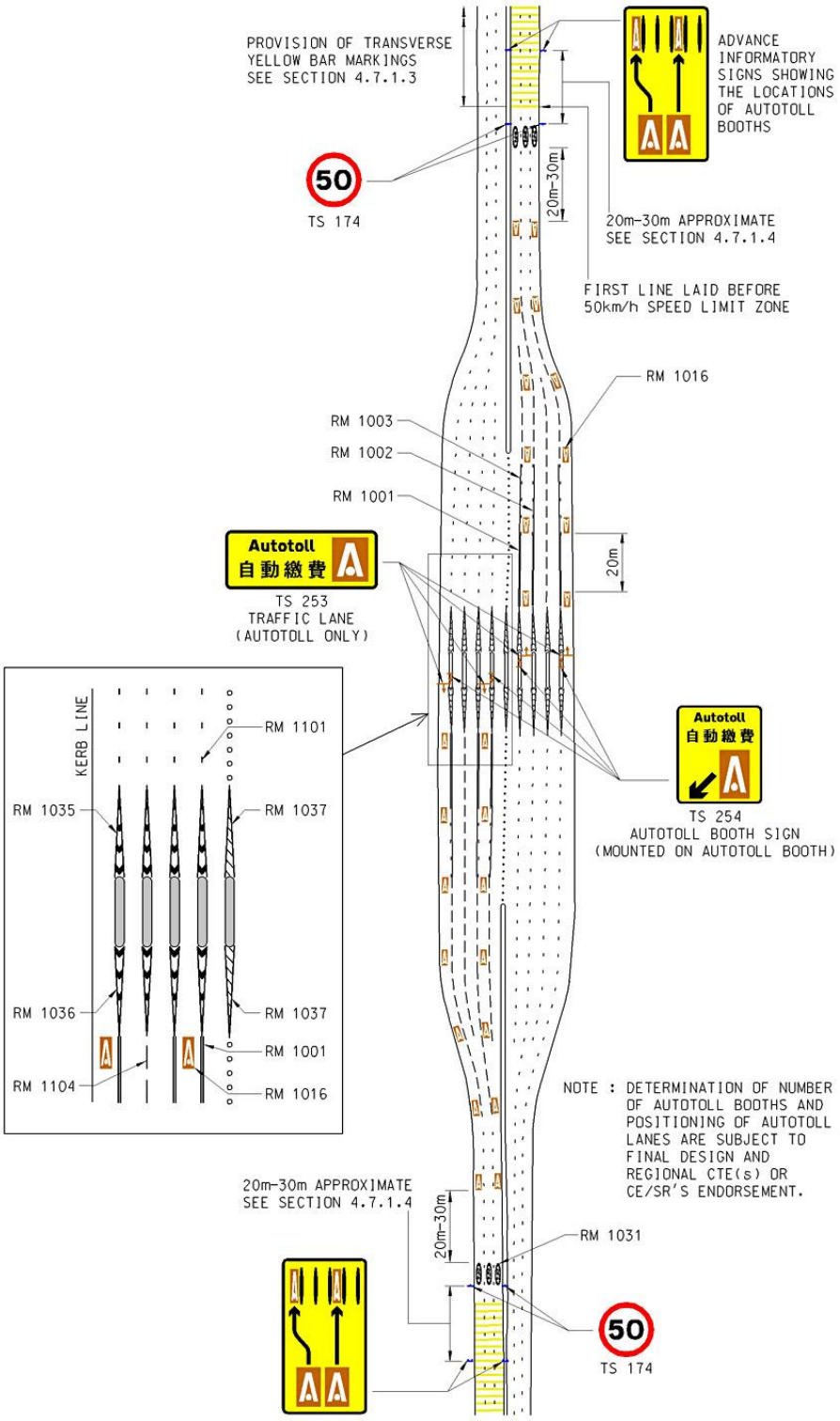
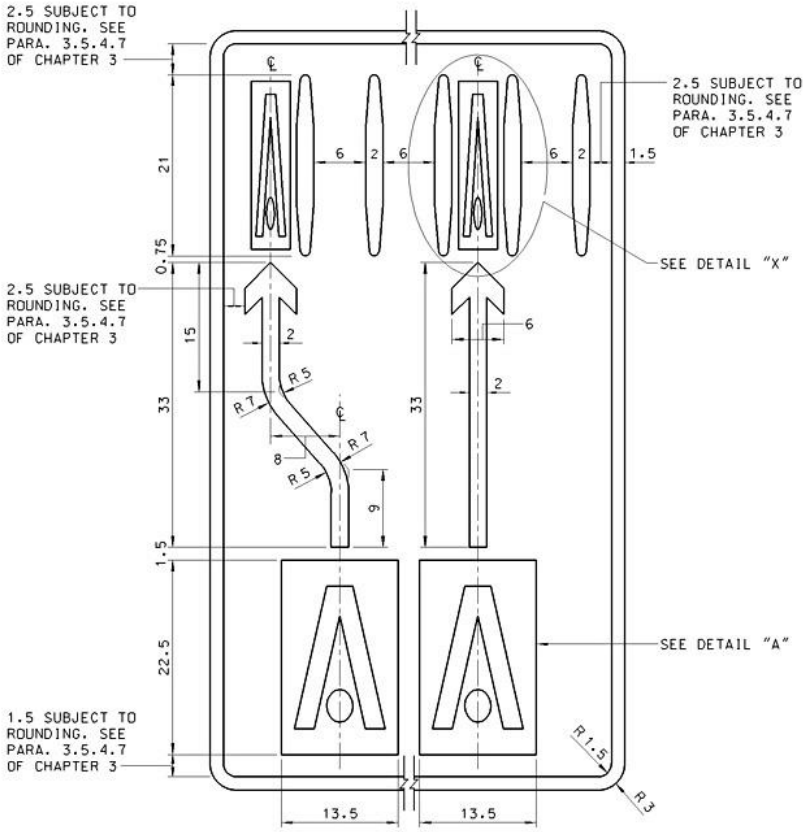
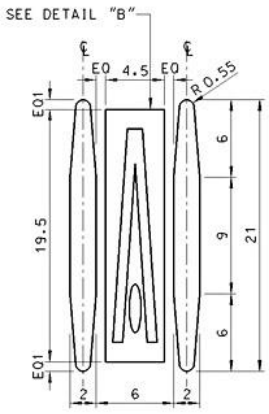
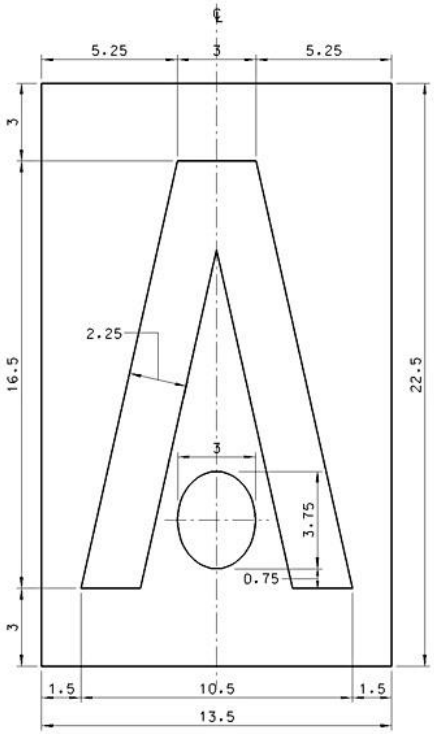


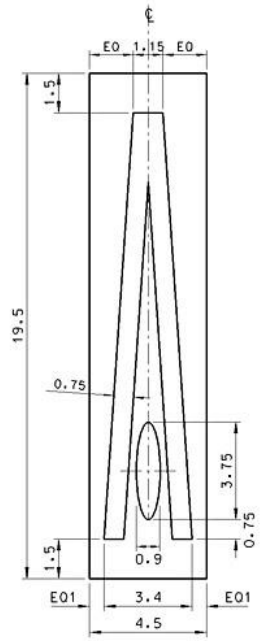
DIAGRAM 4.7.1.2 : SIGNS AND ROAD MARKINGS FOR AUTOTOLL LANES

(i) TYPICAL ADVANCE INFORMATORY SIGN FOR AUTOTOLL LANES



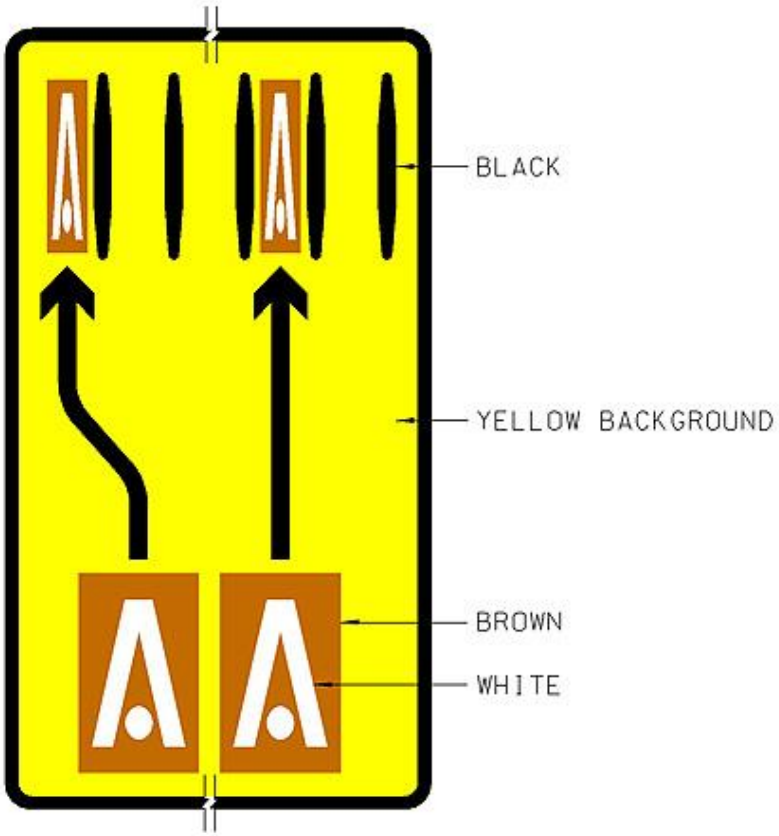




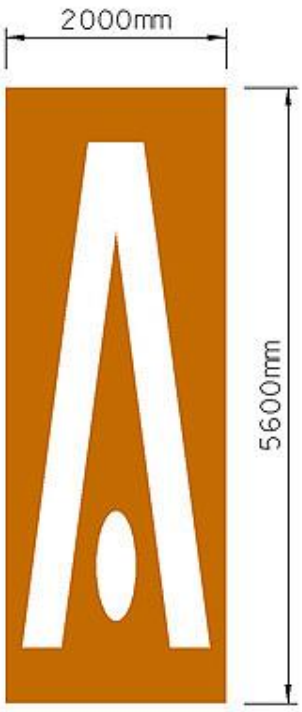


DIMENSIONS IN STROKE WIDTHS
x-HEIGHT OF THE SIGN SHOULD BE 100mm UNLESS OTHERWISE STATED

(ii) TYPICAL SIGN FACE OF THE ADVANCE INFORMATORY SIGN



(iii) AUTOTOLL ROAD MARKING



RM 1016

DIAGRAM 4.7.1.3 : PRESCRIBED TRAFFIC SIGNS FOR AUTOTOLL

(i) TRAFFIC LANE (AUTOTOLL ONLY)



T.S. 253
(T 14)

(ii) AUTOTOLL BOOTH



T.S. 254
(T 14A)

4.8 Free-Flow Toll Signage

4.8.1 Signage Arrangement for Free-Flow Toll

4.8.1.1 Under the Free-Flow Tolling System (FFTS), the use of a tolled tunnel by a motor vehicle will be detected by the Data Acquisition System (DAS) with the support of Automatic Number Plate Recognition. Such facilities will be installed identically at two locations for each bound of tunnel for detecting the vehicle passage of a tolled tunnel. The two locations are known as primary toll point and supplementary toll point.

The detection zone of the DAS equipment is around 30m for front side and around 30m to 40m for rear side of the toll point.

4.8.1.2 The provision of FFTS signage is to inform motorists that FFTS is in operation at government tolled tunnels or Tsing Sha Control Area. A typical layout of the arrangement of FFTS signs, namely TS3853 and TS3854, is shown in Diagram 4.8.1.1.

4.8.1.3 In accordance with Schedule 1 of the Road Tunnels (Government) Regulations, Cap. 368A and Schedule of the Tsing Sha Control Area (General) Regulation, Cap. 594A, TS256 / TS257 indicates the start of the toll area. The toll area sign should be erected at least 30m in advance of the primary toll point in each traffic bound. The sign may be positioned further upstream if at certain sites this location is infeasible for signage erection.

4.8.1.4 TS3853 (see Diagram 4.8.1.2 (i)) should be erected at the same location of the TS256 / TS257, if any, to inform the approaching motorists that FFTS is in operation.

4.8.1.5 TS3854 (see Diagram 4.8.1.2 (ii)) indicates the location of toll point and should be erected next to the primary toll point.

4.8.1.6 The dimensions of FFTS signs shall be based on the requirements stipulated in TPDM. Appropriate size of the signs shall be used with respect to the speed limits of the roads where the signs are erected.

4.8.1.7 FFTS signs shall be in blue background regardless of the types of the road that they are erected on.

4.8.1.8 Generally, signs should be located on the left hand side of the road, viewed in the direction of travel. If site condition permits, TS3853 and TS3854 should also be erected on the right hand side of the road. The mounting details and vertical/horizontal clearance shall comply with the requirements in TPDM.

DIAGRAM 4.8.1.1 : TYPICAL SIGNING ARRANGEMENT FOR FREE-FLOW TOLLING SYSTEM

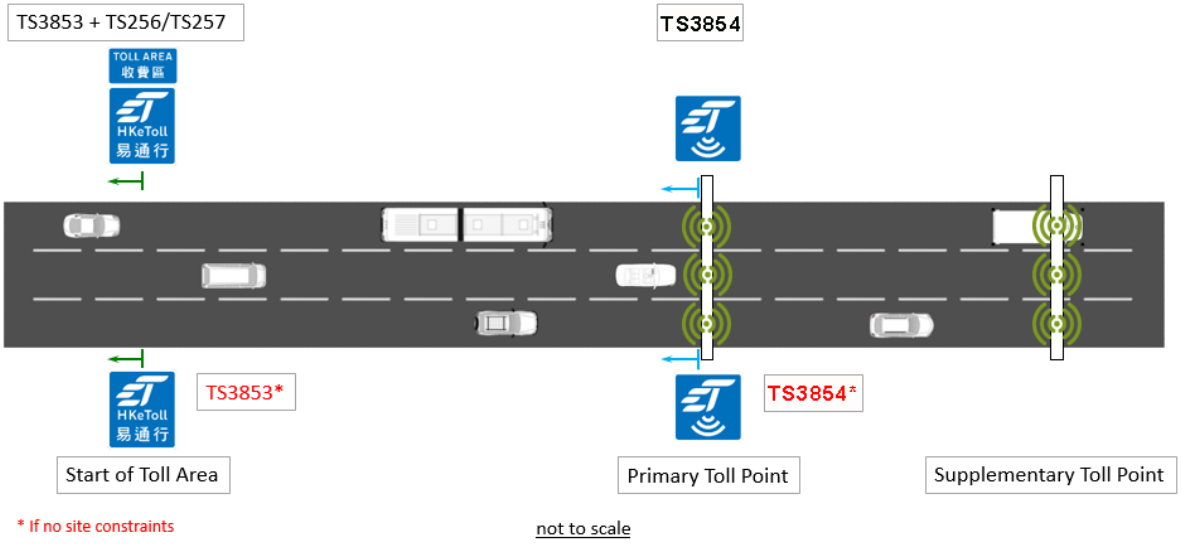
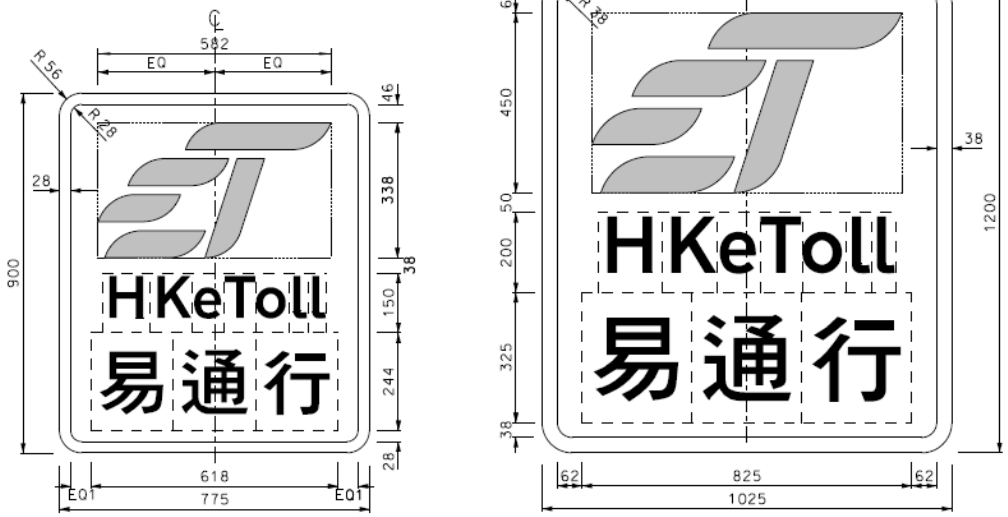
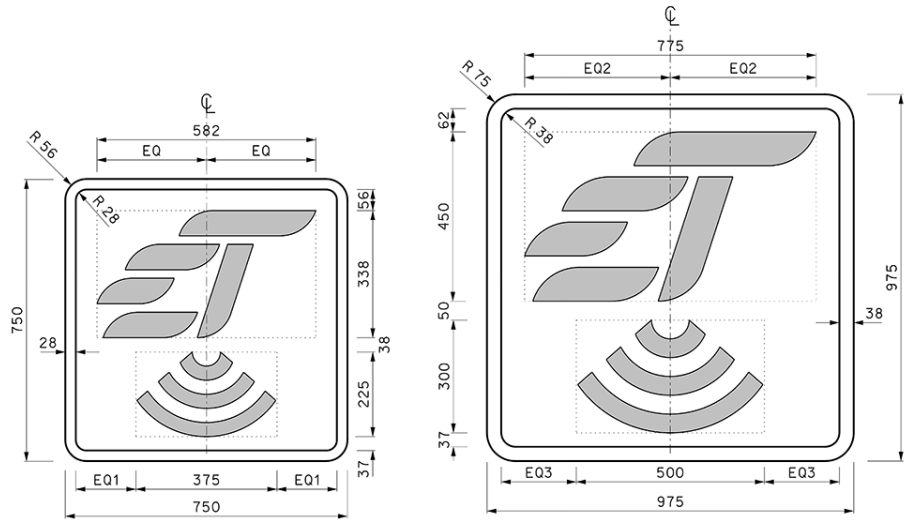


DIAGRAM 4.8.1.2 : SIGNS FOR FREE-FLOW TOLLING SYSTEM

(i) INFORMATORY SIGN FOR FREE-FLOW TOLLING SYSTEM



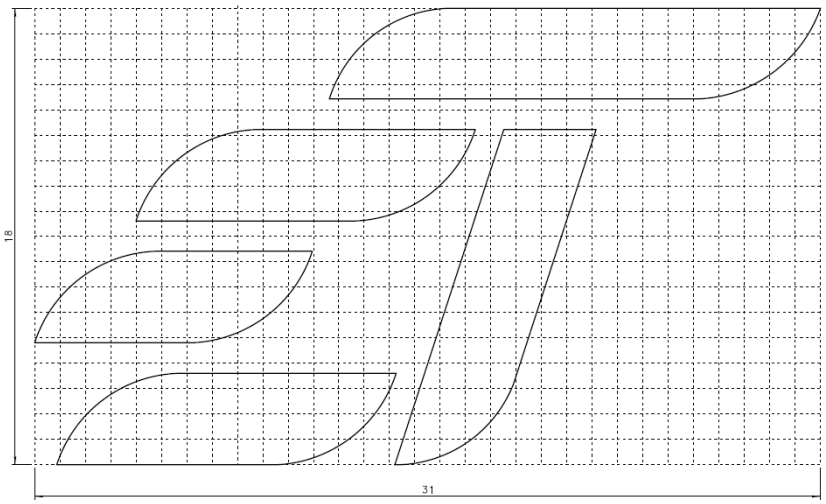
(ii) INFORMATORY SIGN FOR TOLL POINT



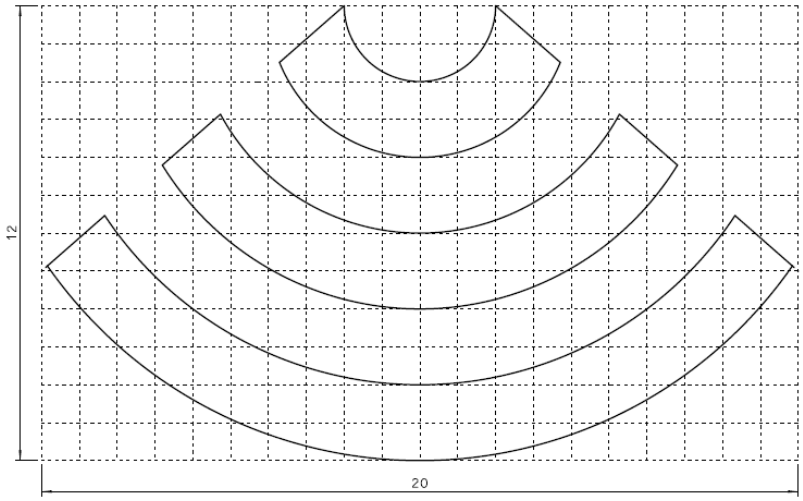
TS 3854/7 TS 3854/9

x-height = 75mm & 100mm

ALL DIMENSIONS ARE IN MILLIMETRES



"HKeToll" Symbol



"Wi-Fi" Symbol

NOTES:

1. All dimensions are in grid divisions.
2. The grids do not form part of any sign to which the symbol is applied.

TPDM Volume 3 Chapter 5 – Road Markings

5.1 References

1. U.K Traffic Signs Regulations and General Directions 1994
2. U.K. Traffic Signs (Amendment) Regulations 1982
3. U.K. Traffic Signs General (Amendment) Directions 1983
4. U.K. Traffic Signs Manual, Chapter 5, Road Markings, 1985
5. European Rules concerning road traffic signs and signals 1974
6. U.N. Convention on Roadsigns and Signals 1968
7. Road Traffic Ordinance Cap. 374
8. Road Traffic (Traffic Control) Regulations
9. Road Traffic (Parking) Regulations
10. Road Traffic (Public Service Vehicle) Regulations
11. Fixed Penalty (Traffic Contraventions) Ordinance
12. U.K. Department of Transport, Design Guide for Carriageway Markings, Drawing Nos. RM/M/61-68
13. U.K. Departmental Advice Note TA/86/83, Signing and Siting of Road Humps : Two Way, 2-Lane Roads
14. U.K. Departmental Standard TD6/79, Transverse Yellow Bar Markings at Roundabouts
15. Transport Planning & Design Manual Volume 2, Highway Design Characteristics
16. U.K. Department of Transport Technical Memorandum H12/76, "Design of Weaving Areas for Motorways and All-Purpose Roads"
17. U.K. Department of Transport, Departmental Advice Note, TA20/81, Junctions and Accesses : The Layout of Major/Minor Junctions.
18. Traffic Engineering Practice Note No. 2, (Road Markings), Highways Office, December 1978.

5.2 Introduction

5.2.1 General

5.2.1.1 The Road Traffic Ordinance, Cap 374, defines a road marking as a line, word, mark or device placed on, or set into, the surface of a road for conveying to persons using the road any warning, information, requirement, restriction, prohibition or direction. As such they are important in conveying to drivers information which might not be possible by traffic signs.

5.2.1.2 The proper application of road markings can enable the full use of the available road space to be fully utilised. However for this to be achieved it is essential that there is a uniformity of usage and that markings are employed similarly throughout the Territory, both in terms of the information they are intended to display and their siting in respect of hazards or restrictions.

5.2.1.3 As with traffic signs, determination of which road markings will be required for a particular scheme should be given early consideration in the design stage of a project. As far as possible, the position of road markings should be defined by setting out lines of the road geometric layout. This is particularly important in the case of Lane Lines, Diverge Lines, Chevrons, Shadow Islands etc. In other circumstances, the exact shape and alignment of the road markings should be clearly defined on drawings in terms of distance from features, width, length and taper angles etc. The use of certain road markings, notably double white lines, will have an effect on traffic flow and weaving capacity. The need for their usage should therefore be addressed at an early stage of road geometric design. In addition, road markings should be designed and verified for their compatibility with all traffic signs, directional signs, traffic signals as well as any variable signs and signals.

5.2.2 Prescribed and Non-Prescribed Road Markings

5.2.2.1 Road markings referred to in this Chapter are those which either appear in the schedules to relevant legislation, being prescribed markings, or by reason of particular regulations in the legislation are permitted to be used.

5.2.2.2 Relevant legislation referring to road markings is :-

(i) Road Traffic Ordinance, Cap 374

(ii) Road Traffic (Parking) Regulations (PA)

(iii) Road Traffic (Public Service Vehicle) Regulations (PS)

(iv) Road Traffic (Traffic Control) Regulations (TC)

(v) Road Tunnels (Government) Regulations (T)

5.2.2.3 Regulation 8 of the Road Traffic (Traffic Control) Regulations permits the Commissioner of Transport to use markings in addition to prescribed markings, and similarly Regulation 5 of the Road Tunnels (Government) Regulations permits non-prescribed markings to be used in Tunnel Areas.

5.2.2.4 Although as mentioned in paragraph 5.2.2.3 it is permitted to use non-prescribed markings, wherever possible any additional marking to those already in common use should be avoided. This is because there are a considerable number of different marking patterns in existence and to extend this further may only confuse rather than assist motorists. Also as non-prescribed markings may not appear in any official document it may not always be obvious to motorists what particular message is meant to be conveyed.

5.2.2.5 Where a non-prescribed marking is required to be used, unless it has been previously approved, approval to use the marking must first be obtained. Requests for such approval should be directed to the Road Safety and Standards Division.

5.2.3 Colour of Markings

5.2.3.1 Reference to colours in this section does not apply to road studs, the colours for which are described in Section 5.5, "Road Studs".

5.2.3.2 Generally white is used in respect of markings for moving traffic e.g. edge of carriageway lines, lane lines and junction markings, and yellow for parking or stopping restrictions, e.g. box junction hatched marking, double and single yellow lines for stopping restrictions. There are however some exceptions to this but these are explained in subsequent sections.

5.2.3.3 Regulation 9 of the Road Traffic (Traffic Control) Regulations does provide for any colour to be used for non-prescribed markings. However if different colours other than white or yellow are considered appropriate, even on an experimental basis, sufficient publicity must be given so that the meaning of the colour is understood. Once it is determined that a particular colour, other than white or yellow, is to be used on a permanent basis then arrangements should be made to include the marking in the appropriate schedule of the relevant Regulation.

5.2.3.4 Where it is considered that a colour other than white or yellow would be appropriate for a road marking, the Road Safety and Standards Division must first be consulted in respect of obtaining approval to use an alternative colour.

5.2.3.5 With regard to the conventional white or yellow markings, the white may include shades of silver, or light grey, and for yellow a bright shade similar to No. 008E51 to BS5252F is most appropriate given the road conditions in the Territory though the following shades have also been specified in the past :

(i) Lemon to BS 381C No. 355

(ii) Canary yellow to BS 381C No. 310

(iii) Primrose to BS 310

5.2.4 Size Tolerances

5.2.4.1 Section 110 of the Road Traffic Ordinance provides that “a road marking shall be deemed to be a prescribed road marking and lawfully placed even though the marking may differ slightly in size.”

5.2.4.2 Road markings are difficult if not impossible to lay without some “spreading” occurring but dimensions for individual markings should as far as possible fall within the tolerances given in Table 5.2.4.1 to avoid any enforcement difficulties.

Table 5.2.4.1
Road Markings Tolerances

	Specified Dimension	Tolerance
(i)	3m or over	Plus or minus 15%
(ii)	300mm or over, but under 3m	Plus or minus 20%
(iii)	Under 300mm	Plus 30% or minus 20%

5.2.4.3 With regard to angled hatch markings a variation of plus or minus 5 degree where a 45 degree angle is specified is acceptable. The 45 degree angle should be measured from the approximate centre line of the carriageway.

5.2.4.4 With regard to the raised height of road markings above the road surface, with the exception of road studs details of which are given in Section 5.5, "Road Studs", this should never exceed 6mm and generally should be much lower to avoid causing any interference with drainage or danger to pedestrians or cyclists.

5.2.5 Materials

5.2.5.1 The material for road markings shall be in accordance with General Specification for Civil Engineering Works. Hot applied thermoplastic materials should be used for permanent road markings on all carriageway.

5.2.6 Marking Identification on Plans

5.2.6.1 For identification purposes each road marking used in the Territory has been given a road marking number.

5.2.6.2 The particular number for each marking may be found by reference to the drawing number series CT 174/51-5 copies of which may be obtained from the Road Safety and Standards Division.

5.2.6.3 On any plans where road markings need to be identified the appropriate number given in Drawing No. CT 174/51-5 should be used, and not any other form of identification.

5.2.6.4 Road marking numbers are also referred to in subsequent sections of this Chapter as part of the description to particular road markings. These descriptions also indicate in brackets the Figure Number given to the marking in the schedule to the relevant Regulations. However these Figure Numbers are for reference only and should not be used for marking identification purposes.

5.3 Regulatory Markings

5.3.1 General

5.3.1.1 Regulatory marking are those markings which :

(i) prohibit some action being taken e.g. road marking 1040, No Stopping

(ii) indicate the direction that vehicles must follow, e.g. road marking 1017, straight ahead arrow marking;

(iii) determine the area where certain activities are permitted e.g. road marking 1052, parking bay marking;

(iv) direct a driver that a certain action must be taken e.g. road marking 1012, Stop lines.

5.3.1.2 Regulatory markings are an essential element in respect of providing, adequate contro1 and guidance of both vehicular and pedestrian traffic. However use of such markings in situations where regulatory control is not necessary or appropriate can bring the markings into disrepute, and lead to lack of observance of the marking generally. Not only does this result in less effective guidance and control being achieved, but it can also be detrimental to road safety.

5.3.1.3 To ensure that as far as possible the proper status of regulatory markings is maintained it should be examined in any proposal to provide such markings :-

(i) That the necessary control could not be achieved as effectively by the use of advisory or warning markings. e.g. using road marking 1129, advisory chevron marking instead of road marking 1035, prohibitory chevron marking.

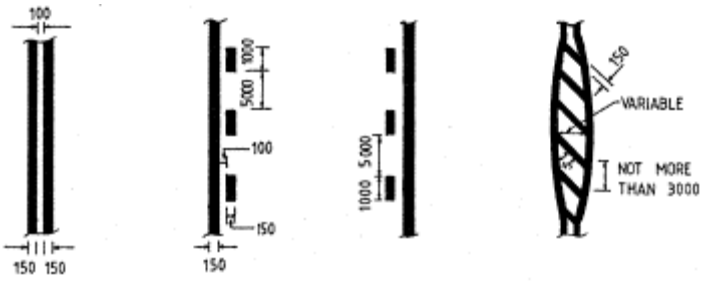
(ii) That there is a reasonable area available to carry out permitted manoeuvres without inadvertently committing an offence because of the presence of a regulatory marking. e.g. using double white lines where there is a carriageway width is less than 6m, with the result that on bends larger vehicles cannot avoid driving over or on the lines.

(iii) That the marking is used in accordance with accepted practice. e.g. the installation of zebra crossings at locations which generally meet the criteria.

(iv) That the most appropriate regulatory marking is being used. e.g. using road marking 1013, “give way lines” instead of road marking 1012, “stop lines”, except where visibility criteria is not met.

5.3.2 Road Traffic (Traffic Control) Regulation Regulatory Markings

5.3.2.1 Road markings 1001, 1002, 1003 and 1004, form the double white line system used to control the movement of vehicles.



RM 1001 (TC 501) **RM 1002 (TC 502)** **RM 1003 (TC 502)** **RM 1004 (TC 503)**

NOTE : ALL DIMENSIONS IN MILLIMETRES

5.3.2.2 The double white line system, subject to the conditions given in subsequent paragraphs, may be used for the following purposes :-

(i) To prohibit traffic from entering adjacent but opposing traffic lanes when visibility is restricted, or other considerations indicate this would be unsafe;

(ii) As lane dividers to prevent lane changing for traffic lanes proceeding in the same direction;

(iii) To demarcate "Tram Only" lanes.

There are many possible applications related to Item ii), including sharp curves and/or reduced carriageway width on certain highways; continuation of merging chevrons where immediate merging is not desirable; complicated junction configurations and inside tunnels etc. In other circumstances, double white lines have been used to restrict weaving at or on the approach to junctions. Double white lines should be provided only where there is a genuine need in terms of road safety and/or traffic management. If the use of the double white line system results in a reduction of the weaving distance ahead of a junction, consideration should be given to the provision of additional signs as discussed in Cl.3.4.2.23.

5.3.2.3 Regulation 11 of the Road Traffic (Traffic Control) Regulations describes the significance and meaning of the double white line system.

5.3.2.4 An offence is committed not only if a vehicle crosses the lines but also if the vehicle is on or over them. For this reason it is recommended that double white lines should not be used where the carriageway width is 6m or less as medium and heavy goods vehicles, and buses will have great difficulty, particularly on bends, to avoid committing an offence. In such circumstances it may be more appropriate to erect traffic sign 139, "No overtaking", but see Chapter 2, paragraph 2.3.2.64.

5.3.2.5 It should be noted that double white lines can be crossed in certain situations without an offence being committed, and these are as follows :

(i) When the broken line, as in road marking 1002 or 1003, is nearest to the vehicle.

(ii) To conform with the direction given by a traffic sign, road marking or a police officer or traffic warden. This is of relevance in that in the case of minor temporary roadworks. It is not necessary to remove the double white lines providing there is a sign directing vehicles across them, e.g. traffic sign 110"Keep right". However for major roadworks or situations where confusion could arise it will be necessary to remove the existing markings and replace them with suitable temporary markings for the duration of the works.

(iii) To avoid colliding with any vehicle, object, obstruction, animal or person. However this does not allow a vehicle to pass a taxi or PLB which has stopped to pick up or set down passengers if this would entail crossing a continuous double white line. In this respect it should be carefully considered whether the use of the double white line system along roads where frequent stopping is likely to occur will cause unnecessary congestion arising.

(iv) To make a right turn, but not a left turn nor a straight ahead movement into or out of any road, premise, or place adjacent to the carriageway. This means that where a single side road junction occurs it is not necessary to break the double white line along the major road at this point. In the situation where double white lines are used as lane dividers however, the regulations specifically only permit vehicles in the extreme right hand lane to cross any double white line to make a right turn. For the situation where a four way junction occurs advice on the use of double white lines in these locations is contained in paragraph 5.6.2.10.

(v) To make a right turn across double white lines used to delineate tram only lanes. Although double white lines used in this situation could be construed as lines separating vehicles moving in the same direction, in accordance with Regulation 11(4), in fact trams are not "vehicles" within the meaning given in the Road Traffic Ordinance, so this regulation does not apply. For the situation where a vehicle needs to be permitted to drive straight across double white lines forming a tram lane appropriate arrow markings indicating that this is allowed should be placed on the side road similarly to that described in paragraph 5.6.2.10

5.3.2.6 The double white line system does allow when it is used to separate opposing traffic flows each direction of travel to be separately marked, or when it is used to separate lanes of traffic proceeding in the same direction each lane to be separately marked. Where the situation allows therefore, and by using road markings 1002 or 1003as appropriate it is not necessary to be as restrictive in both directions where opposing flows are concerned, or prevent both lanes of traffic crossing into each other when separating traffic lanes moving in the same direction.

5.3.2.7 On two lane single lane carriageways of widths greater than 6m, continuous double white lines may be appropriate where the visibility distance is below that given in Table 5.3.2.1, measured in accordance with Appendix 1, but see also paragraph 5.3.2.9.

Table 5.3.2.1
Visibility Criteria for Continuous Lines

	85th %ile Speed(km/h)	Visibility Distance(m)
(i)	50	90
(ii)	60	105
(iii)	70	125
(iv)	85	155
(v)	100	185

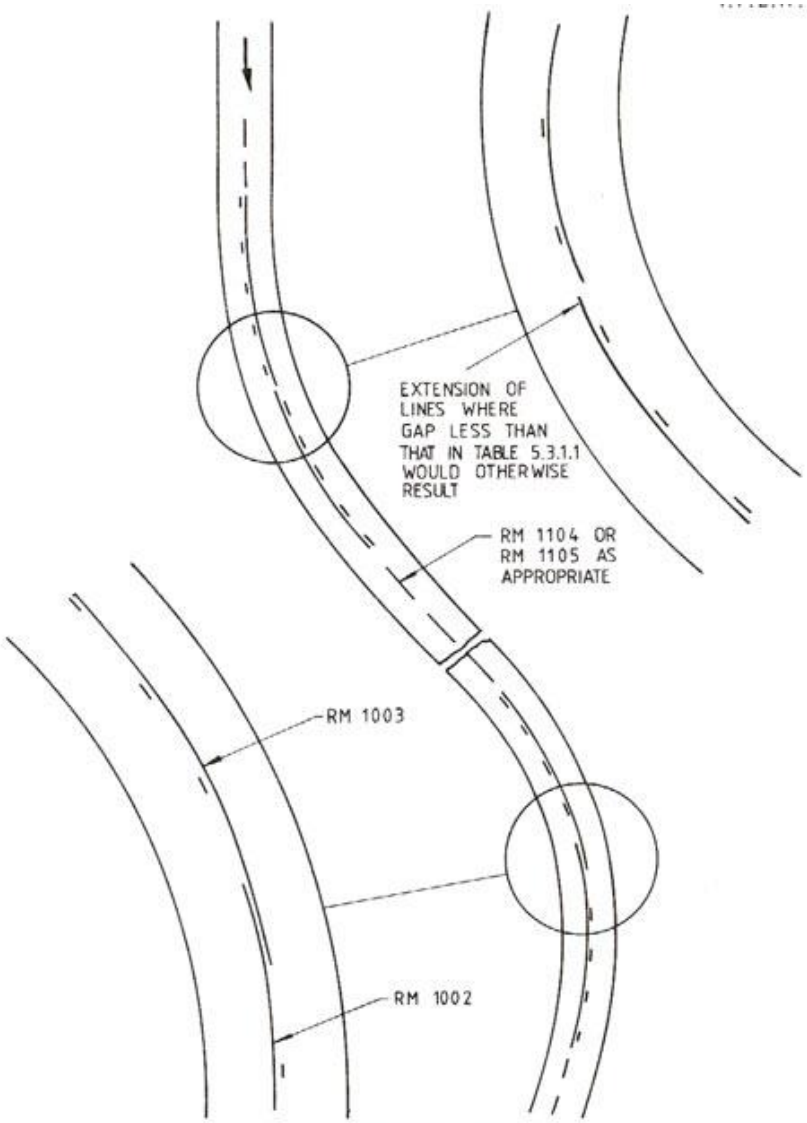
5.3.2.8 For intermediate speeds in Table 5.3.2.1 the appropriate visibility distance should be taken as the lower figure between the steps shown.

5.3.2.9 Further to paragraph 5.3.2.7 it should not automatically follow that double continuous lines should be used where the visibility standards are not achieved, judgement should be exercised in respect of the topography, traffic characteristics of the route, geometrical standard, and accident statistics, as to whether the prohibitory double white line is preferable or the advisory warning line is sufficient for the particular situation. Overuse of the double line system where adequate enforcement cannot be achieved can lead to disrespect for the system.

5.3.2.10 Visibility distances will seldom be the same in both directions and on the approach where visibility exceeds the distances given in Table 5.3.2.1 a broken line in the form of road marking 1002 or 1003, as appropriate may be used.

5.3.2.11 Normally the situation will arise that on the approaches to a bend where the double white line system is considered necessary the continuous line on one approach will overlap with the continuous line required for the other approach as shown in Diagram 5.3.2.1. However where after examining the visibility requirements of both approaches a gap less than the appropriate visibility distance given in Table 5.3.2.1 arises, the continuous lines in both directions should be extended to meet, as also shown in Diagram 5.3.2.1. If the gap is greater than the visibility distance given in Table 5.3.2.1 but less than the warning distance given in Table 5.4.2.4, a warning line, road marking 1104 or 1105as appropriate should be used to join the double white line sections, as also shown in Diagram 5.3.2.1.

DIAGRAM 5.3.2.1 : OVERLAP AND EXTENSION OF DOUBLE WHITE LINES

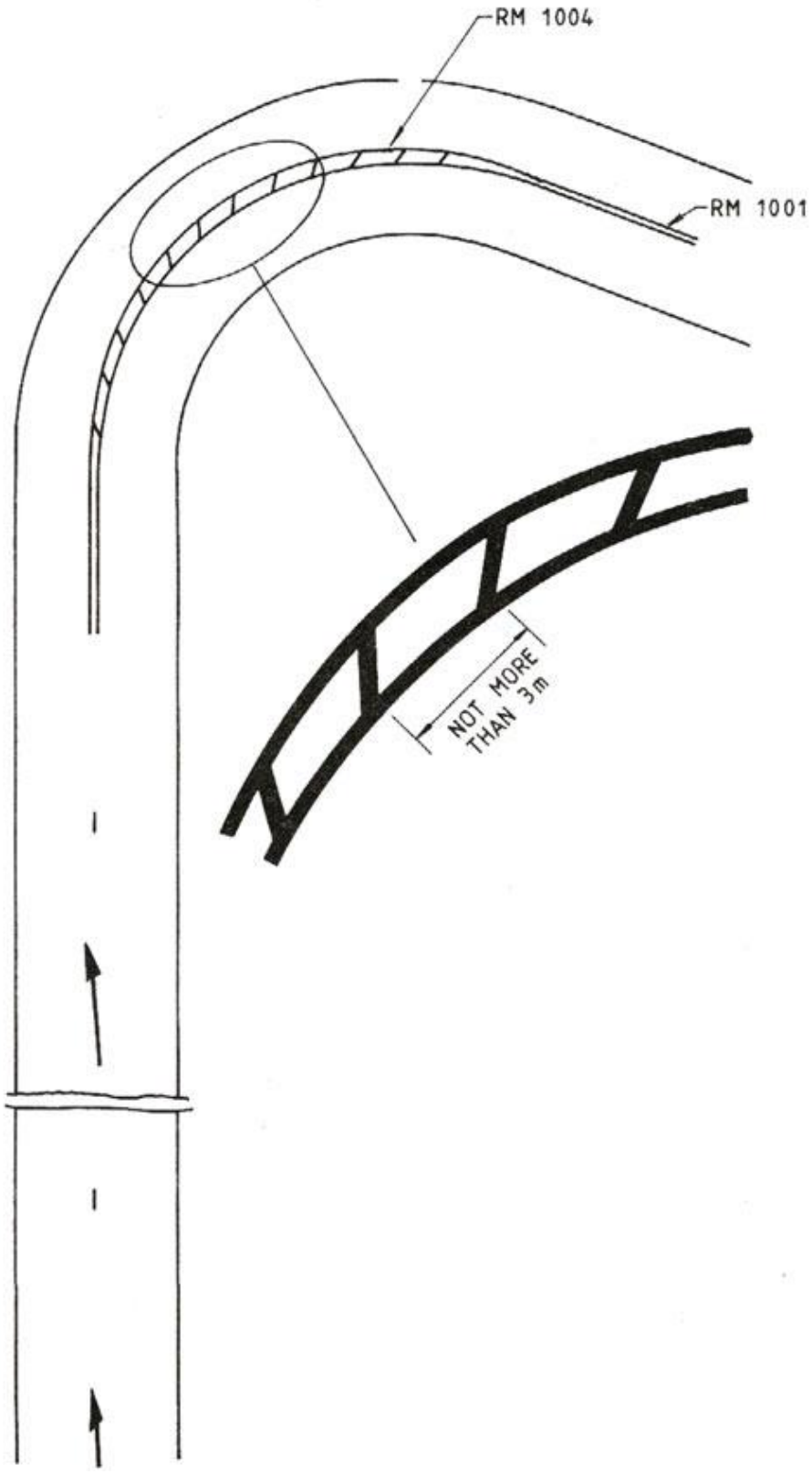


Double lines at apexes of successive bends

5.3.2.12 Where the broken line is used for the situation described in paragraph 5.3.2.10 its length should never be less than the appropriate visibility distance in Table 5.3.2.1, and if examination of the approaches indicates a length of broken line less than the appropriate length, then the continuous line should be extended instead.

5.3.2.13 On sharp bends where double continuous lines are used they can be splayed as in road marking 1004, and as illustrated in Diagram 5.3.2.2, providing there is sufficient room either side of the lines for vehicles to negotiate the bend without encroaching onto the lines. Normally the maximum width of the splay should not exceed 1.2m though greater widths may be used, but this is rather wasteful of the available carriageway surface.

DIAGRAM 5.3.2.2 : DOUBLE LINES ON SHARP BENDS



5.3.2.14 On the approaches where the double white line system is used to separate opposing traffic, warning arrows, road markings 1116 or 1117 as appropriate should be used to direct traffic to keep to the left hand side of the road, and only in exceptional circumstances should they be omitted.

5.3.2.15 Normally as a warning to the commencement of double white lines separating opposing flows two arrows, as shown on Diagram 5.3.2.3, positioned along the centre of the carriageway in advance of the start of a double line system should be laid, but where the forward visibility of a driver is limited then the use of three arrows will be appropriate. Details with regard to these arrow markings are given in paragraphs 5.4.2.35 to 5.4.2.38.

5.3.2.16 On four lane single carriageway two way roads continuous double white lines should be used to separate opposing flows in order to prevent any encroachment of traffic into the opposing lanes.

5.3.2.17 On gradients along wide single carriageway two way roads, having a width of at least 10m, it is sometimes appropriate to divide the carriageway into two lanes uphill and one lane down hill. Whilst in theory when the visibility criteria allows the downhill lane can be marked with the broken line adjacent to it permitting overtaking, when this is safe to do so, in practice there is seldom sufficient gaps in the opposing traffic stream for this to be carried out safely and it is therefore recommended to use the continuous double line marking, road marking 1001. Similarly where local widening is carried out to provide a climbing lane, as described in section 3.3.8 of Chapter 3, Volume 2,the continuous double white line is preferred throughout the widening rather than trying to provide relatively short overtaking lengths. This is further illustrated in Diagrams 5.3.2.4 to 5.3.2.6. However if in either case mentioned it is considered desirable to use the broken line on the downhill section it should be carefully ascertained that sufficient gaps will occur in the opposing stream to permit safe overtaking.

DIAGRAM 5.3.2.3 : WARNING ARROWS IN ADVANCE OF DOUBLE LINES

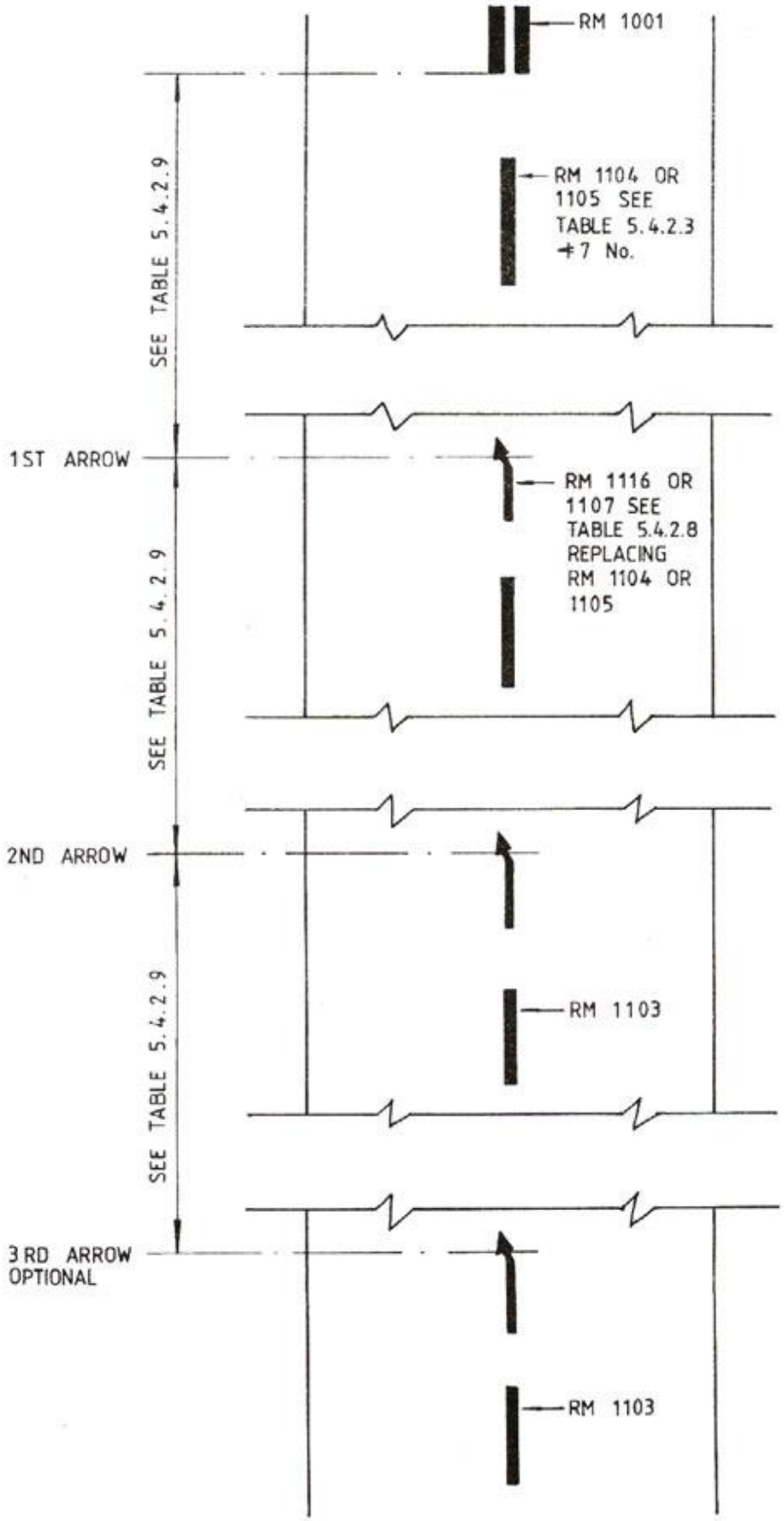
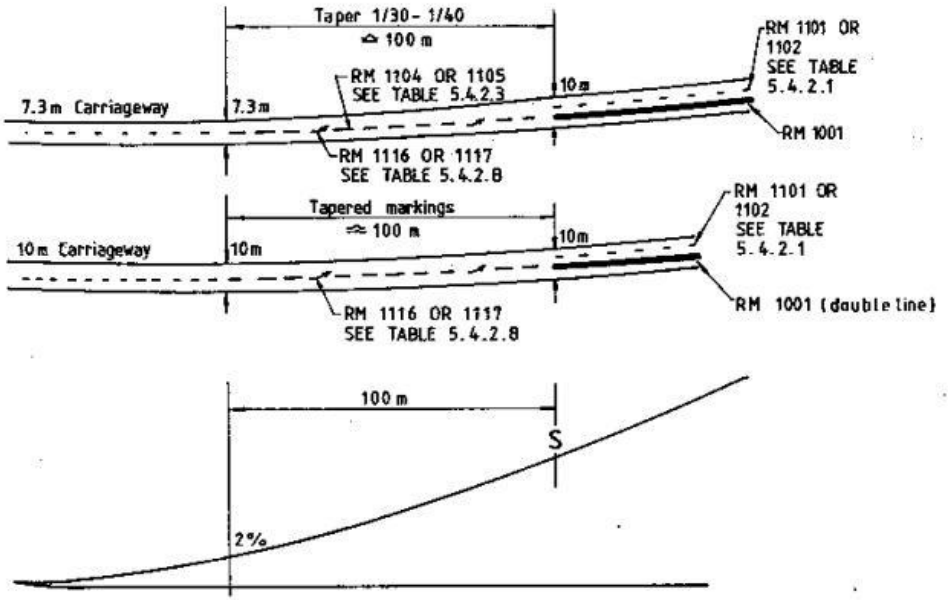


DIAGRAM 5.3.2.4 : MARKINGS FOR START OF CLIMBING LANE (SEE ALSO SECTION 3.3.8 CHAPTER 3 VOLUME 2)



NOTE : RM 1001SHOWN AS SINGLE LINE FOR CONVENIENCE.

CALCULATION OF GRADIENT FOR CLIMBING LANE PURPOSES

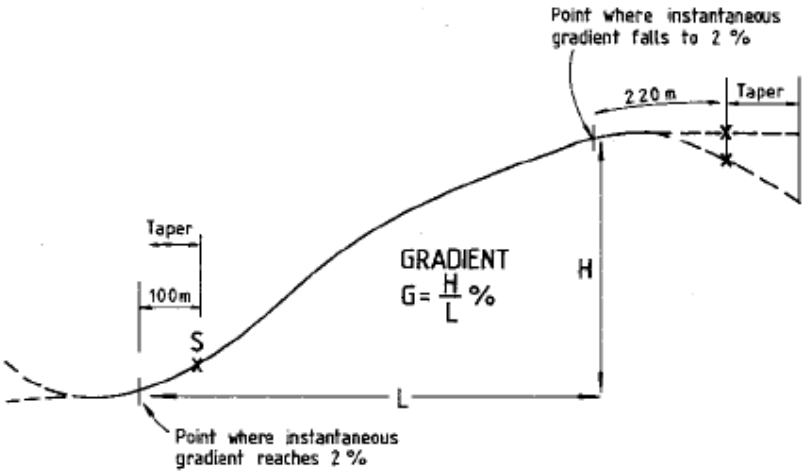
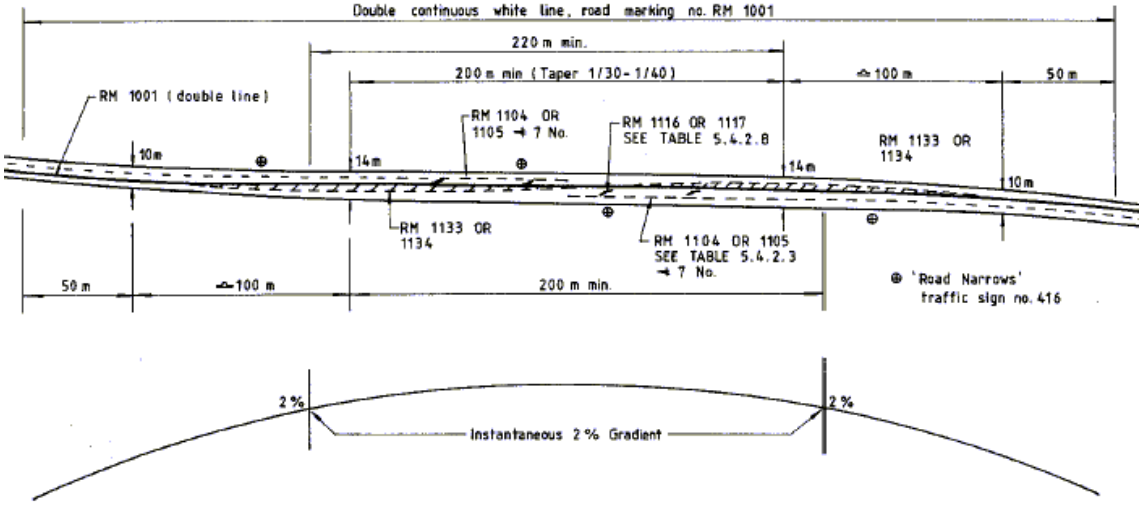
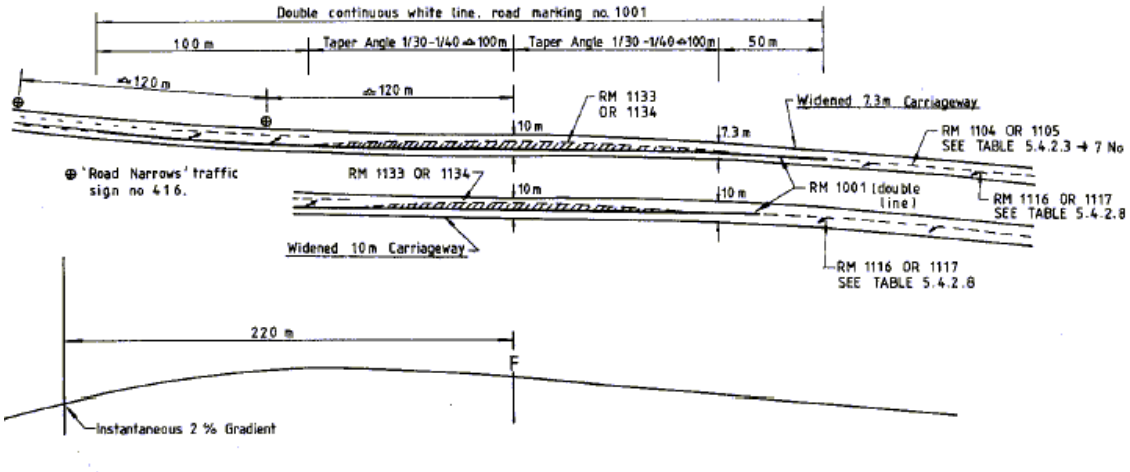


DIAGRAM 5.3.2.5 : MARKINGS FOR CREST CURVE BETWEEN CLIMBING LANES (SEE ALSO SECTION 3.3.8 CHAPTER 3 VOLUME 2)



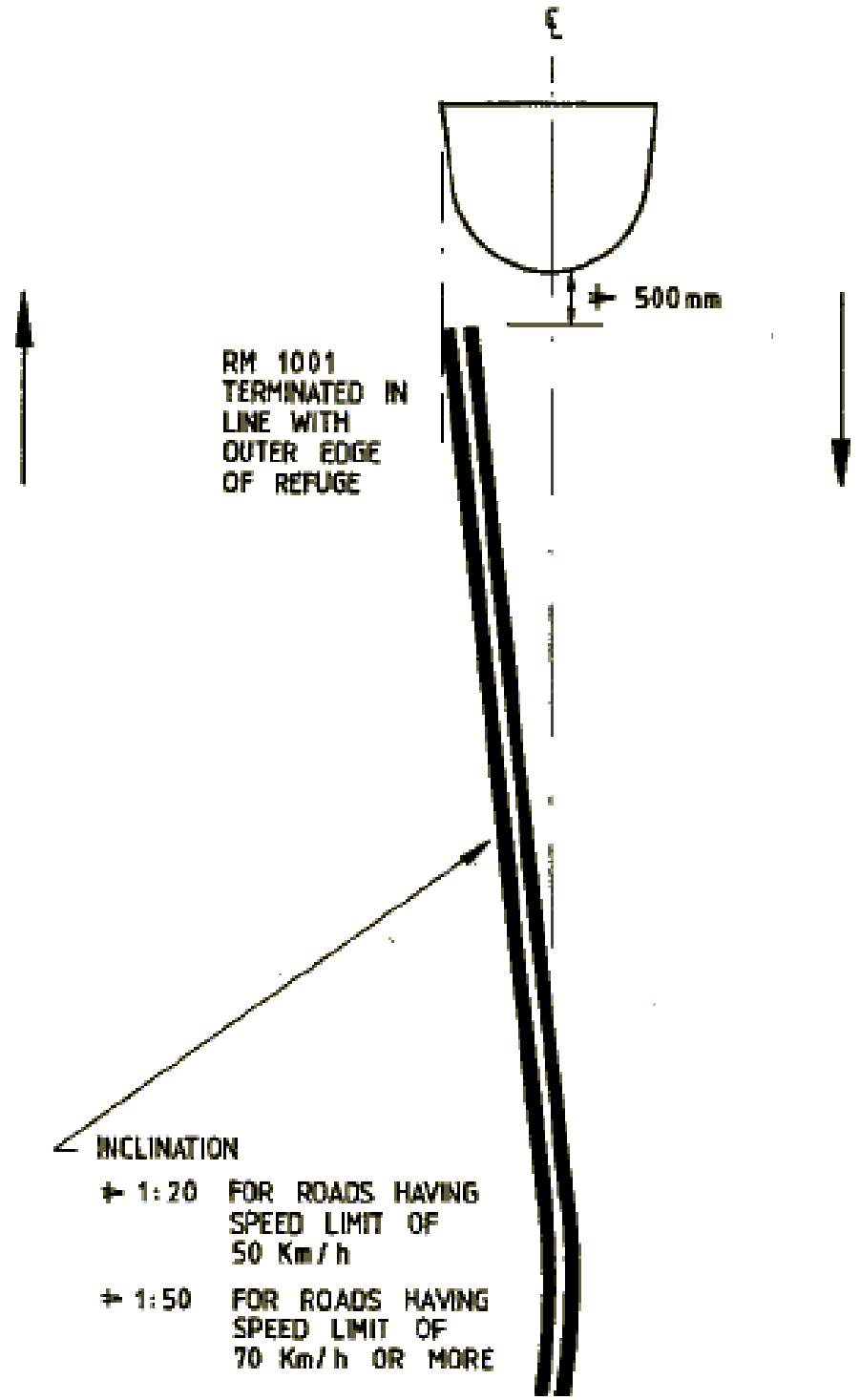
NOTE : RM 1001 SHOWN AS SINGLE LINE FOR CONVENIENCE

DIAGRAM 5.3.2.6 : MARKINGS FOR END OF CARRIAGEWAY (SEE ALSO SECTION 3.3.8 CHAPTER 3 VOLUME 2)



NOTE : RM 1001SHOWN AS SINGLE LINE FOR CONVENIENCE

DIAGRAM 5.3.2.7 : DOUBLE LINES AT REFUGE AND TRAFFIC ISLANDS ON TWO WAY CARRIAGEWAYS



5.3.2.18 In the situation where the double line system is used to separate opposing traffic streams and refuges or traffic islands are also provided, the double lines at the refuges should be inclined to the nearside of the refuge as shown in Diagram 5.3.2.8, and not splayed, except in certain circumstances details of which are given in Section 5.6.2. “Priority Junction Markings” and Diagrams 5.6.2.10 and 5.6.2.11 in particular.

5.3.2.19 Although the double white line system can, as stated in paragraph 5.3.2.2, be used as lane dividers for traffic moving in the same direction, it should be noted that this can reduce the available capacity of a carriageway because of the under utilization of some lanes. Therefore the use of double white lines for this purpose should generally be restricted to those occasions where on safety or traffic control grounds there is a necessity to prevent weaving. In situations where double white lines are used as lane dividers the use of warning arrows, road markings 1116 or 1117, in advance of this is not appropriate.

5.3.2.20 In certain situations where the double line system is used to separate traffic moving in the same direction it may be appropriate to consider the use of road markings 1002 or 1003, to allow vehicles to move from one lane to an adjacent one on the left or right, but not the reverse movement. This does enable better lane utilization to be achieved whilst at the same time confining certain traffic to a particular lane. However care should be taken that the use of these markings does not cause any enforcement problems, and in this respect the police should be consulted prior to any implementation.

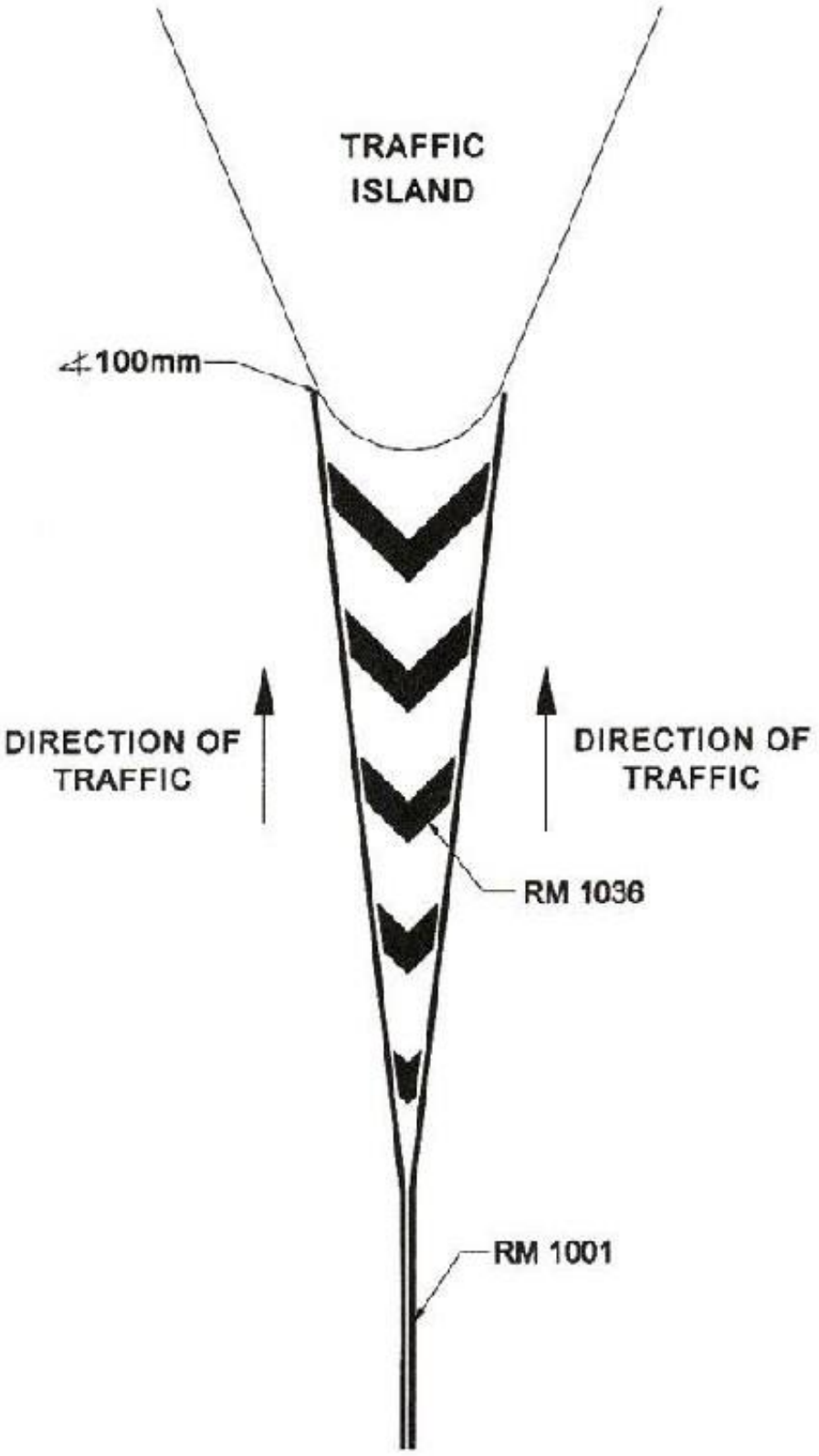
5.3.2.21 In respect to the use of the double white line system for lane control purposes, it is relevant that whilst in certain circumstances vehicles can turn right across continuous double white lines, they are not under any circumstances permitted to turn left. It must therefore be ascertained that the use of road marking 1001 for lane control does not unnecessarily prevent access to any adjacent road or premises.

5.3.2.22 Where traffic lanes diverge and road marking 1001 is used as the boundary of the lanes diverging, the marking should be splayed in advance of any splitter island to form the prohibitory chevron, road marking 1036, as shown in Diagram 5.3.2.8.

5.3.2.23 Tram only lanes should be delineated by road marking 1001 if physical islands separating the tram lane from other traffic lanes cannot be provided.

5.3.2.24 At a tram stop, or any location along the tram only lane where an island is provided, road marking 1001, should be inclined, as in Diagram 5.3.2.7 and not splayed at the island as shown in Diagram 5.3.2.8. Double white lines used in these situations are an indication for other traffic and not trams which are on a fixed route.

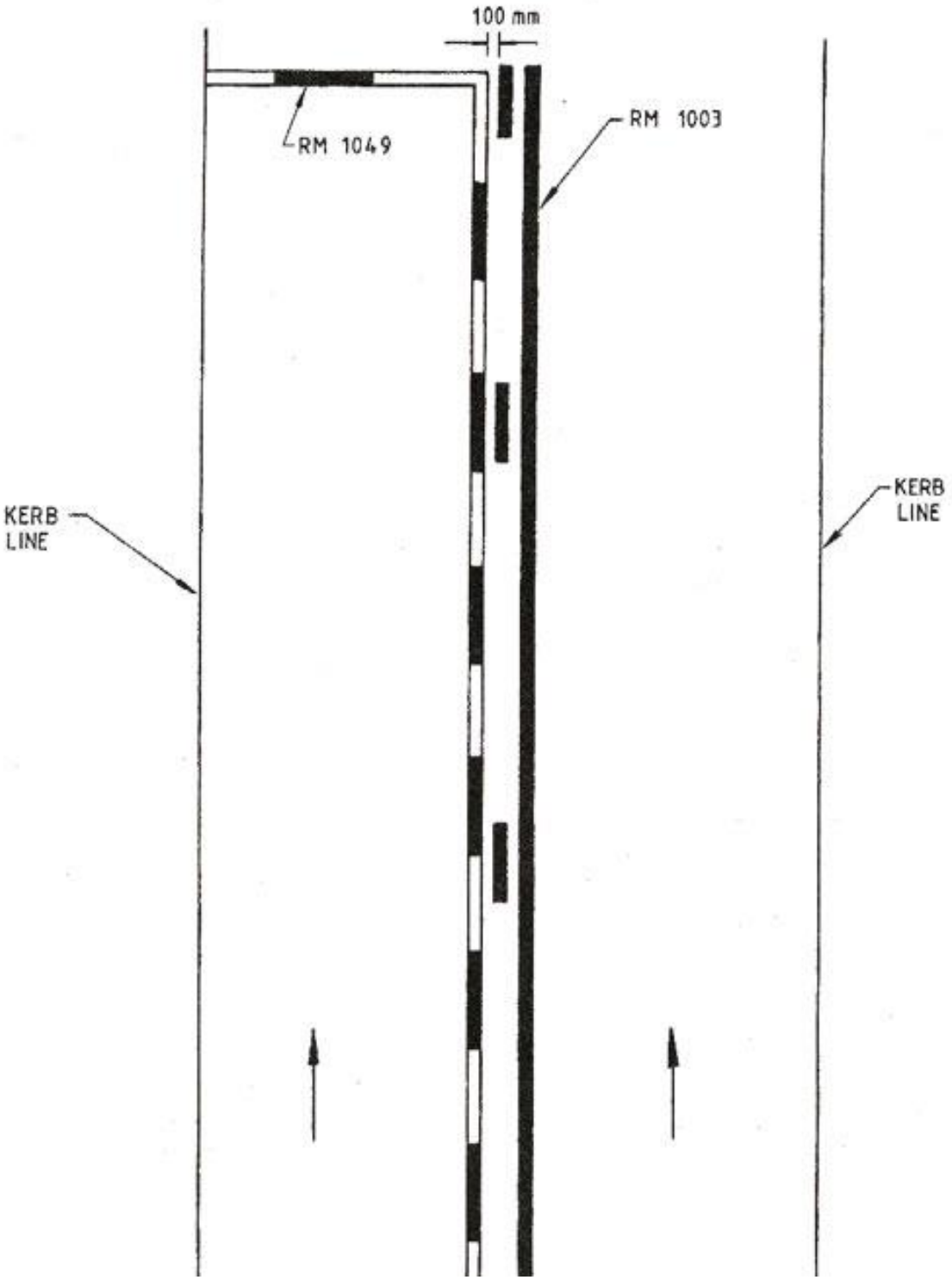
DIAGRAM 5.3.2.8 : DOUBLE LINES AT TRAFFIC ISLAND ON ONE WAY CARRIAGEWAY



5.3.2.25 Unlike with tram only lanes, road marking 1001 should not be used to demarcate a bus lane as it would not conform to the definition of 'bus lane' in regulation 2 of the Road Traffic (Traffic Control) Regulations nor with regulation 12 of the same Regulations.

5.3.2.26 To control the queuing of PLB's at PLB stands which form part of the carriageway, road marking 1003 may be laid adjacent to the stand marking as shown in Diagram 5.3.2.9. Use of road marking 1003 in this manner ensures that PLB's only enter the stand at one end, thus preventing PLB's from trying to cut in further along the queue, which if there is only one lane available for other traffic effectively blocks this lane to other traffic. The broken line however does enable PLB's to leave the stand at any point as generally there is no need to control this movement.

DIAGRAM 5.3.2.9 : DOUBLE LINE ADJACENT TO PLB STAND



5.3.2.27 Short lengths of double white lines for any of the situations described in the above paragraphs should be avoided as this can be confusing to motorists and because of the shortness may not be able to be properly enforced thus bringing the system into disrepute. Normally therefore it is recommended that any double line marking pattern, whether a double continuous pattern, or a broken/continuous pattern should not be less than 70m in length.

5.3.2.28 Road markings 1006 and 1007are used to delineate bus lanes.



RM 1006 (TC 504) **RM 1007 (TC 518)**

5.3.2.29 Road marking 1009, is only used to delineate hard shoulders. However it has been agreed that marginal strips of between 0.5m to 2m should, where appropriate, be provided along Trunk or Primary Distributor Roads and not full width hard shoulders. For these marginal strips road marking 1009 is not appropriate, but road marking 1109, edge line marking, see paragraph 5.4.2.28, should be used.



RM 1009 (TC 505)

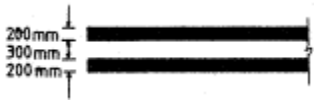
5.3.2.30 Although some marginal strips may be wider than 2000mm in some localised areas this does not justify the use of road marking 1009, and in fact unless and until it is agreed that full width hard shoulders should be provided and not marginal strips this road marking is redundant to normal road marking provisions.

5.3.2.31 If it is ever decided to provide full width hard shoulders, then under the present legislation it will be necessary to erect traffic sign 216, "Hard Shoulder" at or near the start of the hard shoulder. Where a transitional taper is provided at the start of hard shoulder, TS 216should preferably be installed at or near the point where the hard shoulder attains its full width.

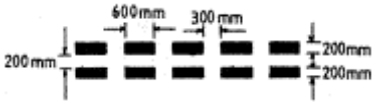
5.3.2.32 Road markings 1011, 1012 and 1013 are the markings for the "single stop line", the "double stop line", and the "Give Way Line" respectively. Road markings 1014 and 1015 are the equivalent, "Double Stop Line" and "Give Way Line", for cycle tracks.



RM 1011
(TC 506)



RM 1012
(TC 507)



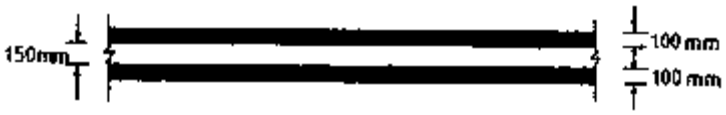
RM 1013
(TC 508)

5.3.2.33 Road marking 1011, "single stop line", is used to indicate the position beyond which a driver should not proceed when required to stop by the police or by traffic signals, details regarding the use of this marking in respect of traffic signals are given in section 5.6.3 "Signal Controlled Junctions".

5.3.2.34 With regard to police controlled junctions, road marking 1011, is not appropriate unless police control is provided for at least 20 hours per week, and preferably more. Even then for the periods when police control is not provided confusion and possible danger can arise as motorists cannot be sure which approach has the priority. It is generally preferable therefore that the normal priority junction markings should be used, as this would still enable police control to be effected when required. However on the unmarked approaches temporary warning signs may be required at the time of such control to advise motorists of this.

5.3.2.35 Road marking 1012 must only be used at junctions controlled by traffic sign 101, “stop”, and must always be used with this sign, together with the worded road marking 1139 “Stop”. Further details as to the use of this marking are given in section 5.6.2, “Priority Junction Markings”.

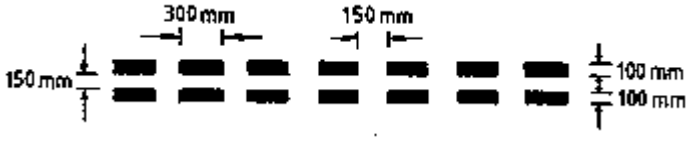
5.3.2.36 Along cycle tracks, the dimension of road marking 1012, are out of proportion to the width of the cycle track, and therefore for these situations road marking 1014, should be used. However it is stressed that road marking 1014, is only appropriate for the control of cyclists, and must not be used where other vehicles are involved.



RM 1014
(TC 506)

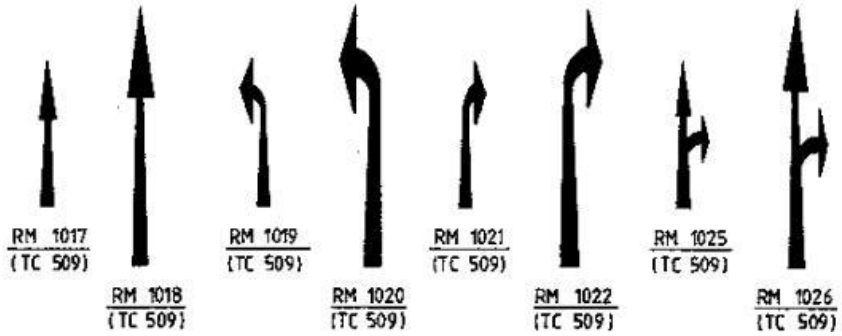
5.3.2.37 Road marking 1013, “Give way” lines, should be used in preference to road marking 1012, unless circumstances indicate otherwise. Details as to the use of this marking are given in Section 5.6.2, “Priority Junction Markings”.

5.3.2.38 As with road marking 1012, the dimensions of road marking 1013 are too large to reasonably be used along cycle tracks and for these locations, and it is stressed only these locations, road marking 1015, is appropriate to indicate where cyclists should give way.



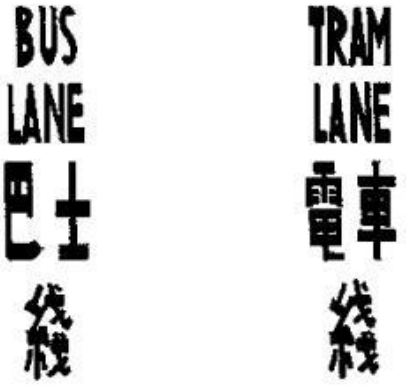
RM 1015
(TC 508)

5.3.2.39 Directional arrows, road markings 1017 to 1030, are for use on the approaches to junctions when it is necessary to limit individual traffic lanes to particular turning movements only. For information regarding the use of these markings see Section 5.6, “Junction Markings”.



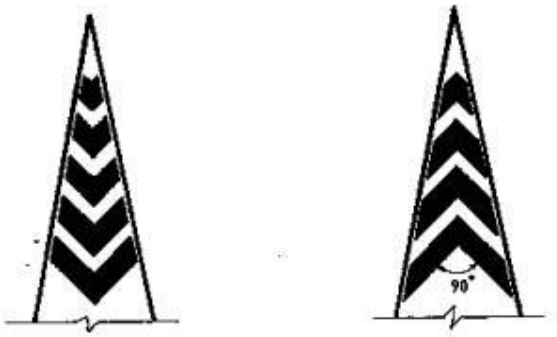
SEE ALSO DRAWING No. CT 174 / 51 - 5 (1)

5.3.2.40 Road markings 1033 and 1034 should normally not be used alone but should be accompanied by appropriate longitudinal marking to indicate the boundaries. Where right turning pockets are provided and are intended to be used exclusively by buses, the length available may make it difficult to impose a full bus lane, and in these situations the use of road marking 1033 alone, rather than “Bus Only” which has no legal significance, may be appropriate. Further information on this marking is contained in Section 5.8, “Letter and Character Markings”, and Section 5.9, “Bus Lane Markings”.



RM 1033 (TC 510) **RM 1034 (TC 511)**

5.3.2.41 Road makings 1035 and 1036, are chevron markings for use where traffic lanes diverge or merge.

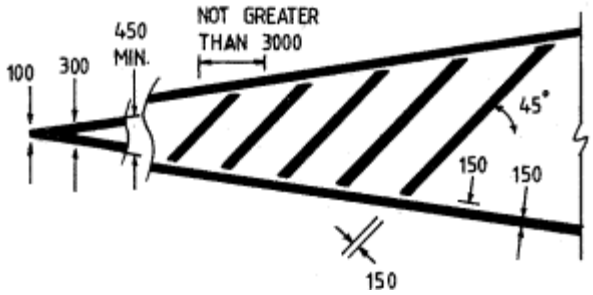


RM 1035 (TC 512) **RM 1036 (TC 512)**

5.3.2.42 Road markings 1035 and 1036 are prohibitory markings and an offence is committed if a vehicle is driven onto or across the marking other than in an emergency. Because of this, these road markings are appropriate for use on Trunk Roads or Primary Distributor Roads where the vehicle speeds are high and at locations where any merging/weaving movements are prohibited due to safety reasons. Along other roads the geometric design will often be such that encroachment onto such marking if they were provided would be difficult to avoid particularly in respect of larger vehicles. The provision of such markings in these latter locations could therefore have a detrimental effect, with drivers concentrating more on avoiding the marking than on what is occurring on the road ahead. Therefore on roads other than Trunk Roads and Primary Distributor Road, the advisory chevron markings 1129 or 1130, as appropriate, should be used, see also Section 5.6, "Junction Markings".

5.3.2.43 Advice on the actual use of road markings 1035 and 1036 together with setting out details is contained in Section 5.6, "Junction Markings".

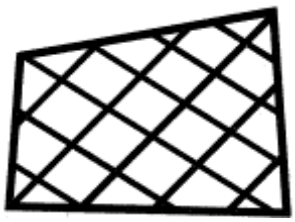
5.3.2.44 Road marking 1037 is a prohibitory hatched marking, which generally should be confined to use on roads having speed limits of 70 km/h or more, as on other roads it can be unnecessarily restrictive.



RM 1037
(TC 513)

NOTE : ALL DIMENSIONS IN MILLIMETRES

5.3.2.45 Permitted variants of road marking 1038, box junction, are illustrated in Diagram 5.3.2.10.



RM 1038
(TC 514)

5.3.2.46 The purpose of a box junction is to prevent delays being caused by vehicles blocking back across a junction and impeding the cross flow traffic. It is not desirable to lay box junction road marking at vehicular run-in/out to avoid proliferation of such markings, and the general guide to where the marking may be used has been summarized in clause 5.3.2.49. For queuing problem at vehicular run-in/out, it is appropriate to lay RM1140 “Keep Clear” road marking.

5.3.2.47 It is an offence under Regulation 10 of the Road Traffic (Traffic Control) Regulations for a vehicle to be driven into a box junction and wait on the marking. However, the regulation shall not apply :-

(i) to a vehicle which is being driven for any fire services, ambulance, police or customs and excise service purpose compliance with regulation is likely to hinder the use of that vehicle for that purpose;

(ii) where a vehicle is driven into a box junction on the direction of, or with the permission of, a police officer in uniform or traffic warden in uniform; or

(iii) to a vehicle driven into a box junction marked in accordance with RM 1038 from a traffic lane marked with a right turn directional arrow of the type shown in RM 1017-1028 to a position where the vehicle can conveniently wait to make a right turn and which is prevented from being driven out of the box junction by other stationary vehicles in or near the box junction waiting to complete a right turn, or by vehicles moving in the opposite direction.

5.3.2.48 It is perhaps relevant to note that Regulation 10 does not permit a vehicle making a right turn to be driven into a box junction and wait on the box junction if the vehicle is only prevented from moving by a traffic blockage or other obstruction in the road into which the vehicle is turning. However ascertaining whether or not the exit road is unobstructed can at some junctions be difficult for a motorist to determine. Therefore in the design of such junctions, precautions, such as the imposition of stopping restrictions on exit roads, should be taken to provide as far as possible that a motorist is not unreasonably led into a situation where an offence is committed.

5.3.2.49 Road marking 1038, can be used at either signal controlled or priority controlled junctions, though in respect of the latter they should not be regarded as a substitute for traffic signals. Whether or not road marking 1038 should be provided for a particular junction will depend on the particular circumstances of that location. However as a general guide to where the marking may be appropriate the following is relevant :

(i) the junction should preferably be signal controlled though this is not absolutely necessary;

(ii) blocking back occurs across the junction;

(iii) preferably there should be heavy traffic flows on both opposing arms

(iv) entrances to and exits from the junction should normally be opposite each other in order to avoid irregular arrangements of the marking as this may be confusing to motorists;

(v) generally there should be at least two lanes on each major road approach;

(vi) the carriageway beyond the junction should be free from obstruction.

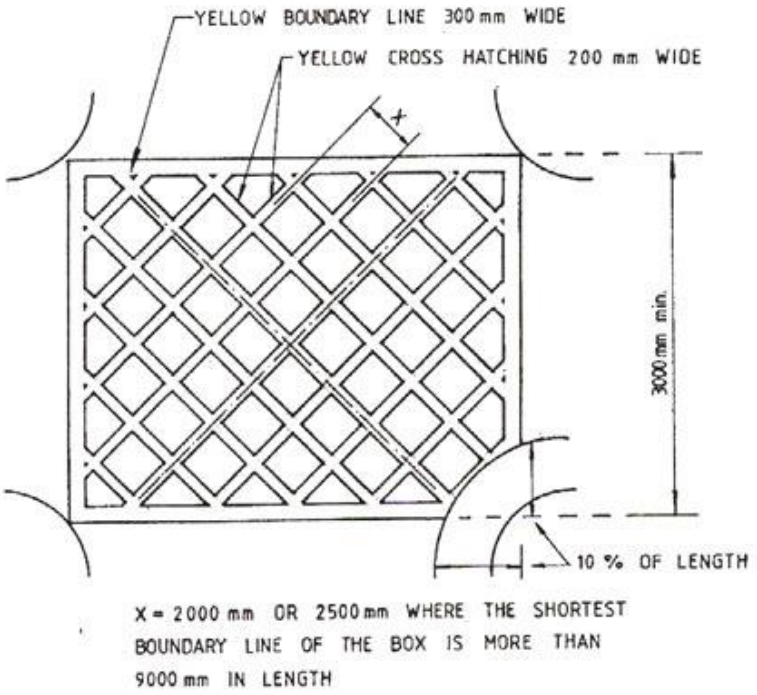
5.3.2.50 Not all junctions will be appropriate for or need box junction treatment, and in some cases any blocking back across the junction can be removed, by the implementation of stopping restrictions or the relocation of a bus stop which may be causing the restriction of traffic movement.

5.3.2.51 At junctions with a high proportion of right turning traffic the value of the box junction can be diminished and it will need to be considered whether some alternative arrangement is preferable.

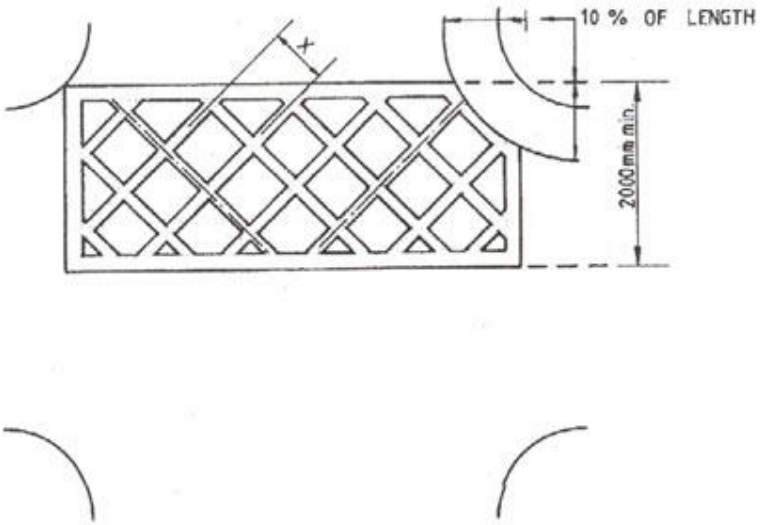
5.3.2.52 At "T" junctions the use of half boxes may be appropriate where traffic only blocks back from one direction.

DIAGRAM 5.3.2.10 : BOX JUNCTION MARKING

FULL BOX

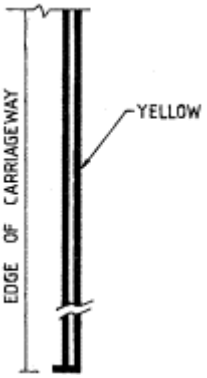


HALF BOX

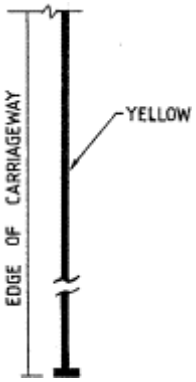


5.3.2.53 Details of the setting out arrangements for box junctions are contained in Appendix 2 of this Chapter, and further advice on the actual use of road marking 1038 is contained in Section 5.6, "Junction Markings".

5.3.2.54 Road markings 1040 and 1041 are yellow longitudinal markings used to indicate the sections of carriageway where stopping is prohibited. Gazette notices of such stopping restrictions will be required whether the markings are to be used with or without accompanying traffic signs.



RM 1040
(TC 515)



RM 1041
(TC 519)

5.3.2.55 Road marking 1040 is for use on roads, other than Expressway, Trunk Roads and Primary Distributor Roads having no frontage access, where stopping is prohibited for 24 hours a day on all days. Although it is not necessary in accordance with the regulations to erect signs in conjunction with this marking it is advisable to provide signs at the start and finish of the restriction as a reminder to drivers of the restriction in force. Details of signing arrangements for this are contained in Chapter 2, paragraphs 2.3.2.81 and 2.3.2.82.

5.3.2.56 Road marking 1041, is used to indicate the no stopping restriction other than those of 24 hours daily. Normally this will indicate the three standard time periods "7am - midnight, 7am - 7pm and 8 am - 10 am & 5 pm - 7 pm", but other periods may also be used in exceptional circumstances.

5.3.2.57 Because the time periods can vary it is essential that road marking 1041 is always accompanied by appropriate traffic signs, and details of appropriate signing arrangements are given in paragraph 2.3.2.80 of Chapter 2.

5.3.2.58 For both road markings, 1040 and 1041, a transverse bar must be used to indicate the start and finish of the stopping prohibition. However where run-in has a radius kerb entrance, and occurs within a stopping prohibition as illustrated in Diagram 5.3.2.11, the yellow line or lines should follow around the kerb up to the highway boundary, but a transverse line is not required.

5.3.2.59 Where a layby is included in the area covered by the stopping prohibition the appropriate yellow marking should be taken around the back of the layby as shown in Diagram 5.3.2.12. Bus laybys should be similarly marked to avoid any confusion arising, even though stopping at bus stops by other vehicles is prohibited under Regulation 45 of the Road Traffic (Traffic Control) Regulations.

5.3.2.60 Where a layby is excluded from a stopping prohibition the appropriate yellow lines should be marked across the mouth of the layby adjacent to and on the carriageway side of road marking 1107, used to define the edge of carriageway, as also shown in Diagram 5.3.2.12, and the fact that the layby is excluded should be included in the gazette notice.

5.3.2.61 Roundabouts, not forming part of a Trunk Road or Primary Distributor Road, and included in a no stopping zone should have the appropriate markings laid around the outer edge of the roundabout, but not around the island of the roundabout, as illustrated in Diagram 5.3.2.13. The stopping zone should be continued into the other roads and the markings terminated with transverse lines and appropriate signs, to prevent stopping on the immediate approaches to and exits from the roundabout.

DIAGRAM 5.3.2.11 : MARKING OF STOPPING RESTRICTIONS AT RUN-INS

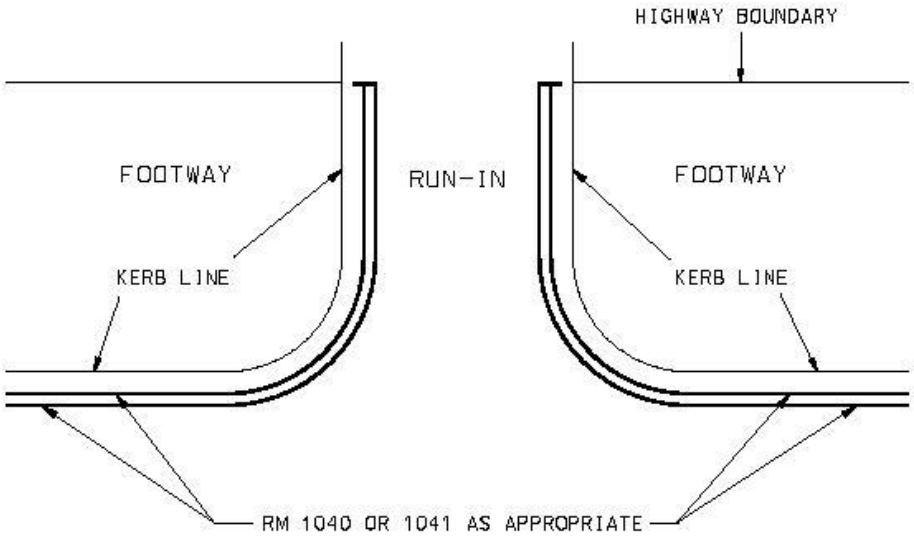


DIAGRAM 5.3.2.12 : STOPPING RESTRICTION MARKINGS AT LAYBYS

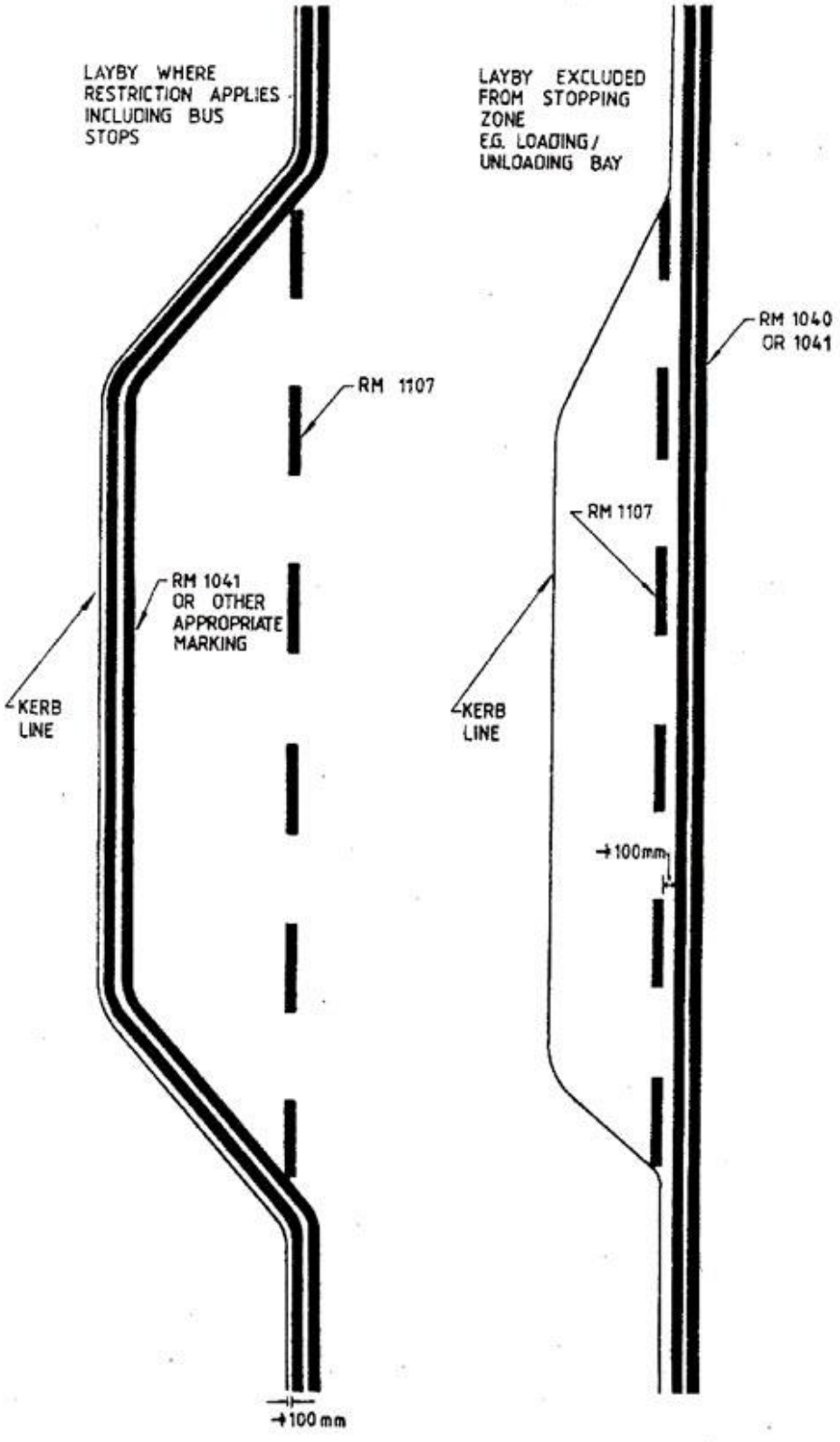
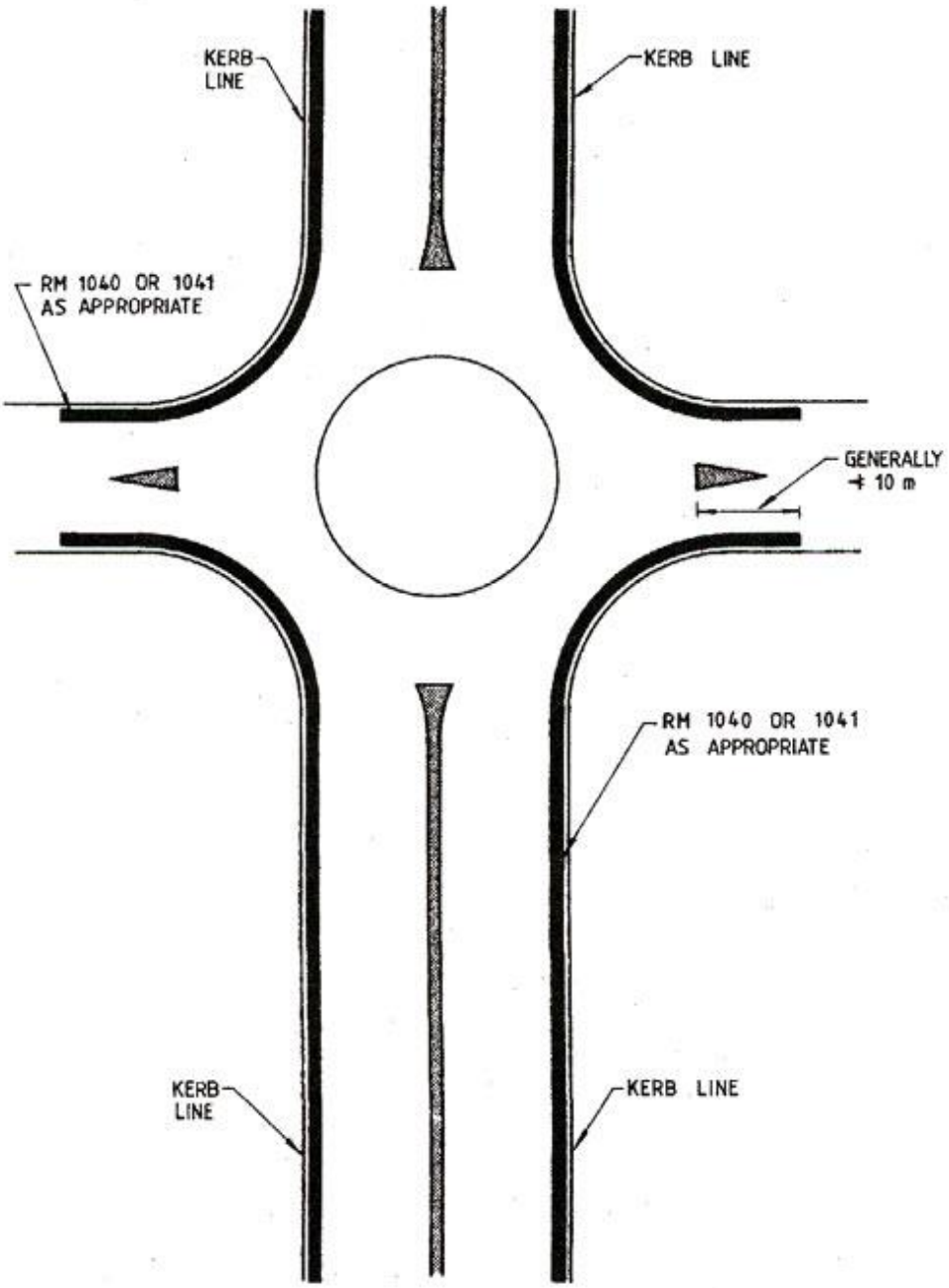
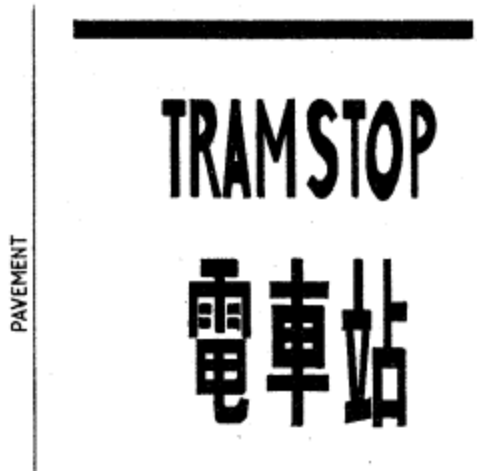


DIAGRAM 5.3.2.13 : STOPPING RESTRICTION MARKINGS AT ROUNDABOUTS



5.3.2.62 Road markings 1045 and 1046 together form the tram stop carriageway marking, as shown.

RM 1045
(TC 516)



RM 1046
(TC 516)

5.3.2.63 Tram stops of the type formed from road markings 1045 and 1046, should be avoided, and tram islands, with controlled crossings should be provided wherever possible. Although it is a requirement that other vehicles must stop behind the yellow road marking 1045, whilst passengers are boarding or alighting from a tram, it may not always be clear to a following motorist when this action is taking place. Additionally waiting or alighting passengers have to cross in front of vehicles and any miscalculation on their part or the part of the driver as to whether the tram has stopped or finished unloading can be extremely dangerous. For these reasons therefore it is recommended that tram stops of the type formed road markings 1045 and 1046, should not be used where :-

(i) the 85th percentile speed of light vehicles is at or above 50 km/h, or

(ii) there is more than one inside traffic lane to cross to board or alight from the tram.

5.3.2.64 The bus stop marking is formed from a combination of road markings 1047 and 1048. This same marking is used at both Franchised Bus Stops and Schedule Service Vehicle Stopping Places.

RM 1047
(TC 517)

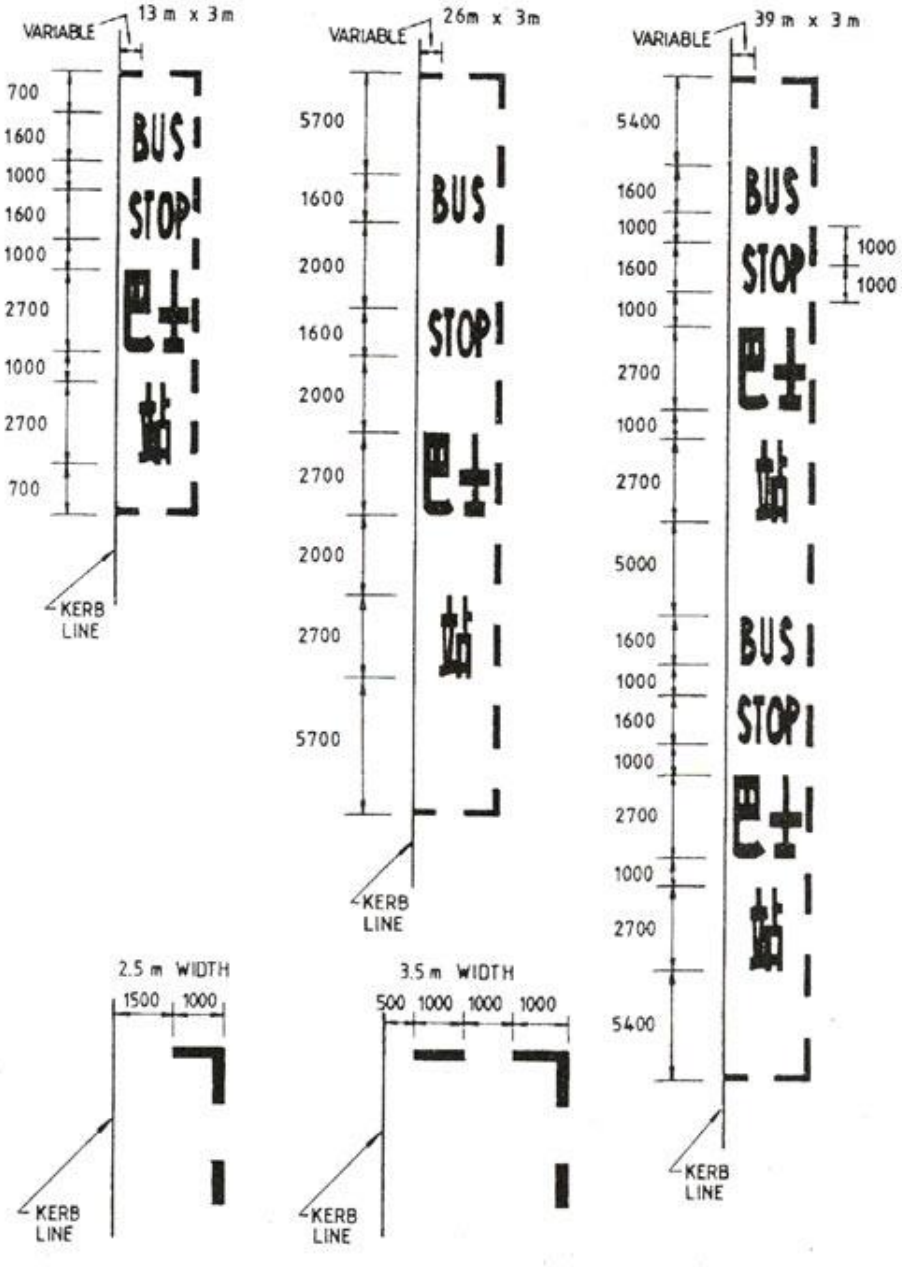


RM 1048
(TC 517)

5.3.2.65 Regulation 45 makes it an offence for other vehicles to stop at a bus stop or a scheduled service vehicle stopping place, and therefore if there is to be properly enforced it is necessary that bus stop markings are adequately maintained.

5.3.2.66 Standard length bus stops for franchised buses are shown in Diagram 5.3.2.14, together with the arrangement of "bus stop" in both English and Chinese. Where standard bus stop lengths cannot be used for any reason adjustments should be made to the end dimensions only to suit the space available, as shown in Diagram 5.3.2.14.

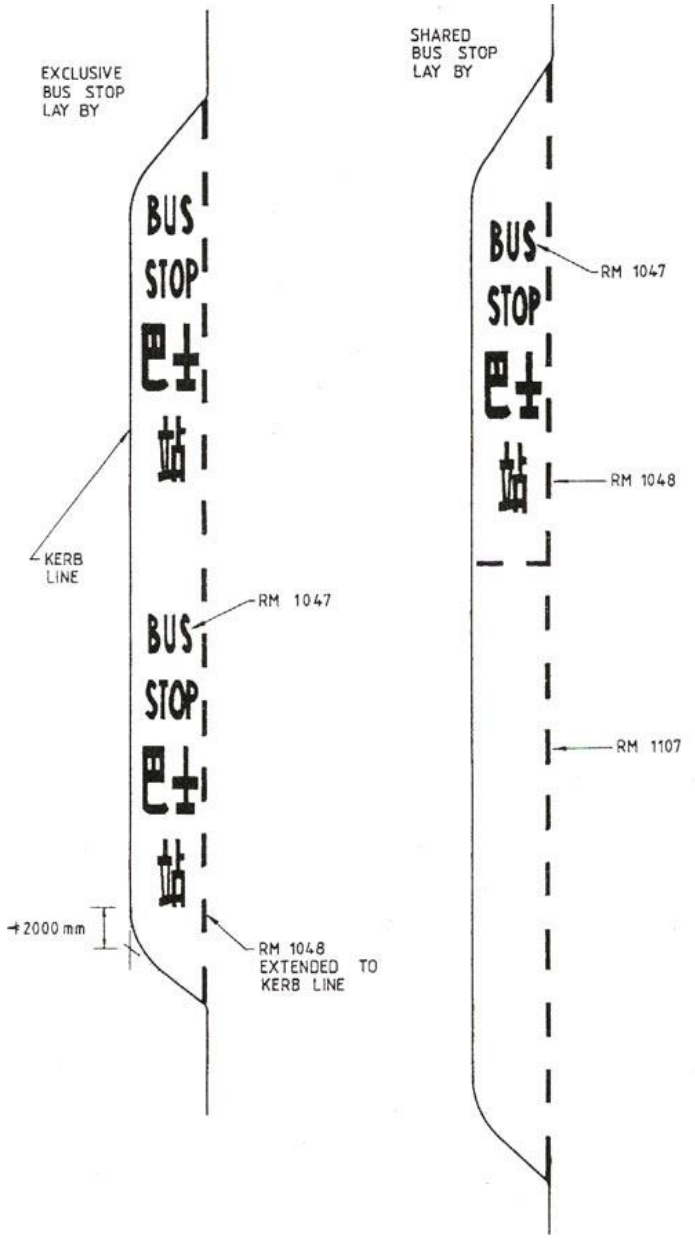
DIAGRAM 5.3.2.14 : STANDARD BUS BAY MARKINGS



NOTE : ALL DIMENSIONS IN MILLIMETRES

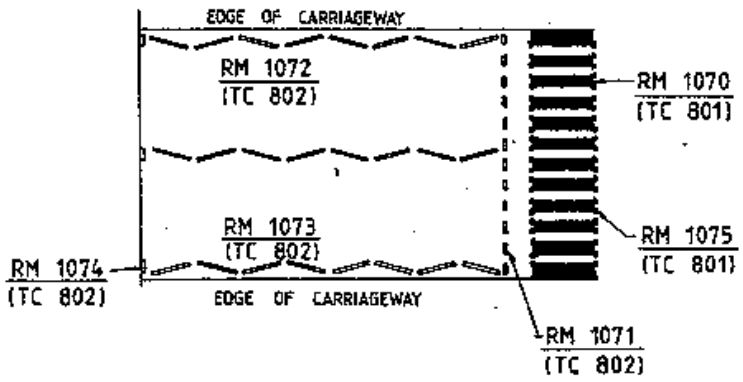
5.3.2.67 At bus lay bys road marking 1048 should extend across the length of the bay, as shown in Diagram 5.3.2.15, in order to avoid any doubt as to the extent of the bus stop and prevent other vehicles stopping in the tapered lengths.

DIAGRAM 5.3.2.15 : MARKING OF BUS STOPS AT LAY BYS



5.3.2.68 For further details regarding the location of bus stops Chapter 2 of Volume 9 should be referred to.

5.3.2.69 Zebra crossings and zebra controlled areas are formed from road markings 1070, 1071, 1073, 1074 and 1075.

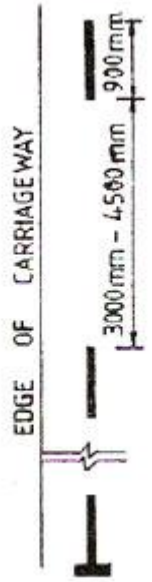


5.3.2.70 For details of the arrangement of the various markings Section 5.7.2, “Zebra Crossing Road Markings” should be referred to. Information in respect of the provision of zebra crossings is contained in Section 3.7.3 of Volume 2.

5.3.3 Road Traffic (Parking) Regulations, Regulatory Markings

5.3.3.1 Under Regulation 4 of the Road Traffic (Parking) Regulations and Section 7(1) of the Fixed Penalty (Traffic Contraventions) Ordinance, parking is not permitted where there is a system of road lighting consisting of lamps not more than 200m apart. In these locations, and this would include most urban areas and many rural areas, neither signs nor markings are generally required to indicate where parking is prohibited.

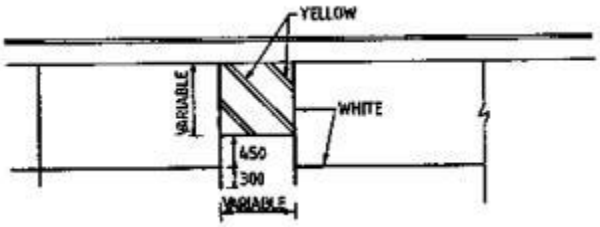
5.3.3.2 Road marking 1042 is the marking to indicate that parking is prohibited in areas without the system of road lighting described in paragraph 5.3.3.1.



RM 1042
(PA 11)

5.3.3.3 When indication the section of a road where parking is prohibited road marking 1042 may be used alone or in conjunction with traffic sign 286 “No Parking”. For further information regarding this, paragraphs 2.4.2.15 to 2.4.2.19 of Chapter 2 should be referred to.

5.3.3.4 Road marking 1043 is the yellow hatched marking which indicates that parking is prohibited and is used in association with parking place markings.



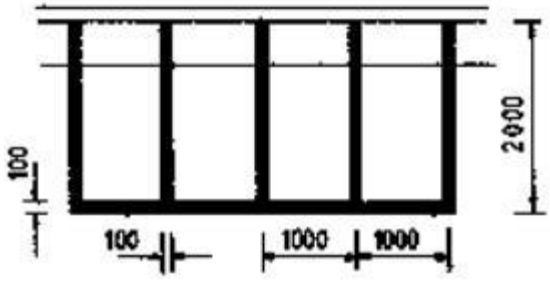
RM 1043
(PA 12)

NOTE : ALL DIMENSIONS IN MILLIMETRES

5.3.3.5 Parking spaces in on-street parking places are generally arranged in pairs with a gap of 1m in the case of cars to allow vehicles to manoevure. Although road marking 1043 may be used to prevent any parking over these gaps it is recommended, as shown in Diagram 5.3.3.1, that on economy grounds the gaps be left blank. This will also allow long vehicles to extend onto the gap without committing an offence. However where a run-in occurs within the parking place it is recommended, as shown in Diagram 5.3.3.1, that road marking 1043 is laid across the run-in in order to ensure this is kept free of parked vehicles and also to indicate that the parking spaces on each side of the run-in are part of the same parking place.

5.3.3.6 A further recommended use of road marking 1043 is to separate adjacent parking places provided for different vehicle types. Under the Fixed Penalty (Traffic Contravention) Ordinance long vehicles are permitted to extend over the lines delineating parking spaces but between adjacent parking places it is undesirable to permit this. Therefore, as shown in Diagram 5.3.3.2, this should be prevented by the use of road marking 1043.

5.3.3.7 Road marking 1051 is the marking used for motor cycle parking.



RM 1051
(PA 13)

NOTE : ALL DIMENSIONS IN MILLIMETRES

5.3.3.8 A minimum of 5 spaces should be provided for any on-street motor cycle parking arrangement, and the bays should normally provided such that motor cycles park perpendicular to the kerb.

5.3.3.9 Road markings 1052, 1056, 1060 and 1064, are the parking space markings for cars/light vans, medium goods vehicles, heavy goods vehicles, and Bus/coaches respectively. However the actual form of the marking is the same for each vehicle type, the difference being in the width and length of the space for individual vehicle types.



RM 1052, 1056, 1060 & 1064
(PA 14)

5.3.3.10 The Road Traffic (Parking) Regulations allow parking space dimensions to be varied to suit the particular circumstances for which the parking is being provided. However there is a need to standardize such markings to ensure a degree of uniformity. Table 5.3.3.1 shows the standard dimensions for various vehicle types, but these can if necessary be varied if it can be shown that some amendment to these would be appropriate.

DIAGRAM 5.3.3.1: USE OF YELLOW HATCHED MARKING

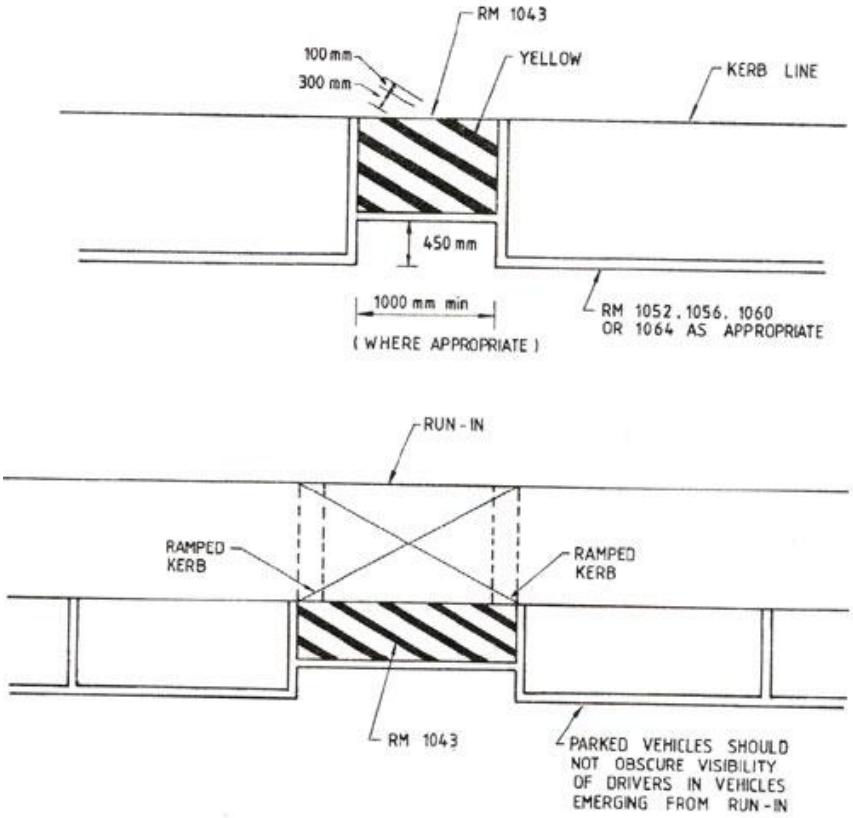
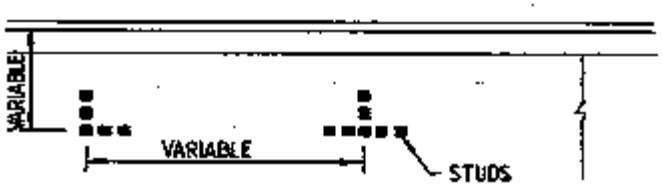


Table 5.3.3.1
Standard On-Street Parking Space Dimensions for Parallel Kerb Parking

	Road Marking	Vehicle Type	Space Dimensions		Minimum gap between pairs of spaces(m)
			Length (m)	Width (m)	
(i)	RM 1052	Car/light van	5	2.5	1
(ii)	RM 1056	Medium Goods Vehicle	9.5	3	-
(iii)	RM 1060	Heavy Goods Vehicle	16	3	-
(iv)	RM 1064	Bus/coach	12	3	2

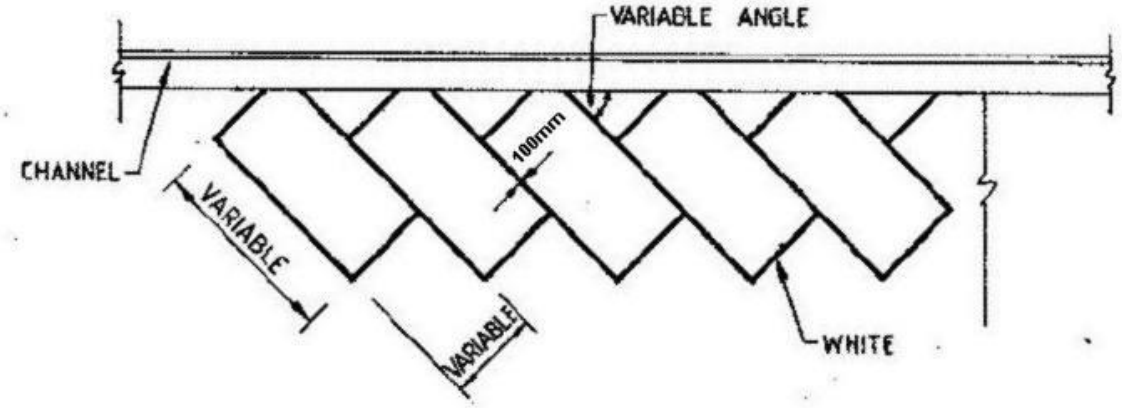
5.3.3.11 Road markings 1054, car/light van, 1058, medium goods vehicle, 1062, heavy goods vehicle and 1066, bus/coach are similar to road markings 1052, 1056, 1060 and 1064, except studs are used instead of continuous white lines. Further information regarding the type of studs that should be used for parking spaces is given in Section 5.5, “Road Studs”. Details of stud spacing are given in Diagram 5.3.3.2.



RM 1054, 1058, 1062 & 1066
(PA 15)

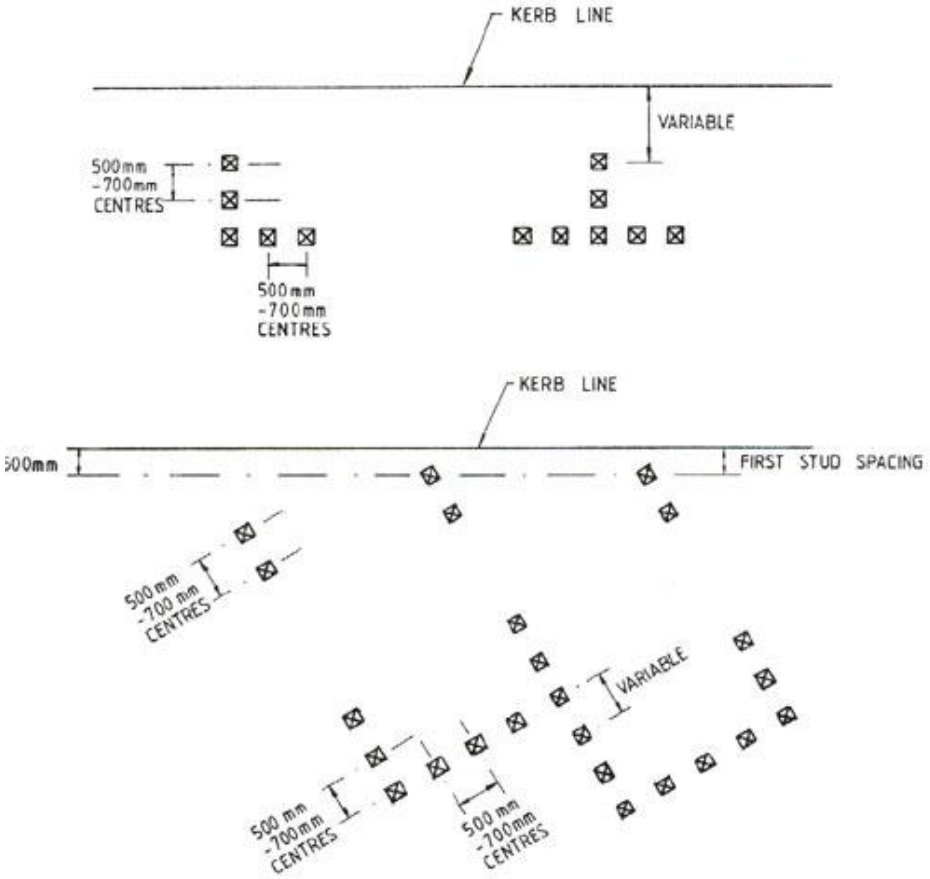
5.3.3.12 Road markings 1054, 1058, 1062 and 1066 should have individual space dimensions in accordance with Table 5.3.3.1.

5.3.3.13 Parking spaces perpendicular or inclined to the kerb line may be provided on-street, although generally they will not be appropriate because of the additional carriageway and manoeuvrine space required. As for parallel parking the space markings 1053, cars/light vans, 1057, medium goods vehicles, 1061, heavy goods vehicles, and 1065, buses/coaches, are similar to each other except in respect of the actual widths and lengths adopted.



RM 1053, 1057, 1061 & 1065
(PA 14)

DIAGRAM 5.3.3.2 : PARKING BAY STUD SPACING DIMENSIONS

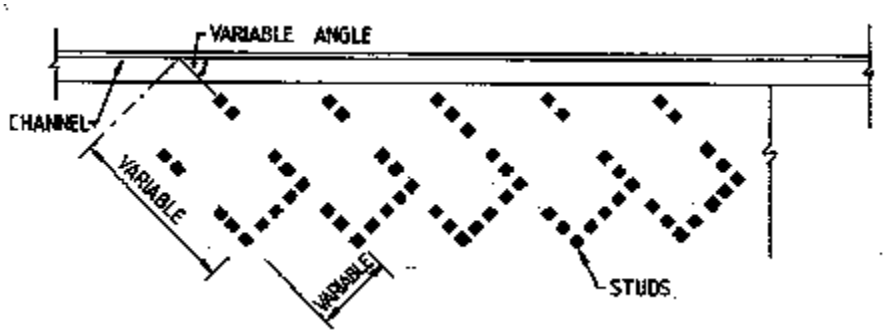


5.3.3.14 Although spaces may be inclined to suit any angle according to the circumstances of the location, generally angles of 30 degrees, 45 degrees, 60 degrees or 90 degrees are considered most appropriate. However, because of the restriction caused by vehicles parking alongside each other in this form of parking arrangement, the width of the space may need to be increased in accordance with Table 5.3.3.2 in order that doors can be adequately opened.

Table 5.3.3.2
Standard On-Street Parking Space Dimensions for Perpendicular/Inclined Kerb Parking

	Road Marking	Vehicle Type	Bay Dimensions	
			Length (m)	Width (m)
(i)	RM 1053	Car/light van	5	2.5
(ii)	RM 1057	Medium Goods Vehicle	9.5	3.5
(iii)	RM 1061	Heavy Goods Vehicle	16	3.5
(iv)	RM 1065	Bus/coach	12	3.5

5.3.3.15 Road markings 1055, car/light vans 1059, medium goods vehicle 1063 heavy goods vehicle and 1067 bus/coach are the equivalent perpendicular/inclined parking space markings formed from road studs rather than white lines. Further information on the appropriate studs to be used is given in Section 5.5, “Road Studs”. Details of stud spacings are given in Diagram 5.3.3.2.



RM 1055, 1059, 1063 & 1067
(PA 15)

5.3.3.16 Parking space markings may be used without accompanying signs and in these situations any vehicle may park in the bay. To limit the usage to a particular type or types of vehicles appropriate signs erected at both ends of the space or spaces must be used, and Section 2.4.2 of Chapter 2 should be consulted in respect of this.

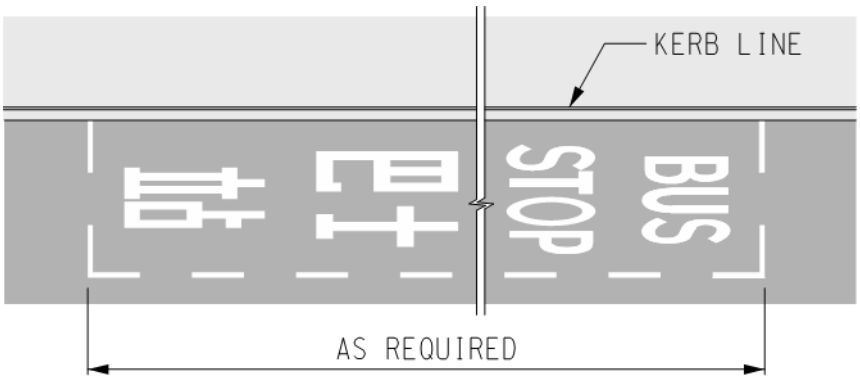
5.3.3.17 Where spaces are provided for parking by particular Departmental Vehicles, e.g. Police, Post Office, Food and Environmental Hygiene Department etc., the dimensions of the individual spaces should accord with Table 5.3.3.1 or 5.3.3.2 as appropriate according to the particular vehicle type that will most often be parked. Further advice on the signing arrangements for this type of parking is given in paragraph 2.4.2.21 of Chapter 2.

5.3.3.18 For guidance as to where on-street parking spaces are appropriate or should be provided Volume 7, Chapter 3 should be consulted.

5.3.4 Road Traffic (Public Service Vehicle) Regulations, Road Markings

5.3.4.1 The road markings prescribed by these regulations concern stopping places for Scheduled Service Vehicles and Public Light Buses and stands for Taxi, Scheduled Service Vehicles and Public Light Buses. In respect of this section, Scheduled Service Vehicles will generally mean green minibuses, and public light buses will generally mean red minibus, unless otherwise stated.

5.3.4.2 Road markings 1047 and 1048 are the stopping place markings used for scheduled service vehicles (green minibuses) and Public Light Buses (red minibuses), and are in both cases similar to those used for franchised buses.

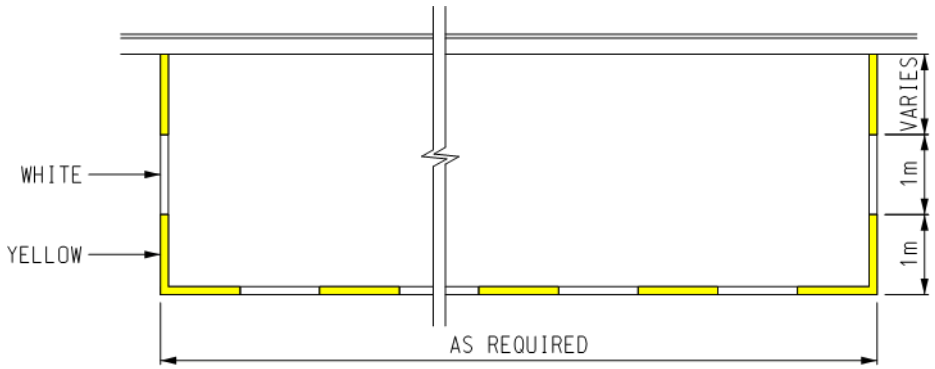


RM 1047 & 1048
(PS 1)

5.3.4.3 Because of the smaller vehicles involved stopping places for both types of Public Light Buses, which are not shared with franchised buses, should have a standard module dimension of 8m, and the relevant "Bus Stop" markings should be as shown in Diagram 5.3.4.1.

5.3.4.4 Further advice regarding the provision of stopping places for these types of vehicles is contained in Chapter 3 of Volume 9, and information concerning the signs to be used to indicate these stopping places is given in paragraph 2.3.5.2 of Chapter 2 of this Volume.

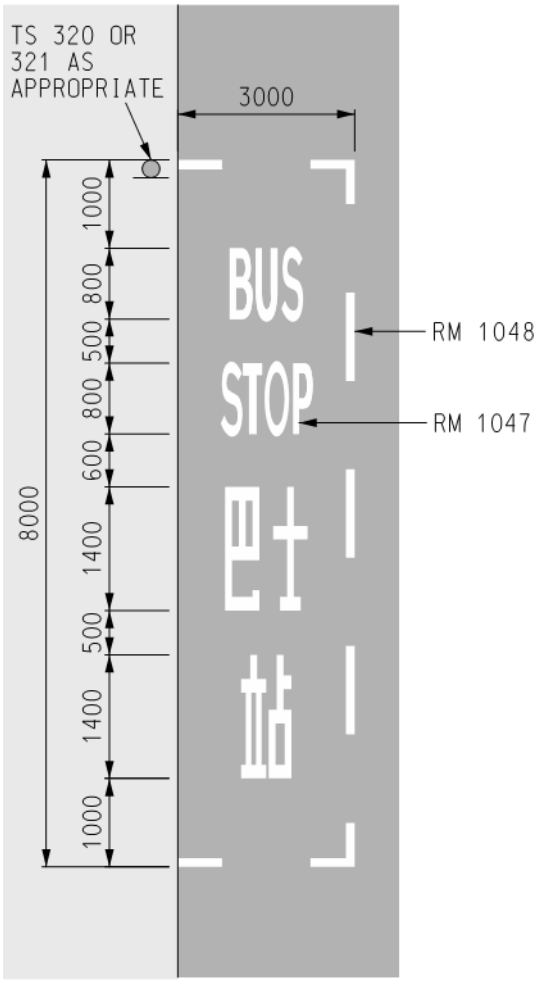
5.3.4.5 Road marking 1049, is that used to indicate Public Light Bus Stands, Scheduled Service Vehicle Stands and Taxi Stands.



RM 1049
(PS 4)

5.3.4.6 Further information regarding the provision of PLB, Scheduled Service Vehicle and Taxi, Stands, is given in Chapters 3 and 4 of Volume 9.

DIAGRAM 5.3.4.1 : STANDARD STOPPING PLACE MARKINGS



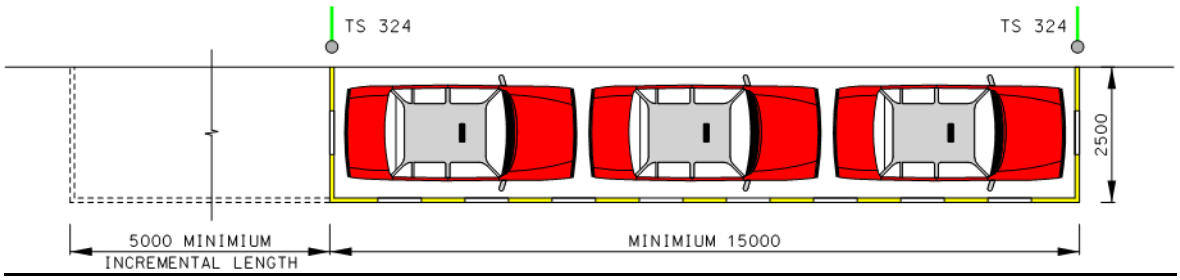
ALL DIMENSIONS IN MILLIMETRES

5.3.4.7 To provide for the maximum size of light bus now permitted the length of stand should be in 8m incremental lengths. The actual length being determined by the estimated number of light buses required to use the stand at any one time.

5.3.4.8 In respect of Taxi Stands 5m incremental lengths should be used with 15m being the minimum length provided. The width of the taxi stand should be 2.5m, and these dimensions are illustrated in Diagram 5.3.4.2.

5.3.4.9 For information regarding the appropriate signs to be used at Public Light Bus, Scheduled Service Vehicle, and Taxi, Stands, paragraphs 2.3.5.3 to 2.3.5.7 of Chapter 2 should be referred to.

DIAGRAM 5.3.4.2 : MINIMUM TAXI STAND LENGTH



ALL DIMENSIONS IN MILLIMETRES

5.4 Warning and Advisory Markings

5.4.1 General

5.4.1.1 These form the majority of markings in general use and are most important for ensuring that adequate information regarding the use of the road network is given to road users. As such they should always be laid in all situations where more positive control by the use of regulatory markings is not required.

5.4.1.2 Uses of warning and advisory markings can broadly be categorized into the following :-

(i) To achieve full utilization of the carriageway. E.g. road marking 1101, “lane line markings”.

(ii) To warn of a hazard ahead. E.g. road marking 1104, “Warning lane marking”.

(iii) To provide carriageway delineation. E.g. road marking 1109 “Edge of carriageway marking”.

(iv) To direct traffic around an obstruction or change in traffic lane alignment. E.g. road marking 1116 “Keep left arrow marking”.

(v) To warn of an action to be taken. E.g. road marking 1138, “Stop”.

(vi) To provide route information. E.g. worded markings “Cotton Tree Drive”.

(vii) To delineate hazardous areas. E.g. road marking 1127 “Hatched markings”.

5.4.1.3 To achieve full utilization of the available carriageway space and provide adequate guidance and direction to road users warning and advisory markings should be provided wherever appropriate. The main exception to this will be in the use of worded route informatory markings, which whilst in some locations can be extremely useful in other locations can be superfluous as such information is better imparted by direction signs. In respect of letter and character markings an evaluation of their usefulness and necessity should be undertaken before agreeing to their placement, and further information regarding this is given in Section 5.8 “Letter and Character Markings”.

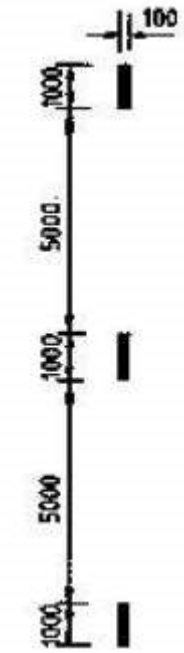
5.4.1.4 In respect of road studs whilst these will be used in conjunction with many of the markings described in this section, because of their different nature reference to them has not been included in this section, and for details as to their use section 5.5, “Road Studs”, should be referred to.

5.4.2 Road Traffic (Traffic Control) Regulations, Warning and Advisory Markings

5.4.2.1 These regulations are the controlling legislation for all warning and advisory markings either by reason of being prescribed in the Schedules to these regulations, or if not prescribed, being authorized for use by virtue of Regulation 8.

5.4.2.2 In respect of non-prescribed markings it is recommended that minimal use be made of these as by being non-prescribed they will generally not appear in any public information documents such as the Road Users' Code, and the public therefore will have little idea of their meaning. In any event prescribed marking should be able to meet most eventualities.

5.4.2.3 Road markings 1101 and 1102 are lane line markings used, other than as a centre line marking or where it necessary to warn of a hazard ahead, to separate a carriageway into individual traffic lanes.



RM 1101
(TC 601)



RM 1102
(TC 601)

ALL DIMENSIONS IN MILLIMETRES

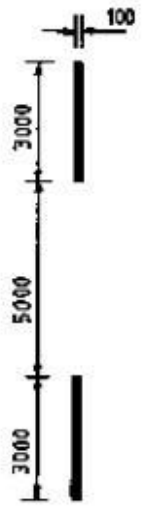
5.4.2.4 Lane line markings, road markings 1101 and 1102 are important in obtaining the maximum utilization of the available carriageway and are strongly recommended to be used on all roads which have two or more lanes and the lanes are not delineated by other markings.

5.4.2.5 With regard to lane line markings two modules are prescribed one for normal urban situations and the other for roads where higher speeds will be experienced. Table 5.4.2.1 gives information on the appropriate dimensions and use for the two different modules.

Table 5.4.2.1
Lane Line Marking Dimensions

	Road Marking No.	Module (mm)	Appropriate for road having speed limit of :- (km/h)	Mark (mm)	Gap (mm)	Width (mm)
(i)	RM 1101	6000	Less than 70	1000	5000	100
(ii)	RM 1102	9000	70 or more	2000	7000	100

5.4.2.6 Road marking 1103, is the centre line marking which must be used to delineate this on all single carriageway two way roads, except when this is required to be replaced by road markings 1001, 1002, 1003 or 1004, “Double white lines”, or road markings 1104 or 1105., “Warning lines”.



RM 1103
(TC 602)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.7 Table 5.4.2.2 gives the various dimensions in respect of road marking 1103.

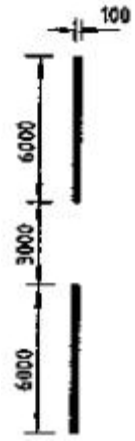
Table 5.4.2.2
Centre Line Marking Dimensions

	Road marking No.	Module (mm)	Mark (mm)	Gap (mm)	Width (mm)
(i)	RM 1103	8000	3000	5000	100

5.4.2.8 Road markings 1104 and 1105 are the warning line markings used in advance of a hazard in situations where a prohibitory marking is not considered appropriate or necessary as a warning to motorists that they should stay in their lane, or if changing lanes or overtaking to do so with particular care.



RM 1104
(TC 603)



RM 1105
(TC 603)

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5.4.2.9 Two different modules are prescribed for warning line markings as on higher speed roads a longer mark is required in order to be properly distinguished. Table 5.4.2.3 gives the appropriate dimensions and minimum number of marks for road markings 1104 and 1105.

Table 5.4.2.3
Warning Line Marking Dimensions

	Road Marking No.	Module (mm)	Appropriate for road having speed limit of :- (km/h)	Mark (mm)	Gap (mm)	Width (mm)	Stud spacing where appropriate (mm)	Minimum No. of marks
(i)	RM 1104	6000	50 or less	4000	2000	100	6000	7
(iu)	RM 1105	9000	70 or more	6000	3000	100	9000	7

5.4.2.10 The minimum number of marks specified in Table 5.4.2.3 should not necessarily be regarded as the actual number of marks to be provided as many situations will benefit from having many more than this, and therefore each location should be considered separately.

5.4.2.11 Road marking 1104 or 1105 as appropriate should be used at the approaches to all junctions where the side road traffic is greater than 100 v.p.h. as a replacement for any lane or centre line marking. For further information on the use of this marking at junctions Section 5.6, “Junction Markings”, should be referred to.

5.4.2.12 Although road markings 1104 and 1105 may be used, as shown in Diagram 5.4.2.1, as an inclined warning line on the approach to a refuge or tram island, it will generally be preferable to use the hatched markings 1127 or 1128, as appropriate. This is particularly desirable on single carriageway road having more than two traffic lanes and roads having speed limits of 70km/h or more, as the latter markings give better definition of the obstruction. Where inclined lines to road markings 1104 or 1105are used, however, the lines should be inclined not greater than 1:20 on roads having speed limits of 50km/h or less and not greater than 1:50 on roads of 70km/h or more. Further information on the marking of refuge islands, tram islands etc. is given in Section 5.6, “Junction Markings”.

DIAGRAM 5.4.2.1 : INCLINED WARNING LINE AT REFUGES

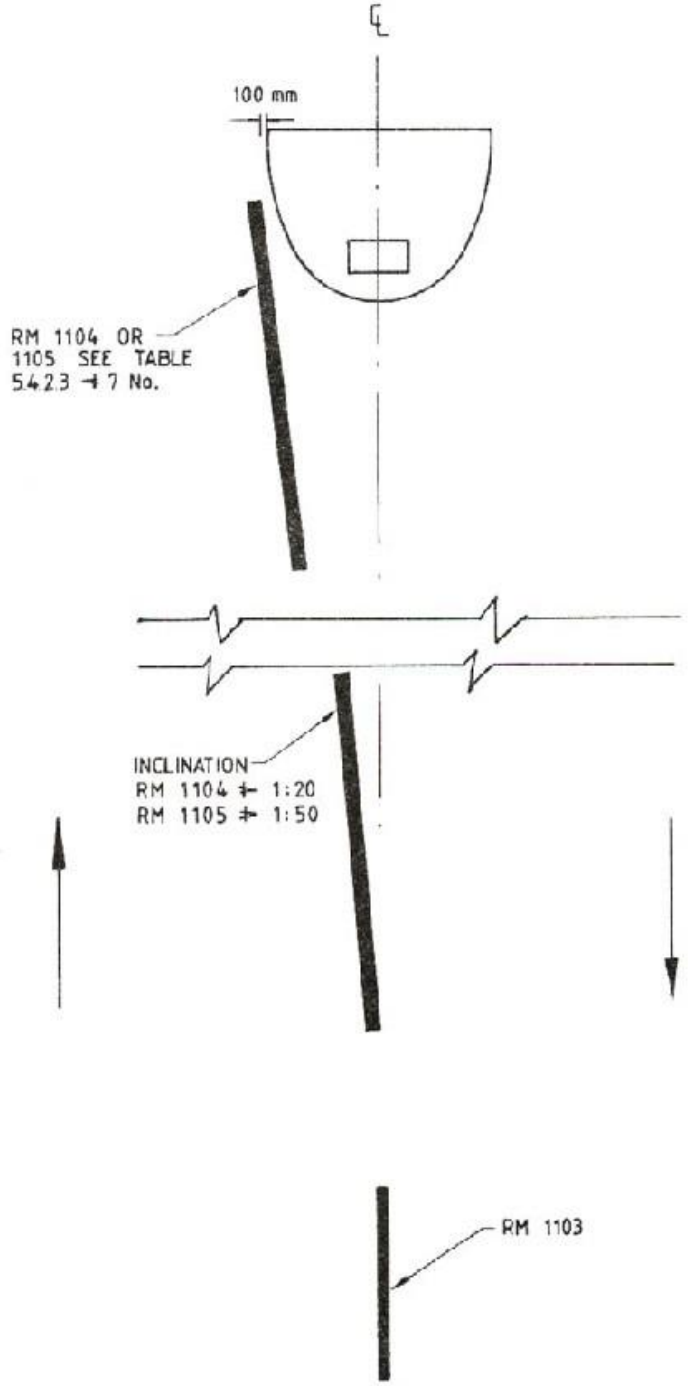
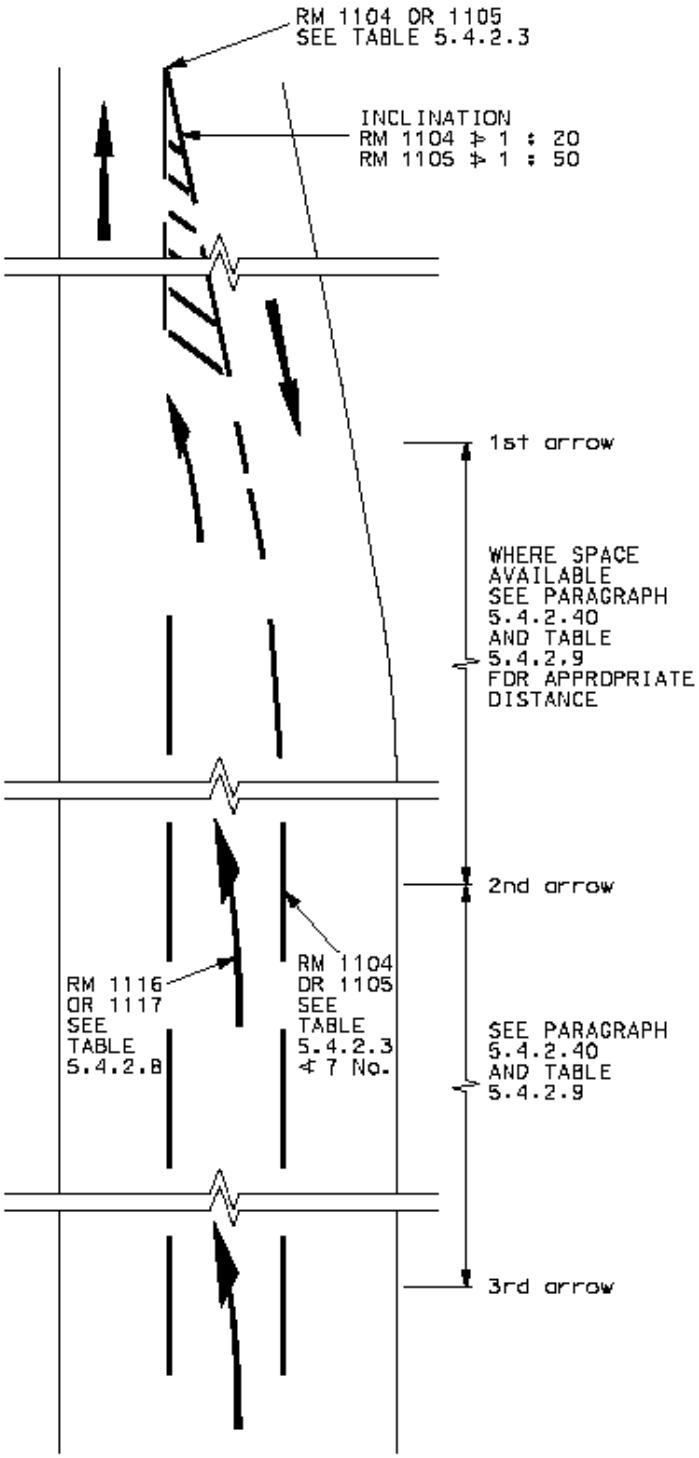


DIAGRAM 5.4.2.2 : INCLINED WARNING LINE AT ROAD NARROWING



5.4.2.13 On the approaches to bends, dips and humps, road markings 1104 and 1105 should be installed when the visibility distance is greater than in Table 5.3.2.1, visibility criteria for continuous lines, but less than the visibility criteria given in Table 5.4.2.4. The visibility distance is measured between points on the centre of the carriageway.

Table 5.4.2.4
Visibility Criteria for Warning Lines

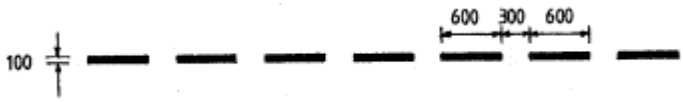
85th percentile speed(km/h)	Visibility distance equal to or less than(m)
50	145
60	175
70	205
85	255
100	290

5.4.2.14 The 85th percentile speed referred to in Table 5.4.2.4 is that for light vehicles, and whilst it is preferable that 85th percentile is measured, as an approximation of this the speed limit plus 10km/h may be used. For intermediate speeds to those shown in Table 5.4.2.4 the appropriate visibility distance should be taken as the lower figure between the steps shown.

5.4.2.15 Where road markings 1104 and 1105 are used on a single carriageway road to separate opposing flows the lines should normally be laid on the geometric centre of the carriageway. At bends the lane widths should never be less than on the immediate approaches. Where it is necessary to change the position of the lines the deflection should be made at an inclination not greater than 1:20.

5.4.2.16 Along a single two way carriageway where the number of traffic lanes in one direction is reduced, e.g. from two to one, road markings 1104 as shown in Diagram 5.4.2.2. may be used to indicate this change with the markings being inclined in accordance with the advice given in paragraph 5.4.2.12. On roads with a speed limit of 70km/h or above, the provision of a shadow island should always be considered over the necessary area between the opposing traffic lanes.

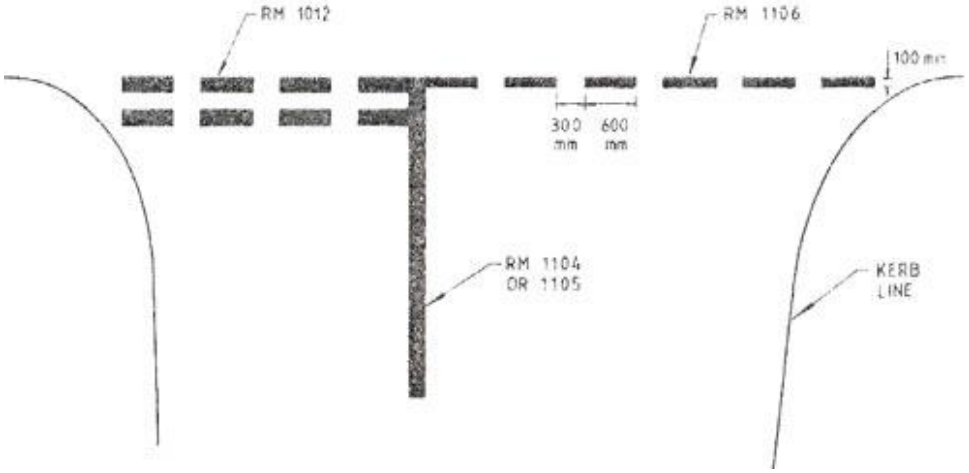
5.4.2.17 Road marking 1106, is used to extend road marking 1012, "Stop Line", or road marking 1013, "Give Way Line", across the entry half width of the minor road junction as indicated in Diagram 5.4.2.3.



RM 1106
(TC 605)

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DIAGRAM 5.4.2.3 : USE OF ROAD MARKING 1106



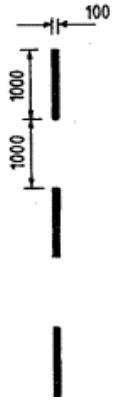
5.4.2.18 Table 5.4.2.5 gives the dimensions for this marking.

Table 5.4.2.5
Extension Edge Line Marking for Priority Junctions

	Road Marking No.	Module (mm)	Mark (mm)	Gap (mm)	Width (mm)	Minimum No. of marks
(i)	RM1106	900	600	300	100	5

5.4.2.19 Road marking 1106 should be used to indicate the edge of the main carriageway across the entry half width to the minor road, and at least 5 No. marks must be able to be laid. Further information on the marking of junctions is given in Section 5.6, "Junction Markings".

5.4.2.20 Road marking 1107, is an edge line marking used to delineate the edge of the carriageway at bus laybys, passing bays, deceleration and acceleration lanes and gaps in any central reservation.



RM 1107
(TC 606)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.21 Table 5.4.2.6 gives the normal dimensions used for this marking.

Table 5.4.2.6
Edge Line Marking for Laybys and Deceleration/Acceleration Lanes

	Road Marking No.	Module (mm)	Mark (mm)	Gap (mm)	Width (mm)
(i)	RM 1107	2000	1000	1000	100

5.4.2.22 A further use of road marking 1107 is made in respect of "lane drop" situations, where a 200mm wide version is used to provide a further warning that the lane will shortly diverge from the main carriageway. Further information on the use of this form of the marking is given in Section 5.6, "Junction Markings" and Diagram 5.6.4.6 in particular.

5.4.2.23 On Expressways, Trunks Roads, Primary Distributor Roads and Rural Roads A with high traffic speeds, to provide a greater emphasis of acceleration and deceleration splays road marking 1143 should be used at these latter locations. However at any laybys along such routes the 100mm width should be retained. Further information on the use of road marking 1107 at junctions is given in Section 5.6, "Junction Markings". Diagrams 5.4.2.4(A), 5.4.2.4(B) and 5.4.2.4(C) show the general arrangements of road marking 1121 and 1143.

5.4.2.24 Although road marking 1107 is appropriate for marking breaks in any central reservation which general traffic may cross it is not an appropriate marking and should not be used in association with an emergency crossing. In these latter locations the continuous edge line marking 1109 should be continued across the length of the gap, as emergency crossings are not provided for general traffic to use other than in special and controlled circumstances.

5.4.2.25 Road marking 1108 is an alternative marking to road marking 1109 to delineate the edge of a carriageway, where either kerbs are not provided or to give additional emphasis to the edge of the carriageway in the situation when road lighting is limited or not provided, as shown in Diagram 5.4.2.4(D).

DIAGRAM 5.4.2.4(A) : 300mm WIDE SHORT DOTTED MARKINGS RM 1143 ON EXPRESSWAY TO DELINEATE LANE DROP

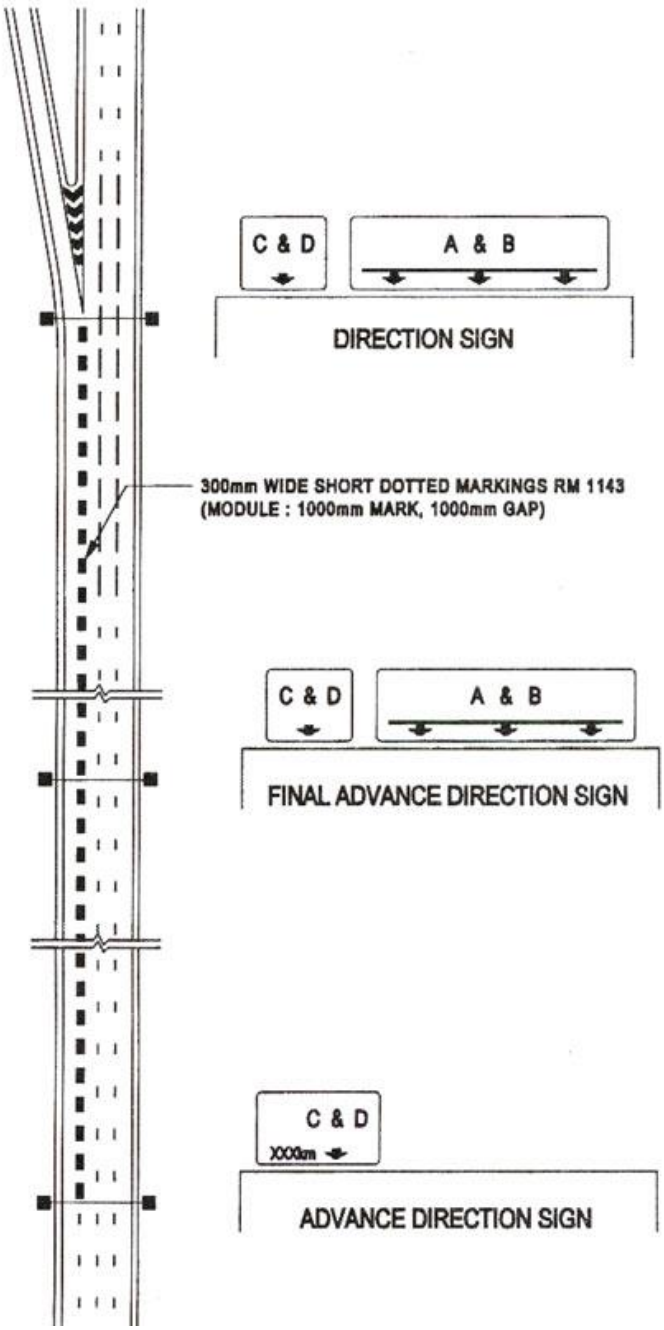


DIAGRAM 5.4.2.4(B) : 300mm WIDE SHORT DOTTED MARKINGS ON EXPRESSWAY TO DELINEATE LANE DROP

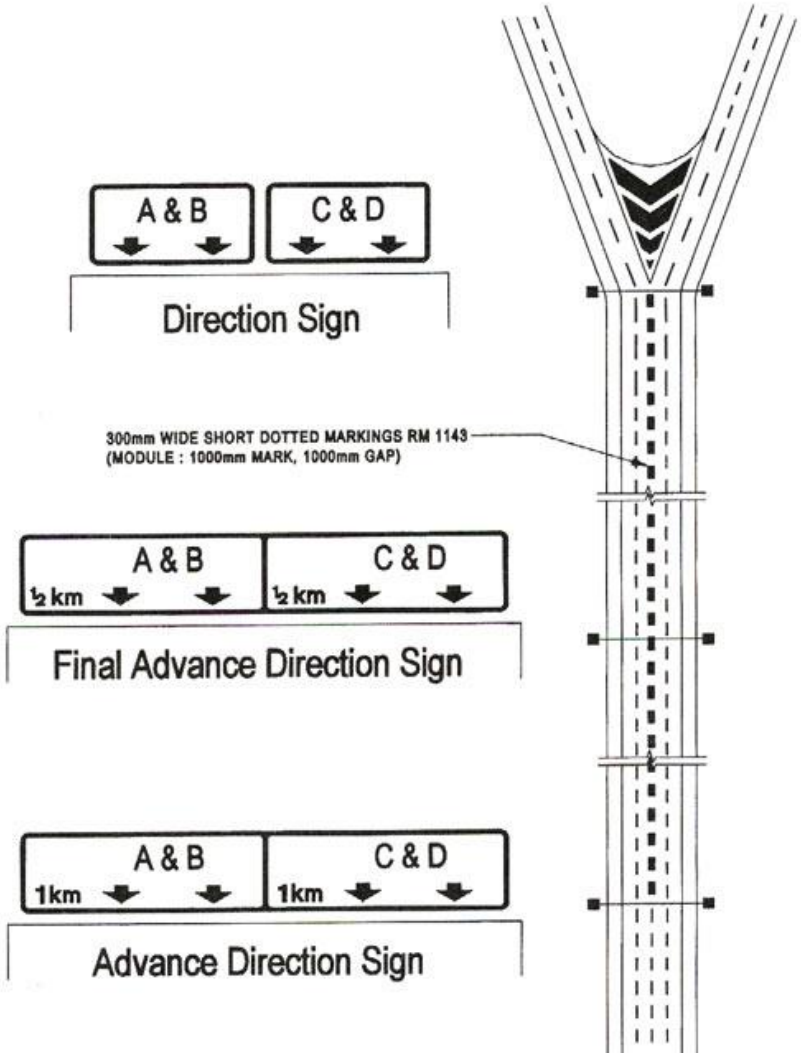


DIAGRAM 5.4.2.4(C) : 200mm WIDE SHORT DOTTED MARKINGS RM 1121 ON WEAVING SECTION OF THE EXPRESSWAY TO BE MAINTAINED

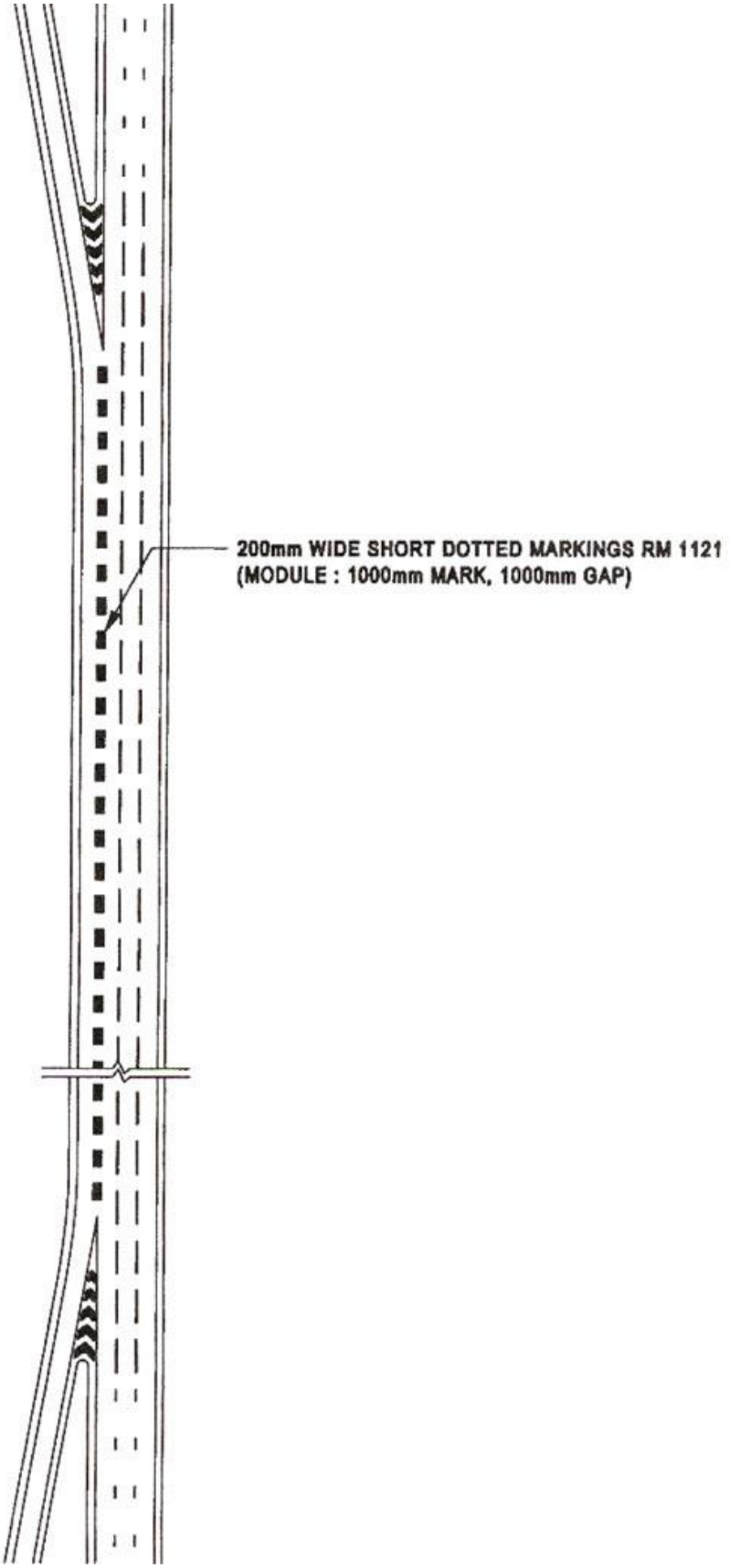
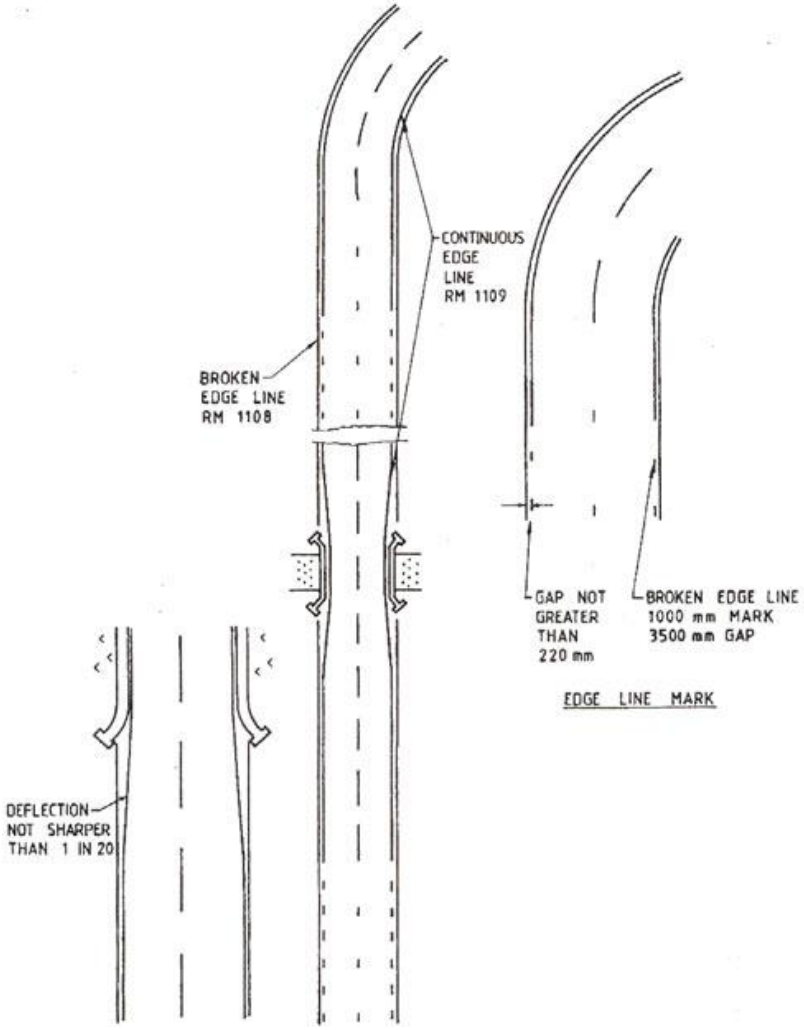
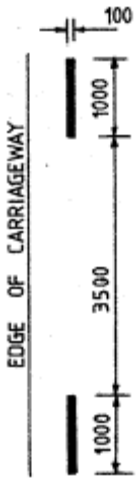
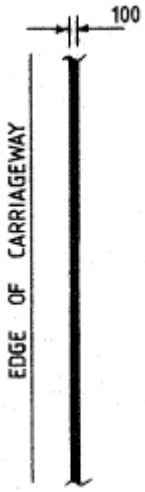


DIAGRAM 5.4.2.4(D) : USE OF EDGE LINE MARKINGS ON SINGLE CARRIAGEWAY ROADS





RM 1108 (TC 607)



RM 1109 (TC 607)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.26 Road marking 1108 must not be used along Trunk or Primary Distributor roads to delineate margina1 strips, as for these road marking 1109 is the appropriate marking.

5.4.2.27 The standard dimensions for road markings 1108 and 1109 are given in Table 5.4.2.7.

5.4.2.28 Road marking 1109 is the continuous line marking to delineate the edge of the carriageway where marginal strips are provided, and at bends along other carriageways where emphasis is required to be given to the edge of carriageway as a line for vehicles negotiating the bend to follow. It may also be appropriate to use road marking 1109, to delineate the edge of the carriageway when a road is prone to mist, or on the approaches to a narrow bridge, as illustrated in Diagram 5.4.2.4.

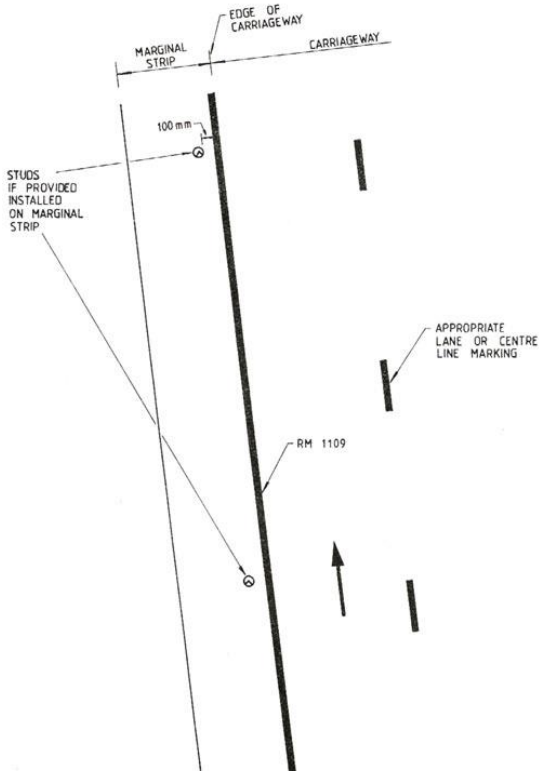
Table 5.4.2.7
Edge of Carriageway Edge Line Marking

	Road Marking No.	Module (mm)	Mark (mm)	Gap (mm)	Width (mm)
(i)	RM 1108	4500	1000	3500	100
(ii)	RM 1109	Continuous	Continuous	-	100

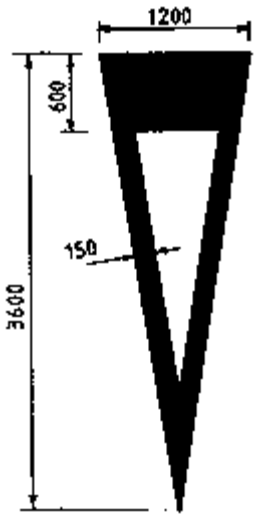
5.4.2.29 Where used to indicate the edge of the carriageway as shown in Diagram 5.4.2.4, the markings must always be reflectorised and should be laid so that the inside edge of the line is approximately 200mm from the actual edge of the carriageway. However road markings 1108 or 1109 should not be used for this purpose where the carriageway is less than 6.1m or where a resultant lane width would be less than 2.75m.

5.4.2.30 Where road marking 1109 is used to delineate the marginal strip, the marking should be laid on the marginal strip and not the carriageway so that the outside of the line is immediately adjacent to the edge of the carriageway as shown in Diagram 5.4.2.5. Further information in respect of the appropriate widths of marginal strips for various road types is given in Section 3.4.12 of Chapter 3 of Volume 2.

DIAGRAM 5.4.2.5 : MARKING FOR MARGINAL STRIPS



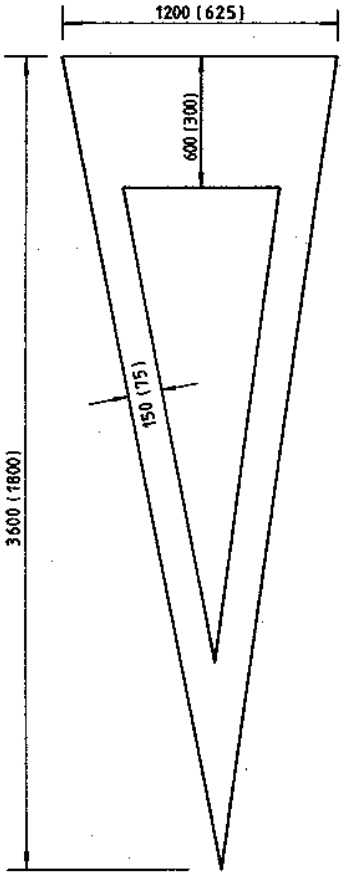
5.4.2.31 Road marking 1115 is the “give way” symbol used in association with the “Give Way” sign, traffic sign 102 and the “Give Way” marking 1013.



RM 1115
(TC 608)

ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.4.2.6 : "GIVE WAY" SYMBOL



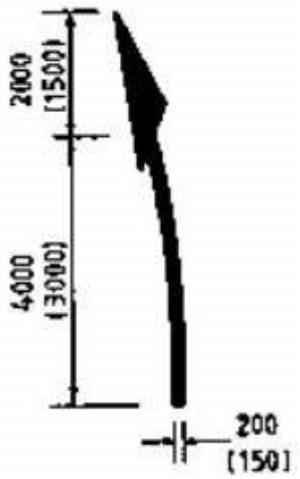
NOTES : ALL DIMENSIONS IN MILLIMETRES
SMALLER DIMENSIONS FOR CYCLE TRACKS ONLY

5.4.2.32 The general overall length and width for this marking is 3600mm by 1200mm, as shown in Diagram 5.4.2.6 but for cycle tracks the smaller dimensions shown in brackets may be used.

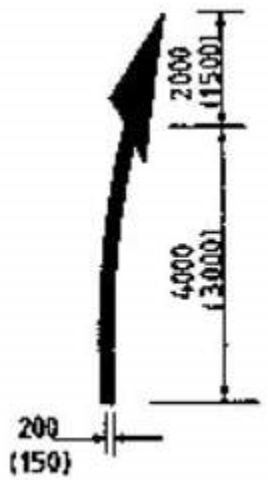
5.4.2.33 Road marking 1115 must always be used when traffic sign 102 is erected, other than on the approaches to roundabouts. If there is more than one lane on the approach to a junction each lane must be separately marked.

5.4.2.34 Advice on the general location of this marking at a junction is given in Section 5.6, "Junction Markings".

5.4.2.35 Road markings 1116, 1117, 1118 and 1119 are keep left and keep right arrow markings respectively, and are used to direct traffic into an adjacent lane because of an obstruction ahead or a reduction in available traffic lanes, or the start of the double line system.



RM 1116(1117)
(TC 609)



RM 1118(1119)
(TC 609)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.36 The overall lengths of road markings 1116, 1117, 1118 and 1119, and the road types for which each marking is appropriate are given in Table 5.4.2.8.

Table 5.4.2.8
Keep Left/Right Arrow Dimensions

	Road Marking No.	Appropriate for road having speed limit of :- (km/h)	Length (mm)	Minimum No. of Marks
(i)	RM1116	70 or more	6000	2
(ii)	RM1117	50 or less	4500	2
(iii)	RM1118	70 or more	6000	2
(iv)	RM1119	50 or less	4500	2

5.4.2.37 Road markings 1116, 1117, 1118 and 1119 should be installed in front of the hazard where vehicles will be required to keep left or right, as appropriate, in accordance with Table 5.4.2.9 and paragraphs 5.4.2.38 and 5.4.2.40.When these road markings are used to alert motorist of direct merging of two roads ahead, the distance between arrows should be in accordance with Diagram 5.4.2.7(A). These distances should be suitably adjusted to match with prevailing site conditions.

Table 5.4.2.9
Keep Left/Right Arrow Locations

	Road Marking No.	1st Arrow			2nd Arrow			3rd Arrow		
		Distance in front of hazard (m)			Distance from 1st arrow (m)			Distance from 2nd arrow (m)		
		Speed limit of road :-			Speed limit of road :-			Speed limit of road :-		
		50 km/h	70 km/h	80 km/h or more	50 km/h	70 km/h	80 km/h or more	50 km/h	70 km/h	80 km/h or more
(i)	RM1116	-	23	23	-	36	45	-	54	72
(ii)	RM1117	15	-	-	30	-	-	42	-	-
(iii)	RM1118	-	23	23	-	36	45	-	54	72
(iv)	RM1119	15	-	-	30	-	-	42	-	-

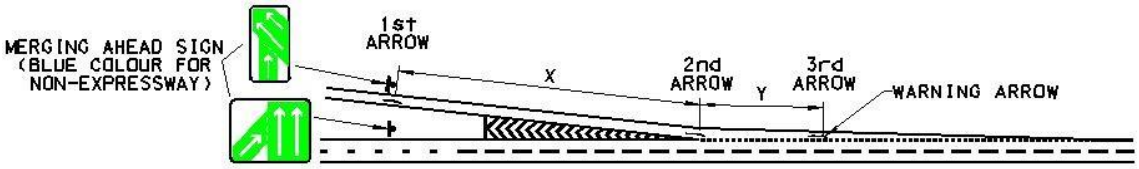
5.4.2.38 Road markings 1116 and 1117 are normally used as a warning to the start of the double white line system as shown previously in Diagram 5.3.2.3. The third arrow however as stated in paragraph 5.3.2.16 would normally only be required if the driver's visibility is limited. Gaps in the center line or warning line marking should be formed by removing the appropriate number of marks to accommodate the arrows.

5.4.2.39 Where a section of road marking 1003, broken/continuous double line, separates two sections of road marking 1001, double continuous line, arrow markings should not be used in this intermediate section. Placing the arrow markings to the right of the lines causes confusion to drivers in the opposing traffic stream, whilst placing them to the left may give the impression that the road is narrowing ahead. Alternatively placing the arrows actually on the marking will only cause the marking and the lines to be obscured.

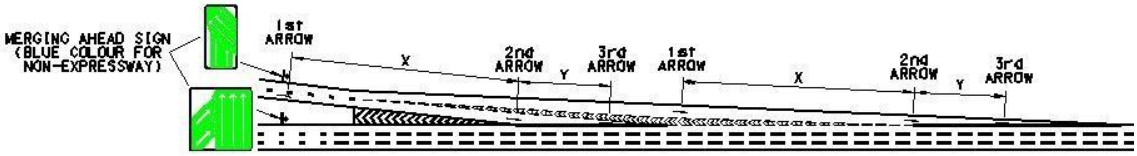
5.4.2.40 In respect of the situation where road narrowing takes place, e.g. from three traffic lanes to two, road markings 1116, 1117, 1118 and 1119 should be located in accordance with Table 5.4.2.9 with the second arrow determining the location of the other arrows and being positioned at the start of the taper as shown in Diagram 5.4.2.7(B). See also section 5.6.4 in respect of the use of the warning arrows at “lane drop” situations on Trunk Roads and Primary Distributor Roads.

DIAGRAM 5.4.2.7(A) : WARNING ARROWS ON TRUNK AND PRIMARY DISTRIBUTOR ROADS

(i) ON DIRECT MERGE



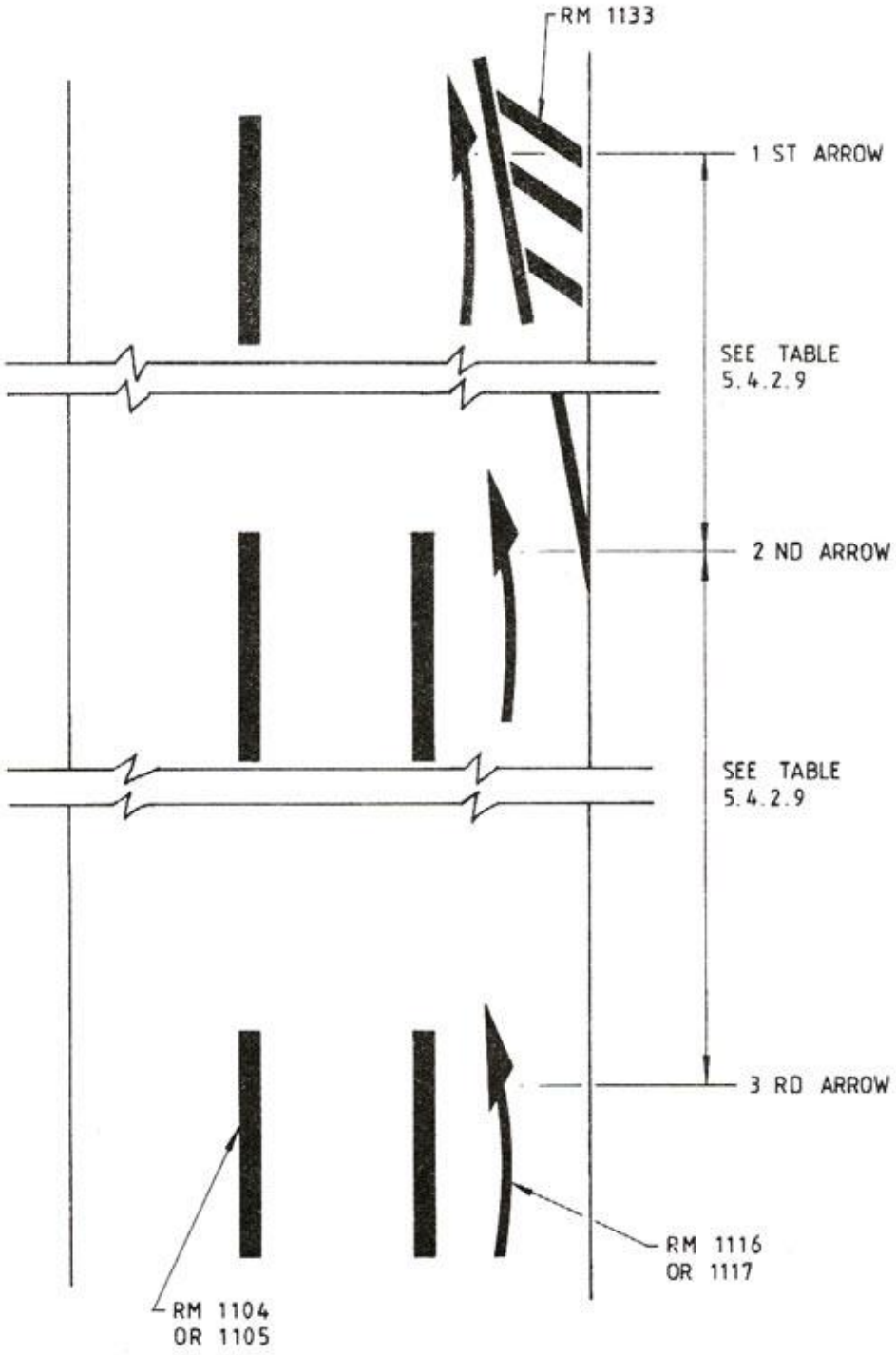
(ii) ON DOUBLE MERGE



Location of Warning Arrows - Distance of "x" and "y"

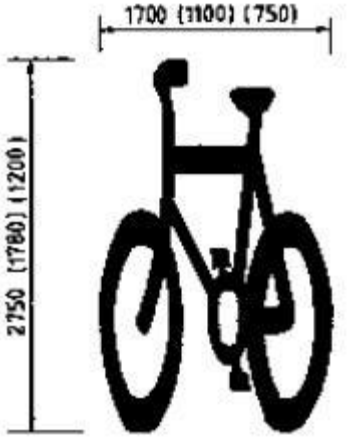
Speed Limit (km/h)	Distance "x" between 1st and 2nd Arrows (m)	2nd Arrow	Distance "y" between 2nd and 3rd Arrows (m)
80 and above	100	at the taper end	45
70	100	at the taper end	40
50	100	at the taper end	30

DIAGRAM 5.4.2.7(B) : WARNING ARROWS ON ROADS OTHER THAN TRUNK AND PRIMARY DISTRIBUTOR ROADS



5.4.2.41 At bus lanes in order to avoid any confusion when the bus lane is not operative road marking 1119 should only be used in advance of a bus lane is operative for at least 10 hours in any day. For further information on the use of roadmarking 1119 at bus lanes see section 5.9, “Bus Lane Markings”.

5.4.2.42 Road marking 1120, is for use on cycle tracks or similar to indicate that the track is for use by cyclists.

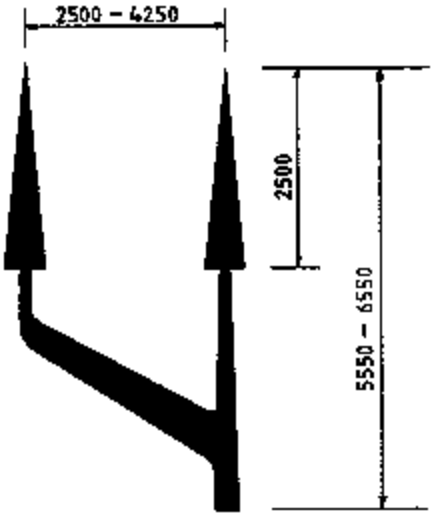


RM 1120
(NOT PRESCRIBED)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.43 Further information on the use of road marking 1120 may be found in Chapter 6 of this Volume.

5.4.2.44 Road marking 1122 is used at the end of the bus lane to indicate that other vehicles may enter the nearside lane.



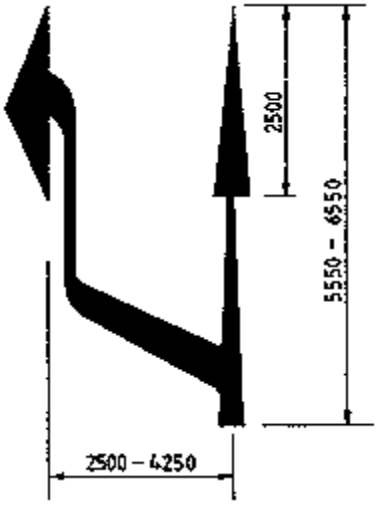
RM 1122
(TC 610)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.45 "End of bus lane", road marking 1137, may also be used in conjunction with road marking 1122 and this is referred to in paragraph 5.4.2.69. However it is not essential for road marking 1137 to be used and therefore unless for any reason it is considered that greater emphasis is required it may be omitted.

5.4.2.46 Further advice on the use of road marking 1122 is contained in Section 5.9, "Bus Lane Markings".

5.4.2.47 Road marking 1123 is used to indicate that other vehicles may enter a bus lane but only for the purposes of turning left at the junction ahead.

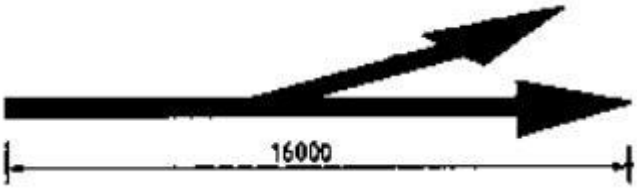


RM 1123
(TC 611)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.48 Further advice on the use of road markings 1123 is given in Section 5.9, “Bus Lane Markings”.

5.4.2.49 Road markings 1124 and 1125 are arrow used to indicate to motorists the start of a deceleration or diverging splay on the nearside.



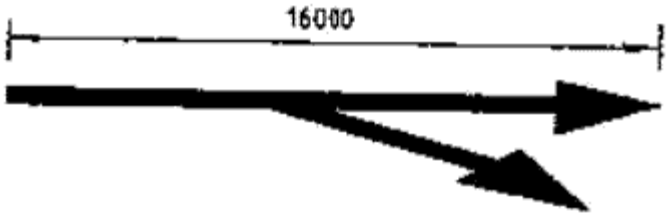
RM 1124
(TC 612)



RM 1125
(TC 612)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.50 Road marking 1147 and 1148 are arrow used to indicate to motorists the start of a deceleration or diverging splay on the off side.



RM 1147
(TC 612)



RM 1148
(TC 612)

ALL DIMENSIONS IN MILLIMETRES

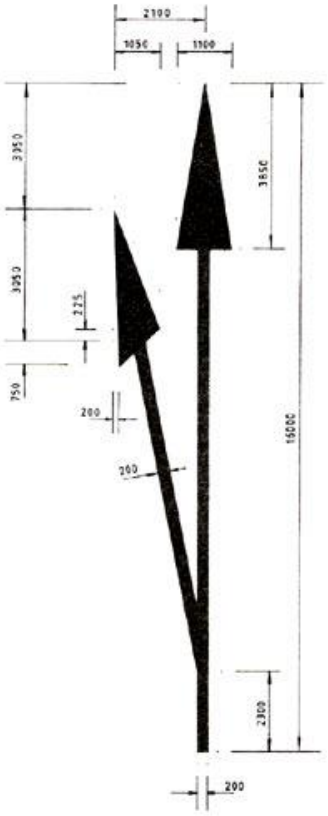
5.4.2.51 Table 5.4.2.10 gives the overall length of the road markings 1124 and 1125 and 1147 and 1148 together with appropriate road types where they can be used, whilst Diagram 5.4.2.8 further illustrates the basic dimensions.

Table 5.4.2.10 Declaration/Diverging Splay Arrows

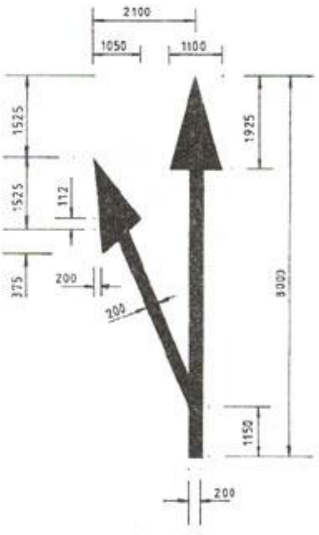
	Road marking No.	Appropriate for roads having speed limited :- (km/h)	Length (mm)
(i)	RM 1124	70 or more	16000
(ii)	RM 1125	50 or less	8000
(iii)	RM 1147	70 or more	16000
(iv)	RM 1148	50 or less	8000

DIAGRAM 5.4.2.8 : BASIC DIMENSIONS FOR DECELERATION ARROWS

RM 1124



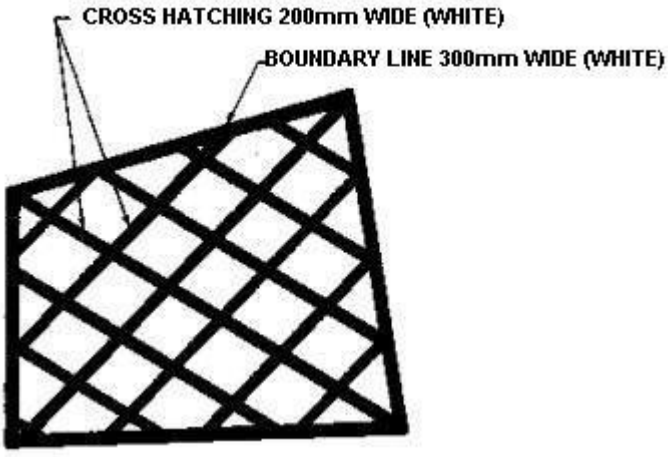
RM 1125



NOTES :
(i) ALL DIMENSIONS IN MILLIMETRES
(ii) ARROWS SHOULD BE REVERSED TO FORM FOR RM 1147 AND RM 1148.

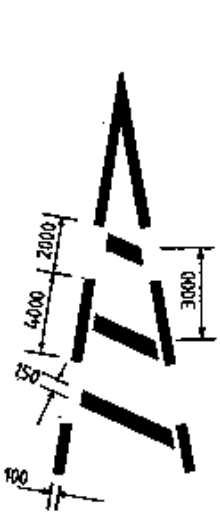
5.4.2.52 Details regarding the correct location of road markings 1124 and 1125 and 1147 and 1148 in relation to the deceleration taper are given in Section 5.6, “Junction Markings”.

5.4.2.53 Road marking 1126 is a white hatched box marking used at light signal controlled crossings to indicate the area over which pedestrians may cross. It should not be confused with yellow box junction marking, and in this respect it should be stressed that road marking 1126 is advisory only and has no regulatory meaning with regard to pedestrians or vehicles. Road marking 1126 is in fact of limited value and at light signal controlled crossings with pedestrian phases the yellow strips marking is a preferred method of marking the crossing.

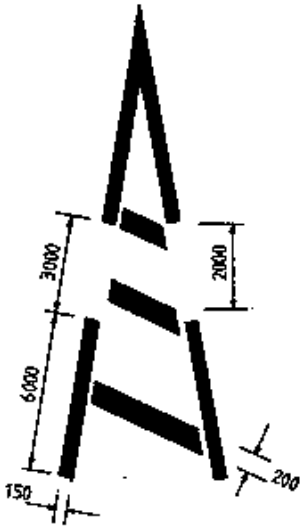


RM 1126
(TC 613)

5.4.2.54 Road markings 1127 and 1128 are warning hatched markings for use on two way single carriageway roads for separating opposing traffic flows at junctions, and providing warning of tram and refuge islands.



RM 1127
(NOT PRESCRIBED)



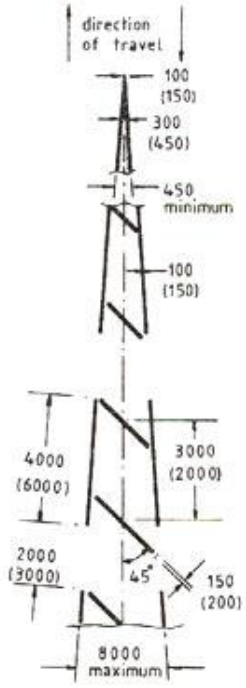
RM 1128
(NOT PRESCRIBED)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.55 Road markings 1127 and 1128 are not prescribed but are used by virtue of the authority given under Regulation 8 of the Road Traffic (Traffic Control) Regulations. They are extremely useful markings not only in the fact that they provide better warning and guidance when used at tram and refuge islands than road markings 1104 and 1105, but also where there is insufficient space for a physical island to be constructed they can be used to form shadow islands.

5.4.2.56 The basic dimensions for road markings 1127 and 1128 together with the road types for which they are appropriate are given in Table 5.4.2.11, and these dimensions are further illustrated in Diagram 5.4.2.9.

DIAGRAM 5.4.2.9 : DETAILS OF ROAD MARKING 1127 (1128)



ALL DIMENSIONS IN MILLIMETRES

Table 5.4.2.11
Warning Hatched Marking Dimensions

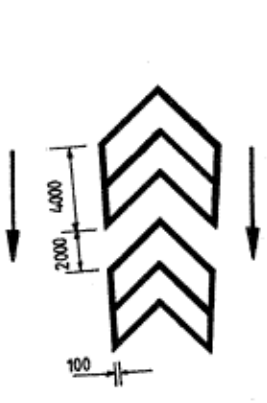
	Road Marking No.	Appropriate for roads having speed limit of :- (km/h)	Boundary Markings			Hatched Marking
			Mark (mm)	Gap (mm)	Width (mm)	Width (mm)
(i)	RM 1127	50 or less	4000	2000	100	150
(ii)	RM 1128	70 or more	6000	3000	150	200

5.4.2.57 In respect of when to use road markings 1127 or 1128 instead of the prohibitory hatched marking 1037, the latter will generally only be appropriate on Trunk Roads and Primary Distributor Roads, and in situations where the marking forms an extension to road marking 1001, double white lines.

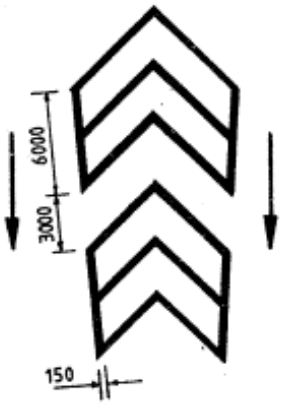
5.4.2.58 With regard to shadow islands, these should always be marked out using the advisory markings 1127 or 1128 as required. The use of the prohibitory marking 1037, is generally not appropriate for shadow islands as it will unnecessarily restrict vehicles when marking turning movements in order that an offence is not committed.

5.4.2.59 Further information on the use of road markings 1127 and 1128 is contained in Section 5.6, “Junction Markings”.

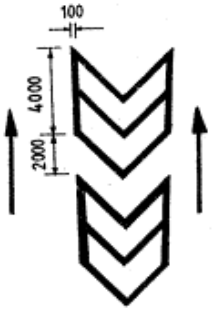
5.4.2.60 Road markings 1129, 1130 and 1132 are advisory chevron markings for use where vehicles merge and diverge respectively. They are not prescribed but are used by virtue of Regulation 8 of the Road Traffic (Traffic Control) Regulations.



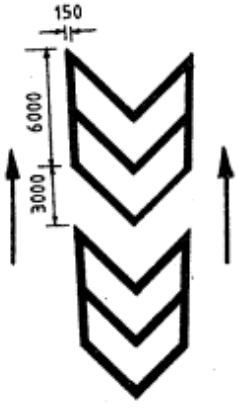
RM 1129
(NOT PRESCRIBED)



RM 1130
(NOT PRESCRIBED)



RM 1131
(NOT PRESCRIBED)



RM 1132
(NOT PRESCRIBED)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.61 Road markings 1129 to 1132 are not appropriate for Trunk Roads and Primary Distributor Roads, other than in very particular circumstances, as road markings 1035 or 1036 should be used for these road types. However on other roads, road markings 1129 to 1132 are preferable as the use of prohibitory chevrons on these roads would be unnecessarily restrictive and could where carriageway space is limited cause large vehicles to have difficulties in marking particular manoeuvres without encroaching onto the marking, which would be an offence.

5.4.2.62 The basic dimensions for road markings 1129 to 1132 are given in Table 5.4.2.12.

Table 5.4.2.12
Advisory Chevron Marking Dimensions

	Road Marking No.	Chevron Type	Appropriate for roads having speed limit of :- (km/h)	Chevron Marking Length		
				Mark (mm)	Gap (mm)	Line Width (mm)
(i)	RM 1129	Merging	50 or less	4000	2000	100
(ii)	RM 1130	Merging	70 or mores	6000	3000	150
(iii)	RM 1131	Diverging	50 or less	4000	2000	100
(iv)	RM 1132	Diverging	70 or more	6000	3000	150

5.4.2.63 Further details on the use of the advisory chevron markings 1129 to 1132 are given in Section 5.6, “Junction Markings”.

5.4.2.64 Road markings 1133 and 1134 are semi-hatched warning markings used in situations where the carriageway is narrowed for some particular reasons and it is not appropriate to re-align the kerbline. Their usage is generally appropriate for all types of low speed conditions as well as for marking unused lanes or visibility widening zones on high standard roads. However, in the following situations including the narrowing of a uniform road section, thick hatched marking as shown in Diagrams 5.6.4.8 and 5.6.4.9 should be used:

(i) Dual carriageway lane drops;

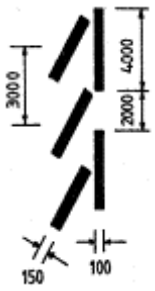
(ii) Transition from hard shoulder to marginal strip on high standard roads;

(iii) Transition from hard shoulder to marginal strip at tunnel portals.

The road markings are not prescribed but are used by virtue of the powers given under Regulation 8 of the Road Traffic (Traffic Control) Regulations.



RM 1133
(NOT PRESCRIBED)



RM 1134
(NOT PRESCRIBED)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.65 The past practice of using a continuous line as the boundary for these hatched markings should be discontinued, other than when the boundary is formed by the continuation of the edge line marking, road marking 1109, and for details on this section 5.6.4 should be referred to. In this situation, road markings 1109 and 1133 or 1134 should be separately labelled on drawings.

5.4.2.66 Table 5.4.2.13 gives the basic dimensions for road markings 1133 and 1134 together with information on the road types where each should be used.

Table 5.4.2.13
Semi-Hatched Warning Marking Dimensions

	Road Marking No.	Appropriate for roads having speed limits of :- (km/h)	Boundary Markings			Marking
			Mark (mm)	Gap (mm)	Width (mm)	Width (mm)
(i)	RM 1133	70 or more	6000	3000	150	150
(ii)	RM 1134	50 or less	4000	2000	100	100

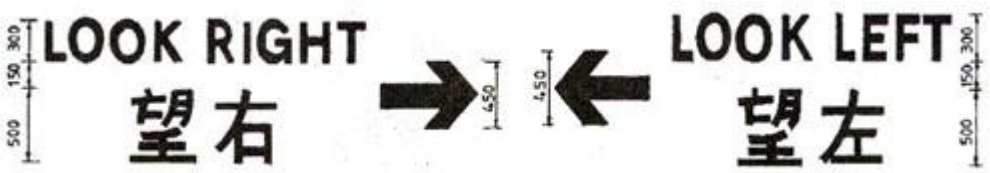
5.4.2.67 Road markings 1133 and 1134 should not be used to delineate any marginal strip as road marking 1109 is the correct marking for this, see paragraph 5.4.2.28. However, they should be used together with road marking 1109 in the following situations :

(i) over an unused traffic lane,

(ii) where the marginal strip is widened locally for any reasons with a width of at least 1.5m.

(iii) Along the visibility widening area where the width is at least 1.5m.

5.4.2.68 Road markings 1135 and 1136 are markings used in conjunction with crossing points to indicate to pedestrians which way to look to see approaching traffic immediately adjacent to where they are standing.



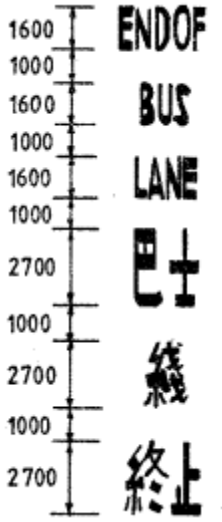
RM 1135
(TC 604)

RM 1136
(TC 604)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.69 Although road markings 1135 and 1136 may be used at conventional crossing points they are normally not required as it is generally quite obvious from which direction traffic is approaching. However on one way streets where traffic may be approaching from the opposite direction to that normally expected, or along contra flow bus lanes they should normally be installed. Similarly at cautionary crossings on the exit arm of junctions where traffic is making a left or right turn into that junction these markings are useful in reminding pedestrians to look in that direction. However if a separate signalised pedestrian phase is provided the markings are not necessary. The markings should not be used in a two-way street unless there is a pedestrian refuge island, or pedestrians will be misled into looking in the wrong direction once half way across. See also section 5.7.4, "Pedestrian Crossing Markings", and section 5.8.2 "Letter and Character Markings".

5.4.2.70 Road marking 1137, may be used in conjunction with road marking 1122, see paragraphs 5.4.2.44-5.4.2.46 to indicate the end of a bus lane.

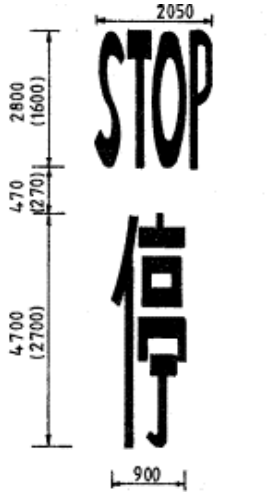


RM 1137
(TC 610)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.71 For further information regarding the form and setting out details of road marking 1137 Section 5.8, “Letter and Character Markings” should be referred to, and also Section 5.9, “Bus Lane Markings”.

5.4.2.72 Road markings 1138 and 1139 are the “Stop” markings which must be used in conjunction with road marking 1012, “stop line” to indicate that vehicles must stop at the line. Each traffic lane on the approach should be separately marked.



RM (1138) 1139
(TC 614)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.73 Road markings 1138 and 1139 must not be used other than in association with road marking 1012. For details of the setting out arrangements for these markings Section 5.6, "Junction Markings" should be referred to. For further information regarding the use of worded markings including the form, the letters and characters should take, Section 5.8, "Letter and Character Markings", should be referred to.

5.4.2.74 Road markings 1141 and 1142 are the "Slow" markings used to give additional warning that vehicles should slow down. Where used on multi-lane carriageway each lane should be separately marked.



RM (1141) 1142
(TC 615)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.75 It is not appropriate to use road markings 1141 or 1142 alone, but they should always be used in conjunction with and adjacent to an appropriate warning sign. Most common use will be with traffic signs 410, 411, 412 and 413 and for further information on the use of road markings 1141 and 1142 with these signs paragraph 5.6.2.24 of Chapter 5should be referred to. Road markings 1141 and 1142 should not however be used at priority junctions for which either road markings 1138 and 1139 "Stop" or 1115 "Give Way Symbol" are appropriate.

5.4.2.76 Section 5.8, "Letter and Character Markings", provides details as to the form of the letters and characters for road markings 1141 and 1142.

5.4.2.77 Road marking 1144 “Get In Lane” is used in advance of where traffic lanes diverge as a warning to drivers that they should drive their vehicle into the correct lane in accordance with their required destinations as soon as possible. Each traffic lane should be separately marked.



RM 1144
(TC 616)

5.4.2.78 The normal location for road marking 1144 will be in association with, or substitute for, traffic sign 611 “Get in Lane”, in advance of gantry signs. The distance that road marking 1144 should be laid in advance of any gantry sign should be in accordance with Table 5.4.2.16.

Table 5.4.2.16
“Get In Lane” marking

	Speed limit of road (km/h)	Distance of marking in advance of gantry sign (m)
(i)	50 or less	30 - 40
(ii)	70 or more	60 - 70

5.4.2.79 In the situation where the arrangement of a junction is changed or during the initial 12 months of the opening of a new major junction it may be appropriate to use road marking 1144 in advance of any of the road markings 1017 to 1030, directional arrows. However road marking 1144 should not be installed as a matter of course at such locations and consideration should first be given as to the value or necessity of this marking. Where road marking 1144 is installed it should be sited in advance of the last set of arrows away from the junction at a distance in accordance with Table 5.4.2.16, and each traffic lane should be separately marked. Details of the letters and characters for this marking are given in Section 5.8, “Letter and Character Markings”.

5.4.2.80 Road marking 1145 and 1146, are non-prescribed markings used to indicate that a parking space is reserved for the use of the disabled.



RM 1145
(NOT PRESCRIBED)

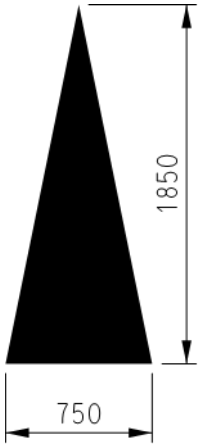


RM 1146
(NOT PRESCRIBED)

ALL DIMENSIONS IN MILLIMETRES

5.4.2.81 Road markings 1145 and 1146 has a tile height of 675mm and road marking 1146a tile height of 1350mm. The appropriate one of these two markings to use will be dependent on the dimensions of the particular parking space and the circumstances of the location. For further details on the provision of such parking Chapter 8 of Volume 6 should be referred to.

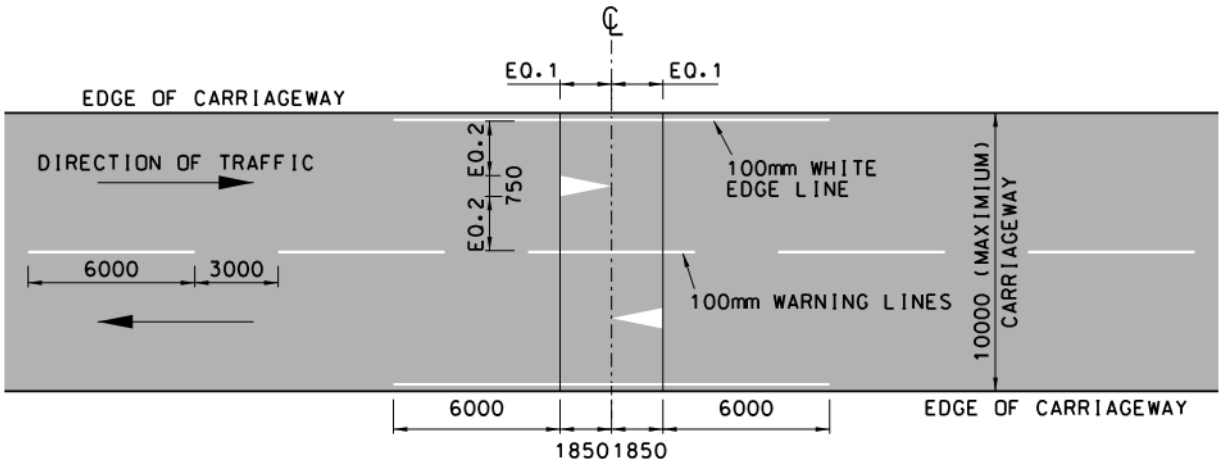
5.4.2.82 Road marking 1150 is a triangular marking, used to warn of the presence of a road hump.



RM 1150
(TC 618)

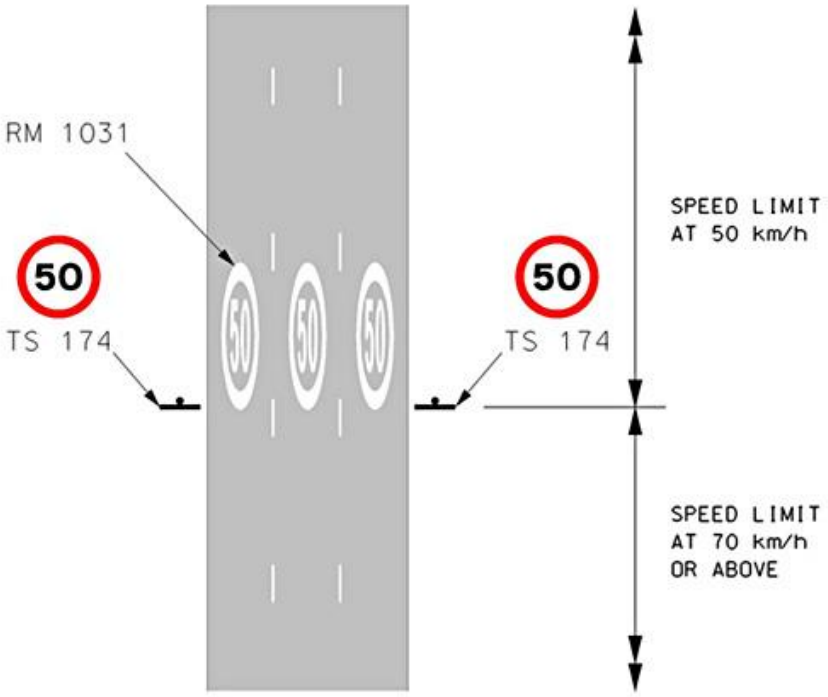
5.4.2.83 Diagram 5.4.2.10 illustrated the dimensions of road marking 1150, together with the arrangement as to its use. Further information regarding road humps is contained in Chapter 5 of Volume 2.

DIAGRAM 5.4.2.10 : ARRANGEMENT OF ROAD MARKINGS FOR ROAD HUMP INSTALLATIONS



5.4.2.84 Road marking RM 1031 is for use to provide additional warning to motorists at the location where the speed limit of road section is lowered to 50 km/h. The road marking should be painted at the entry point of the road section in association with the 50 km/h speed limit sign T.S. 174. A typical arrangement of this non-prescribed speed limit road marking RM 1031 is shown in Diagram 5.4.2.11.

DIAGRAM 5.4.2.11 : SPEED LIMIT ROAD MARKING



5.5 Road Studs

5.5.1 General

5.5.1.1 Road studs are raised devices attached to the road surface and permitted in accordance with the Road Traffic (Parking) Regulations and the Road Traffic (Traffic Control) Regulations to be used for the following purposes :-

(i) to delineate parking bays

(ii) to delineate signal and zebra crossings

(iii) as lane and centre line markings

(iv) as edge line markings

5.5.1.2 The raised characteristic of the stud enables it to be visible under most conditions, except heavy flooding, that could be expected in the Territory and this together with the different and reflective colours that may be used make it an essential additional marking for higher speed roads and a useful warning aid for other roads.

5.5.1.3 The major disadvantages of road studs are :-

(i) Because they are raised above the road surface they can present a danger to cyclists and motor cyclists. In this respect care must be taken that the heights of studs do not exceed the permitted tolerances, and they are located such that any danger to cyclists, in particular, is minimised.

(ii) If not properly installed the action of passing traffic can detach the road stud from the road surface where it then becomes a potentially lethal projectile, particularly on high speed roads. It is essential in this respect to ensure that when road studs are being installed the manufacturers instructions are rigidly followed and any adhesive required fully covers all parts of the base of the stud and extrudes from this when pressure is applied.

5.5.2 Types of Road Studs

5.5.2.1 Road studs can consist of the following types :

(i) Non-depressible-non-reflective

(ii) Depressible-reflective

(iii) Non-depressible-reflective

(iv) Pavement lights having an internal light source

(v) Inlaid studs

5.5.2.2 In respect of non-depressible non-reflective studs which are the type used for zebra crossings, in accordance with the Fourth Schedule of the Road Traffic (Traffic Control) Regulations these should be :-

(i) Non-depressible-non-reflective

(ii) square or circular in plan, being if square not less than 95mm nor more than 110mm in length, or if circular having a diameter not less than 95mm or more than 110mm

(iii) so fixed that they do not project more than 16mm above the carriageway at their highest points nor more than 7mm at their edges

5.5.2.3 Non-depressible non-reflective studs used in the Territory are either stainless steel type which is used for parking bays delineation, or thermoplastic type which is used at zebra crossings and light signal controlled crossings. The dimensions of non-depressible non-reflective studs (both stainless steel and thermoplastic types) are shown in Diagram 5.5.2.1.

5.5.2.4 Non-depressible reflective studs are the type used for lane and edge line markings shall :

(i) be rectangular or circular in plan

(ii) if rectangular shall have a length not more than 210mm and a width of not more than 170mm

(iii) if circular have a diameter of not more than 210mm

(iv) in respect of the reflectivity, the colour reflected should be :-

(a) white when indicating lane lines including lane drops

(b) red when indicating the left hand edge of the carriageway and prohibitory chevron markings

(c) amber when indicating the right hand edge of the carriageway, that is when adjacent to the central reservation

(d) green when used across a slip road, lay-by or passing place

(v) so fixed that do not project more than 18mm at their highest point and not more than 6mm at their edges, unless approved by HyD.

5.5.2.5 The dimensions given in paragraph 5.5.2.4 represent the maximum rather than typical dimensions. Normally road studs if rectangular have dimensions of approximately 100mm x 100mm, or if circular diameter of 100mm, as shown in Diagram 5.5.2.2. Non-depressible reflective studs with anchor device should not be used as lane line markers on flexible pavement unless it is demonstrated that the studs can be fixed by suitable method to avoid sinking and detachment of the studs.

5.5.2.6 There are a variety of different proprietary brands of studs available but any studs used in the Territory must comply with the current General Specification for Civil Engineering Works. Reflective road studs shall be of the type approved by the Highways Department. Studs which are only bonded to the road surface and do not have anchor inserted into the roads shall not be used as lane line markers, unless approved by Highways Department under special circumstances where anchored types are considered to be not suitable. It is relevant to note that the specification requires that lane line studs should have some form of anchor device. With regard to edge lines and prohibitory chevrons as studs for these are installed away from the main running surface, studs without anchor devices may be used .

5.5.2.7 Depressible-reflective studs, which are the preferred type in respect of lane line markings, shall :

(i) be rectangular or circular in plan

(ii) if rectangular have a length not more than 210mm and a width not more than 170mm

(iii) if circular have a diameter not more than 210mm

(iv) in respect of the reflectivity, the colour reflected should be :-

(a) white when indicating lane lines

(b) red when indicating the left hand edge of the carriageway

(c) amber when indicating the right hand edge of the carriageway, that is when adjacent to the central reservation

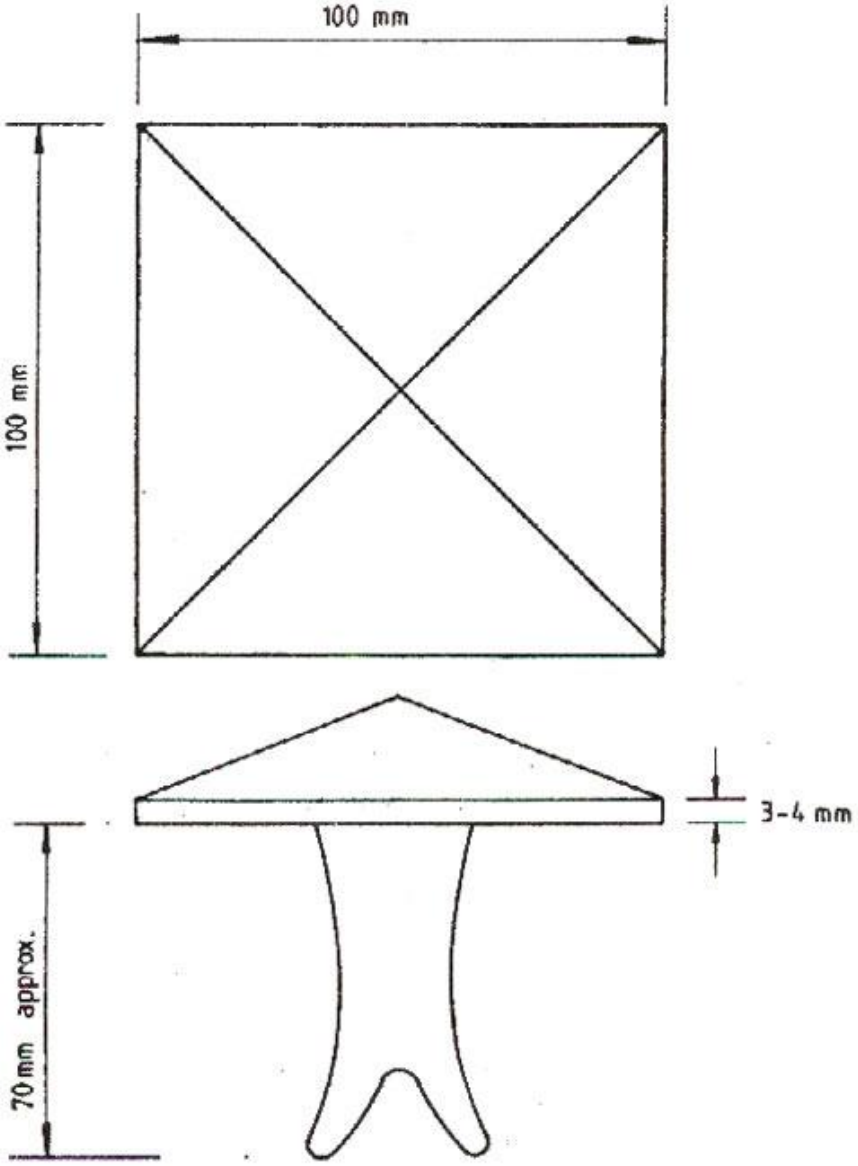
(d) green when used across a slip road, layby or passing place

(v) so fixed that they do not project more than 25mm at their highest point nor more than 6mm at their edges.

5.5.2.8 Depressible reflective studs normally have a cast-iron, as for the “Catseye” proprietery brand, or similar, base and surround, with a rubber insert containing the reflective lenses, as shown in Diagram 5.5.2.3. The wheel of a vehicle passing over the stud depresses the rubber so reducing the effects of the height of projecting stud and at the same time this action also wipes the lenses clean of any deposit. There are plastic types of depressible reflective studs, in which the centre portion can be depressed, but for various reasons these are not entirely satisfactory and their use is not recommended, unless of a type approved by the Highways Department.

DIAGRAM 5.5.2.1 : NON-DEPRESSIBLE, NON-REFLECTIVE ROAD STUD

STAINLESS STEEL ROAD STUD



THERMOPLASTIC ROAD STUD

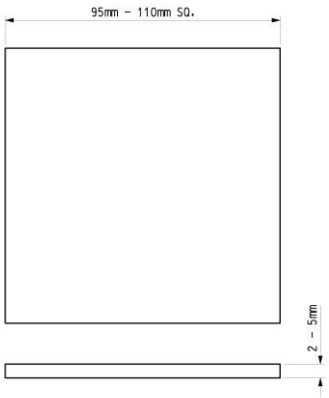
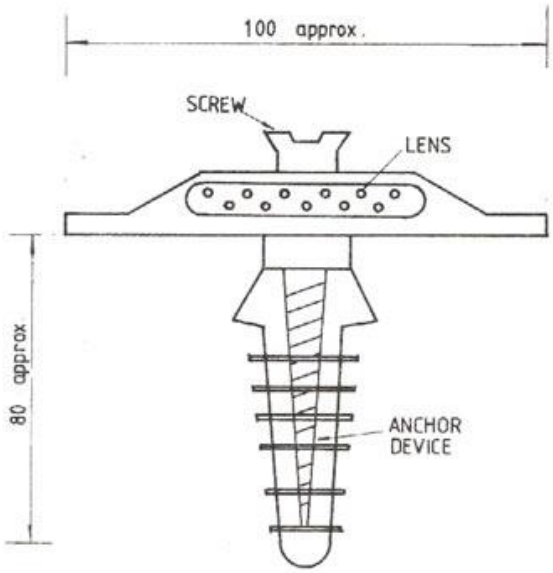
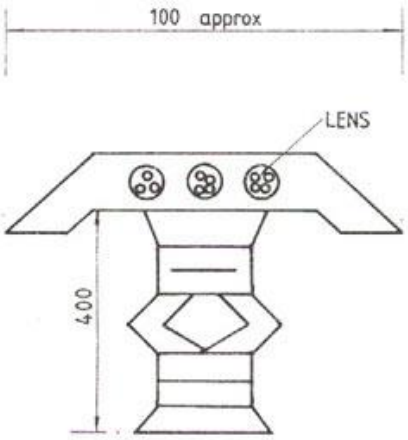


DIAGRAM 5.5.2.2 : NON-DEPRESSIBLE REFLECTIVE STUDS

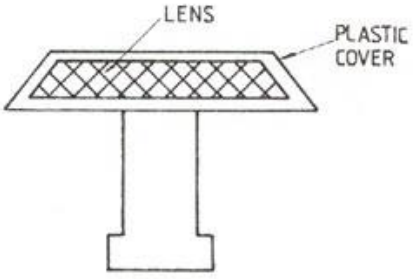
PLASTIC STUD



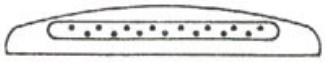
ALUMINIUM STUD



ALUMINIUM/PLASTIC STUD

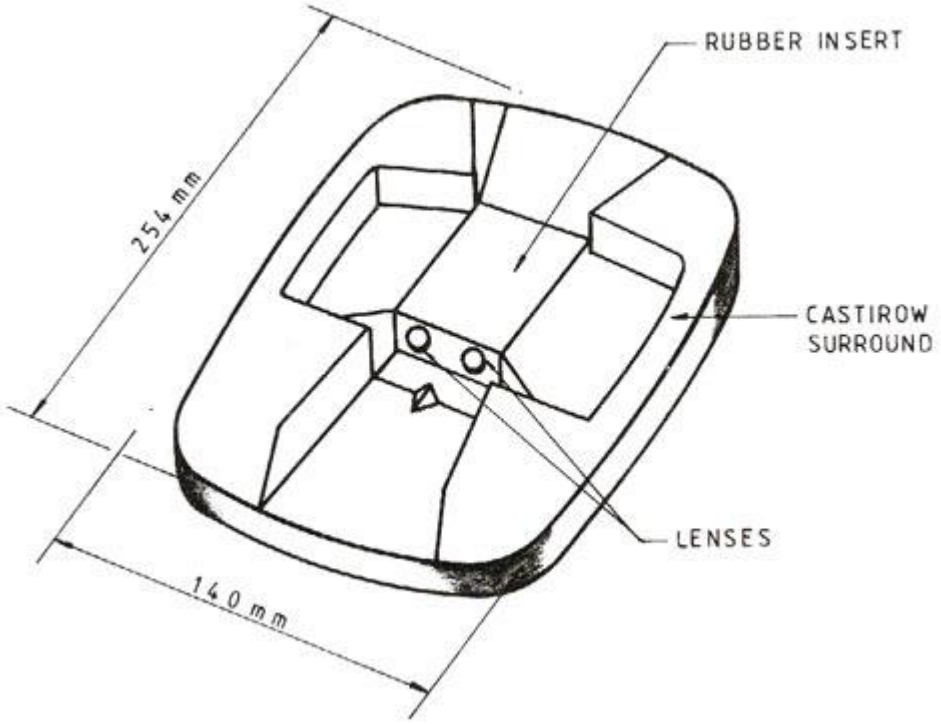


PLASTIC STUD WITHOUT ANCHOR DEVICE



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.5.2.3 : "CATSEYE" DEPRESSIBLE STUD



5.5.2.9 Depressible reflective studs are generally more expensive than the non-depressible type but they are preferred for lane line markings as the rubber inserts can be removed and the stud can then be used as the base for a traffic cylinder. The latter is particularly useful where road works are being carried out. For edge line studs the non-depressible type are generally sufficient.

5.5.2.10 The body of both non-depressible and depressible studs are normally white, silver or grey in colour. However for temporary studs used in association with road works the colour of the body should be fluorescent yellow. On concrete surfaces it may be advantageous to have yellow bodied studs for edge line markings as in day time conditions, they provide a better contrast to the white concrete.

5.5.2.11 For both non-depressible and depressible reflective studs, the lenses may be either of the bi-convex or the corner cube type.

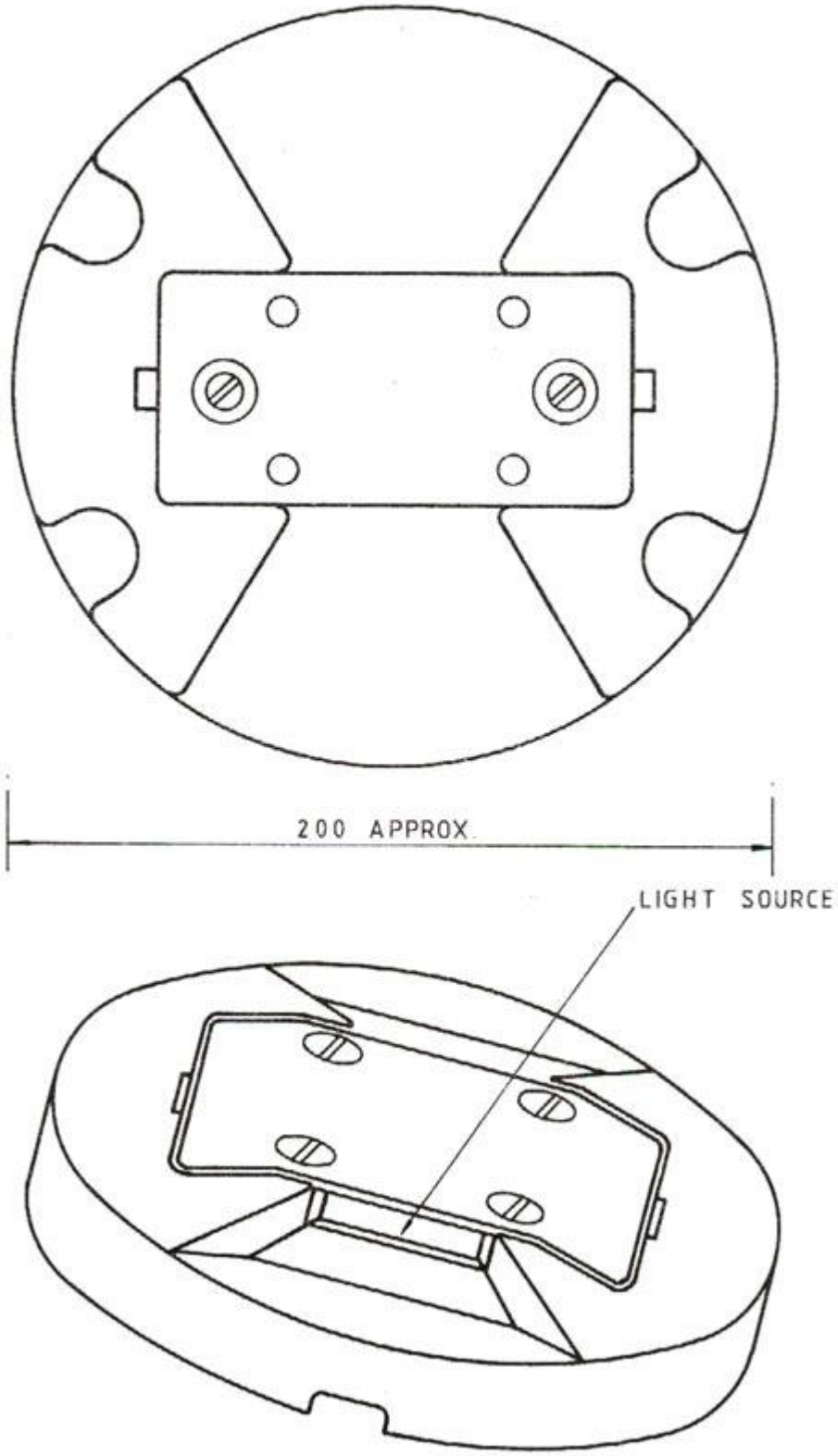
5.5.2.12 The lenses of reflective studs may be either unidirectional, i.e. having them located only on one side or bi-directional, having them placed on opposite sides of a stud. Normally on single carriageway two way roads studs are bi-directional to be seen in either direction, but on dual carriageway roads they are unidirectional, facing one way only. For further information regarding this, see Tables 5.5.3.1 and 5.5.3.2.

5.5.2.13 Pavement lights are for use at tunnel portals to assist motorists in following the correct path when a tube is closed and traffic needs to be directed into redefined traffic lanes.

5.5.2.14 The pavement lights are laid out in predetermined patterns so that any lane direction changes can be achieved by illuminating particular pavement lights.

5.5.2.15 However, pavement lights are easily damaged and are very difficult to be repaired or replaced. On the other hand, traffic cones and beacons are always used for safety reasons to direct motorists during tunnel maintenance. For these reasons, pavement lights are no longer required to be installed in new projects.

DIAGRAM 5.5.2.4 : PAVEMENT LIGHTS



ALL DIMENSIONS IN MILLIMETRES

5.5.3 Use of Studs

5.5.3.1 Non-depressible, non-reflective studs are for use only at zebra crossings, light signal controlled crossings and to delineate parking bays. They must not be used for lane or edge line markings or to delineate cautionary crossings.

5.5.3.2 The spacing and location of studs used for zebra and signal crossings should be in accordance with Section 5.7, “Road markings for Pedestrian Crossings”.

5.5.3.3 Studs used for parking bays should generally be in accordance with Diagram 5.3.3.2, in section 5.3.3, Road Traffic (Parking) Regulations, Regulatory Markings. However inlaid studs may also be appropriate in these locations.

5.5.3.4 The authority to install road studs for lane and edge of carriageway markings is obtained by virtue of Regulation 13 of the Road Traffic (Traffic Control) Regulations.

5.5.3.5 Lane and centre line road studs will normally only be required in respect of single carriageway two way roads where mist frequently occurs, as elsewhere reflective line markings should be sufficient. Similarly road studs to delineate the edge of carriageway on single carriageway two way roads will normally only be required if additional emphasis is required because of the proximity of an embankment, cutting or similar and the carriageway is at least 6.1m wide. Where the carriageway is less than this latter width and some form of delineation is considered necessary then traffic sign 514, in accordance with paragraph 2.3.3.67 of Chapter 2 should be erected.

5.5.3.6 Where road studs are required on single carriageway two way roads they should be of the colour and spacing as indicated in Table 5.5.3.1 and further illustrated in Diagrams 5.5.3.1 to 5.5.3.4.

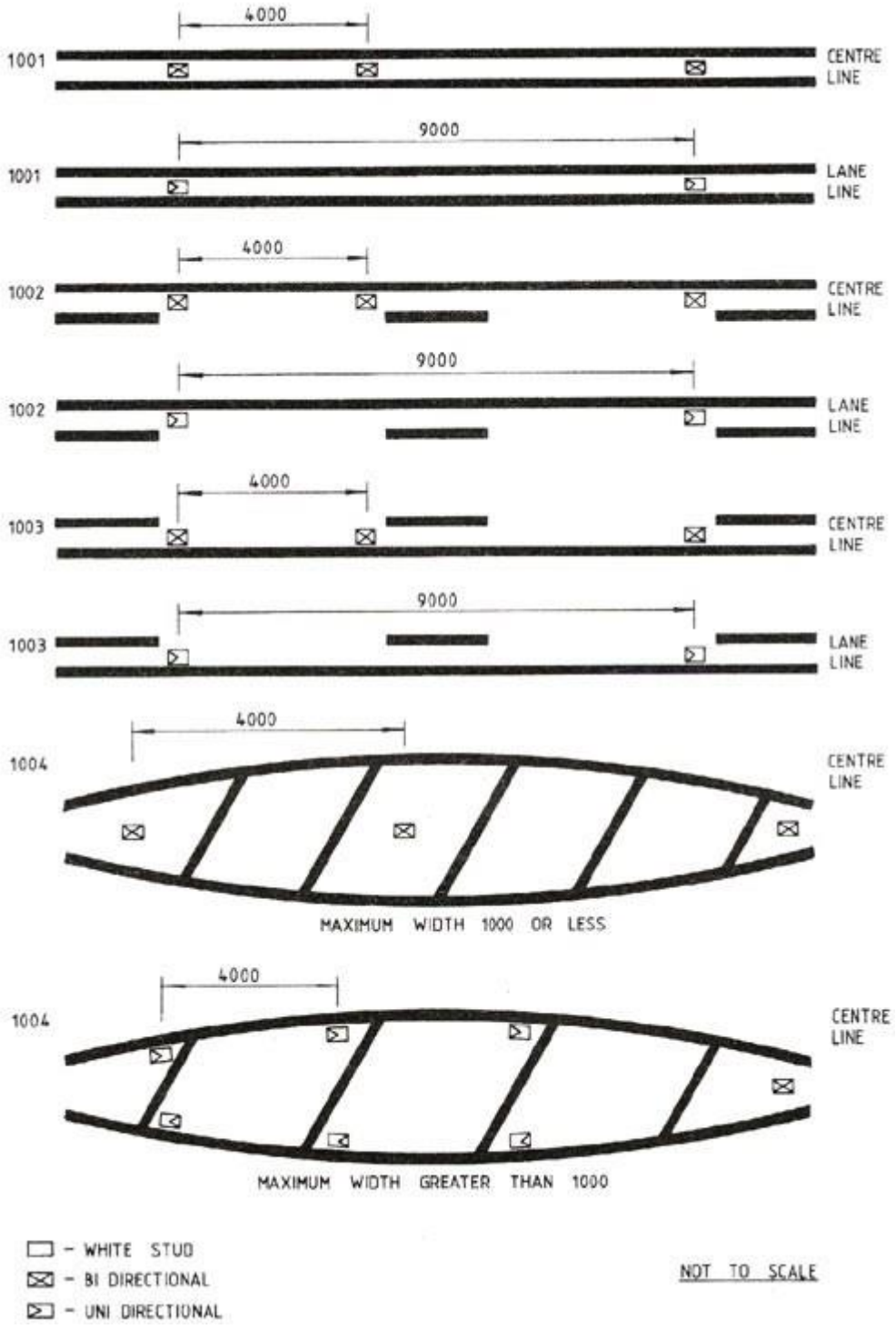
5.5.3.7 Where road studs are used on single carriageway roads they should be located in accordance with the following :-

(i) Edge line markings - to the left of the marking, Diagram 5.5.3.2

(ii) Double white lines - in the gap between the two lines, Diagram 5.5.3.1

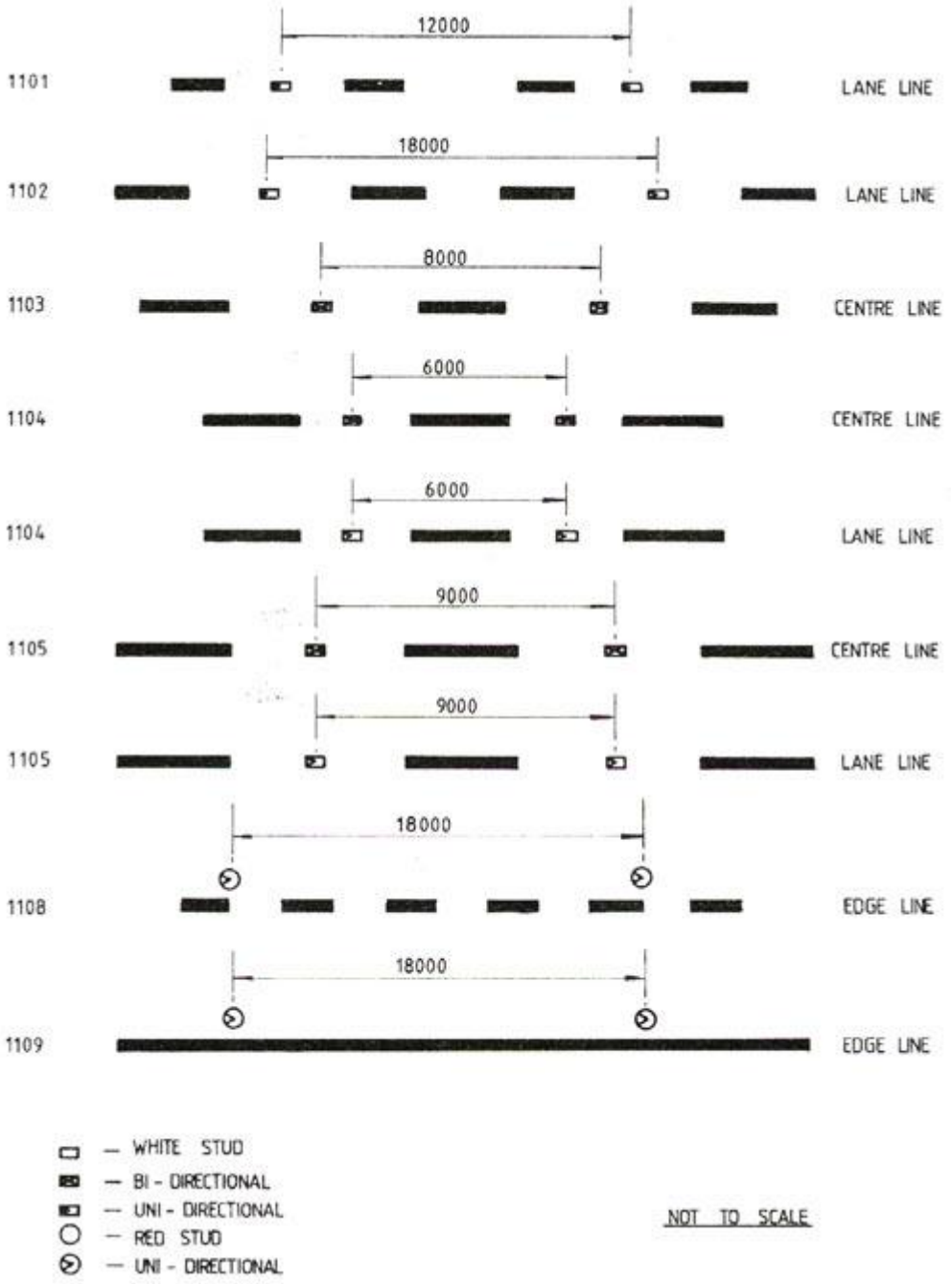
(iii) Other markings - in the center of an appropriate gap between marks, Diagrams 5.5.3.2, 5.5.3.3 and 5.5.3.4

DIAGRAM 5.5.3.1 : STUDS FOR DOUBLE WHITE LINES - SINGLE CARRIAGEWAY ROAD



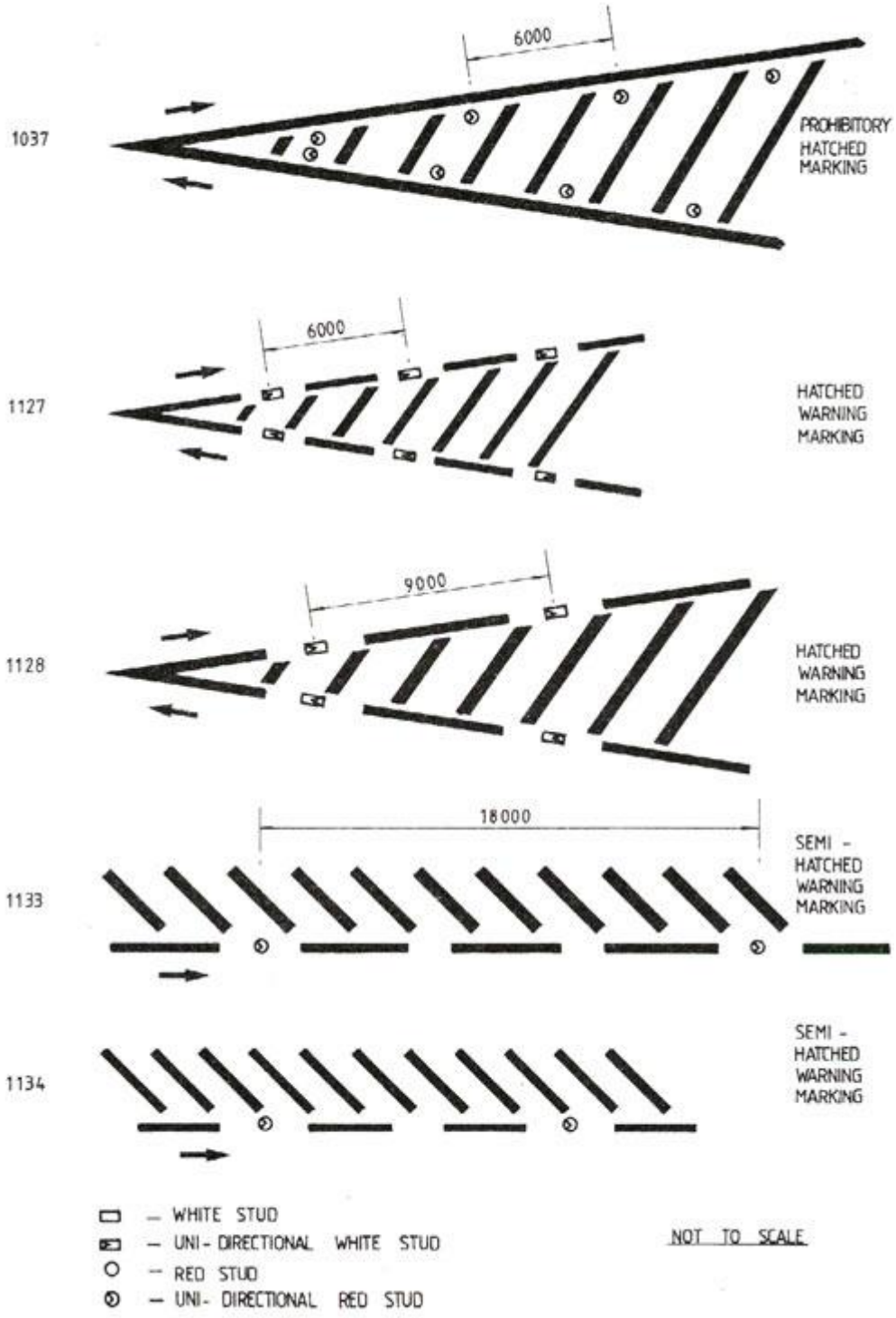
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.5.3.2 : STUDS FOR LANE, CENTRE AND EDGE LINES - SINGLE CARRIAGEWAY ROADS



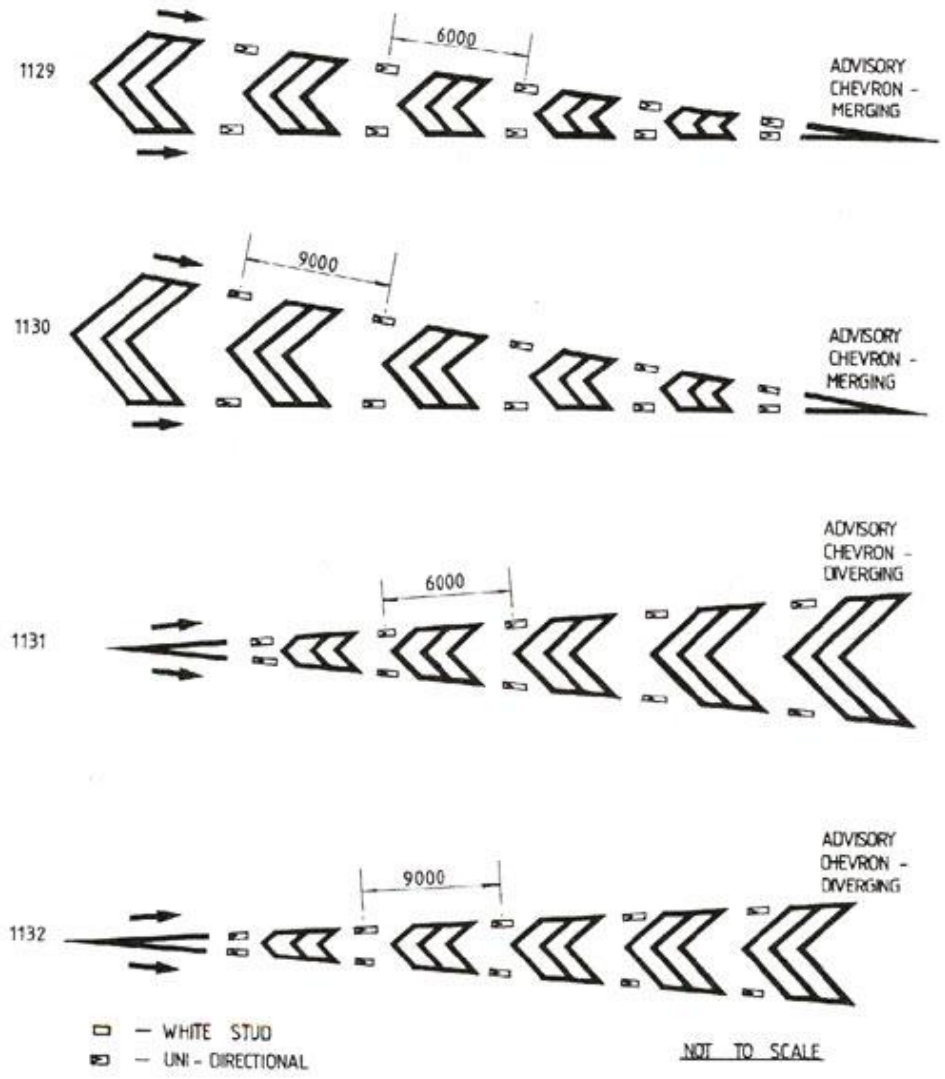
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.5.3.3 : STUDS FOR HATCHED MARKINGS - SINGLE CARRIAGEWAY ROADS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.5.3.4 : STUDS FOR CHEVRON MARKINGS - SINGLE CARRIAGEWAY ROADS



ALL DIMENSIONS IN MILLIMETRES

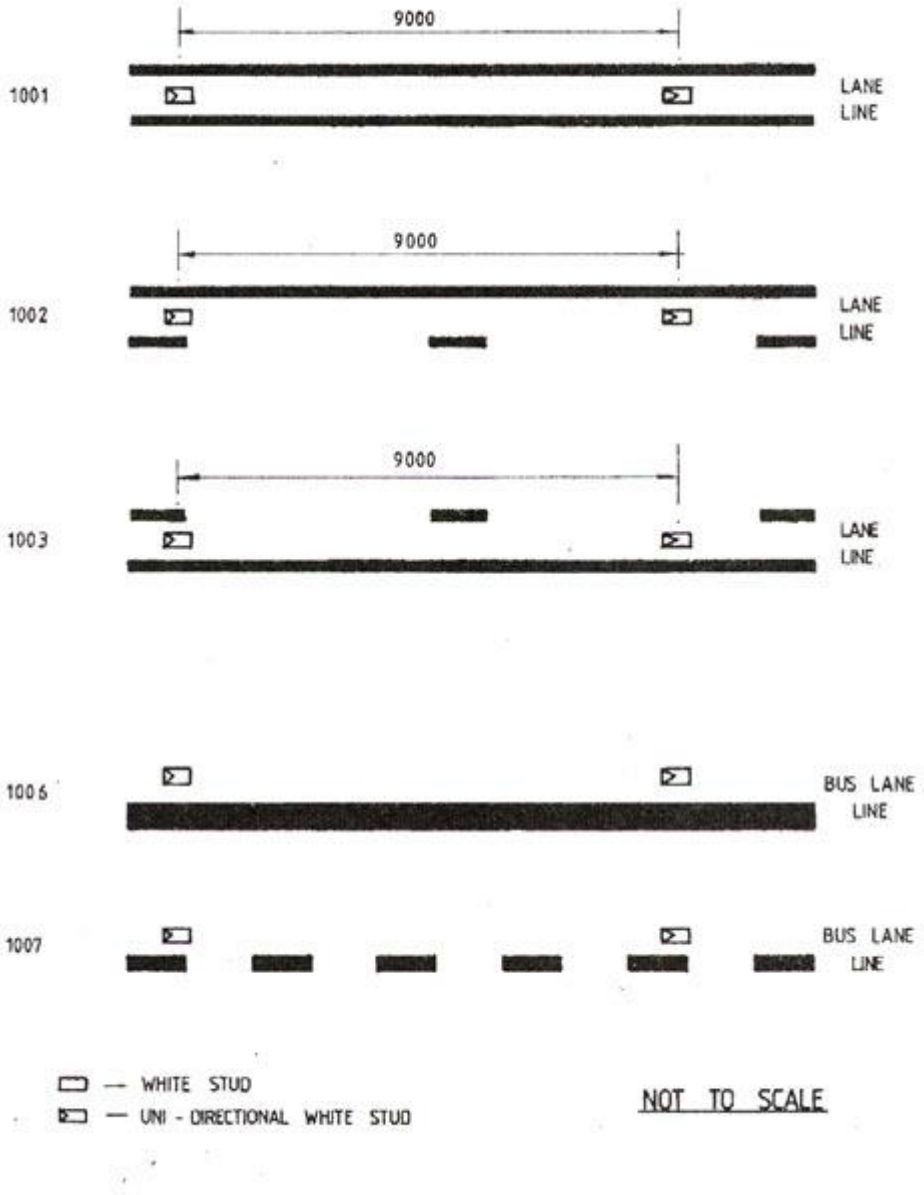
5.5.3.8 On dual carriageway roads road studs must be installed along all Expressways, Trunk and high standard Primary Distributor Roads or Rural Roads A in accordance with Table 5.5.3.2, and as illustrated in Diagrams 5.5.3.5 to 5.5.3.8 with the exception that where marginal strips are not provided the appropriate edge line studs should be omitted. Road studs should also be provided along the single carriageway section of those roads. Along other dual carriageway roads the use of studs to delineate lane lines is desirable for roads with standard geometry and high traffic speed. In respect of the edge of carriageway studs along these other roads consideration should be given to their provision only on roads which have marginal strips.

5.5.3.9 Where priority junctions marked with “stop” or “give way” lines occur along dual carriageway road green studs, road marking 1113, should not be used, but the markings for the “stop” and “give way” lines must be laid in reflective material.

5.5.3.10 With regard to the prohibitory chevron markings 1035 and 1036, the spacing of the studs will vary according to the overall length of the chevron and also the setting out details of the chevron. Wherever possible the spacing of the studs should be approximately 9000mm, that is in the centre of the gap between each three successive chevrons, with a minimum of three sets of studs being provided. For small chevrons less than 30m in length this will not be possible and the spacing may be shortened to an appropriate length to achieve three sets of studs but should not be less than 6000mm.

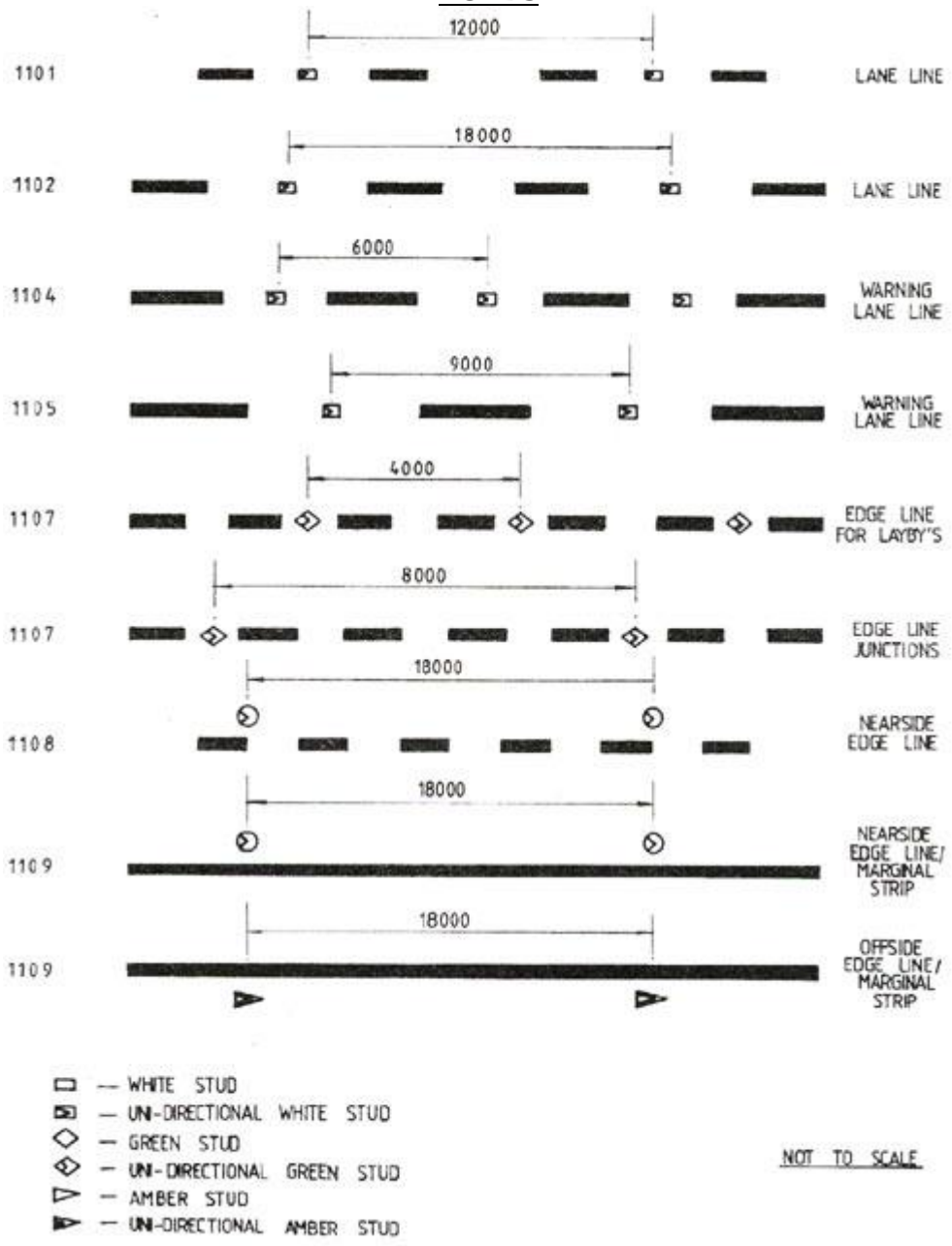
5.5.3.11 For further details of the use of studs in association with markings at junctions see Section 5.6, Junction Markings.

DIAGRAM 5.5.3.5 : STUDS FOR REGULATORY LANE LINES - DUAL CARRIAGEWAY ROADS



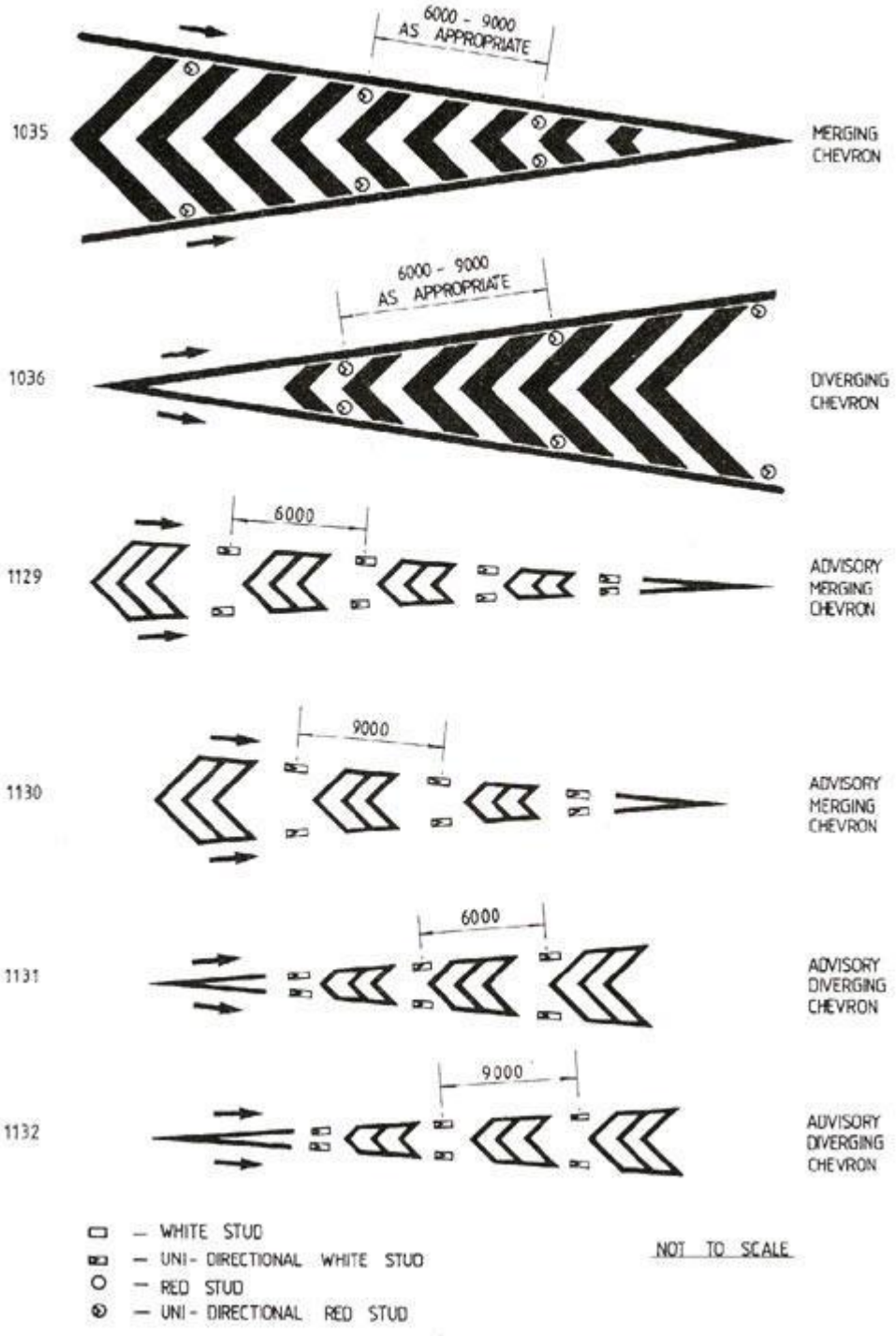
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.5.3.6 : STUDS FOR LANE AND EDGE LINES - DUAL CARRIAGEWAY ROADS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.5.3.7 : STUDS FOR CHEVRON MARKINGS - DUAL CARRIAGEWAY ROADS



ALL DIMENSIONS IN MILLIMETRES

Table 5.5.3.1 Reflective Road Studs for Single Carriageway Roads

	Line marking				Stud			
	Road Marking No.	Type	Mark (mm)	Gap (mm)	Appropriate Stud Marking No.	Lens Direction	Colour	Stud Spacing (m)
(i)	RM 1001	Double centre line	continuous		RM 1111	bi-	white	4
(ii)	RM 1001	Double lane line	continuous		RM 1110	uni-	white	9
(iii)	RM 1002	Double centre line	continuous/broken		RM 1111	bi-	white	4
(iv)	RM 1002	Double lane line	continuous/broken		RM 1110	uni-	white	9
(v)	RM 1003	Double centre line	broken/continuous		RM 1111	bi-	white	4
(vi)	RM 1003	Double lane line	broken/continuous		RM 1110	uni-	white	9
(vii)	RM 1004	Double centre line	continuous		RM 1111 or 1110	bi- or uni-	white	4
(viii)	RM 1037	Prohibitory hatched marking	continuous		RM 1112	uni-	red	6
(ix)	RM 1101	Lane line	1000	5000	RM 1110	uni-	white	12
(x)	RM 1102	Lane line	2000	7000	RM 1110	uni-	white	18
(xi)	RM 1103	Centre line	3000	5000	RM 1111	bi-	white	8
(xii)	RM 1104	Warning centre line	4000	2000	RM 1110	bi-	white	6
(xiii)	RM 1104	Warning lane line	4000	2000	RM 1110	uni-	white	6
(xiv)	RM 1105	Warning centre line	6000	3000	RM 1111	bi-	white	9
(xv)	RM 1105	Warning lane line	6000	3000	RM 1110	uni-	white	9
(xvii)	RM 1109	Edge line	continuous		RM 1112	uni-	red	18
(xviii)	RM 1127	Warning hatched marking	4000	2000	RM 1110	uni-	white	6
(xix)	RM 1128	Warning hatched marking	6000	3000	RM 1110	uni-	white	9
(xx)	RM 1129	Warning chevron marking	4000	2000	RM 1110	uni-	white	6
(xxi)	RM 1130	Warning chevron marking	6000	3000	RM 1110	uni-	white	9
(xxii)	RM 1131	Warning chevron marking	4000	2000	RM 1110	uni-	white	6
(xxiii)	RM 1132	Warning chevron marking	6000	3000	RM 1110	uni-	white	9
(xxiv)	RM 1133	Semi-hatched marking	6000	3000	RM 1112	uni-	red	18
(xxv)	RM 1134	Semi-hatched marking	4000	2000	RM 1112	uni-	red	18

Table 5.5.3.2 Reflective Road Studs for Dual Carriageway Roads

	Line marking				Stud			
	Road Marking No.	Type	Mark (mm)	Gap (mm)	Appropriate Stud Marking No.	Lens Direction	Colour	Stud Spacing (m)
(i)	RM 1001	Double lane line	continuous		RM 1110	uni-	white	9
(ii)	RM 1002	Double lane line	continuous/broken		RM 1110	uni-	white	9
(iii)	RM 1003	Double lane line	broken/continuous		RM 1110	uni-	white	8
(iv)	RM 1006	Bus lane	continuous		RM 1110	uni-	white	9
(v)	RM 1007	Bus lane	1000	1000	RM 1110	uni-	white	9
(vi)	RM 1035	Merging chevron	continuous		RM 1112	uni-	red	6 - 9
(vii)	RM 1036	Diverging chevron	continuous		RM 1112	uni-	red	6 - 9
(viii)	RM 1101	Lane line	1000	5000	RM 1110	uni-	white	12
(ix)	RM 1102	Lane line	2000	7000	RM 1110	uni-	white	18
(x)	RM 1104	Warning lane line	4000	2000	RM 1110	uni-	white	6
(xi)	RM 1105	Warning lane line	6000	3000	RM 1110	uni-	white	9
(xii)	RM 1107	Laybys, bus stops etc.	1000	1000	RM 1113	uni-	green	4
(xiii)	RM 1107	Junctions	1000	1000	RM 1113	uni-	green	8
(xiv)	RM 1108	Nearside edge line	1000	3500	RM 1112	uni-	red	18
(xv)	RM 1109	Nearside edge line	continuous		RM 1112	uni-	red	18
(xvi)	RM 1109	Offside edge line	continuous		RM 1114	uni-	amber	18
(xvii)	RM 1129	Warning merging chevron	4000	2000	RM 1110	uni-	white	6
(xviii)	RM 1130	Warning merging chevron	6000	3000	RM 1110	uni-	white	9
(xix)	RM 1131	Warning diverging chevron	4000	2000	RM 1110	uni-	white	6
(xx)	RM 1132	Warning diverging chevron	6000	3000	RM 1110	uni-	white	9

5.6 Junction Markings

5.6.1 General

5.6.1.1 It should be the objective, though it is accepted that this may take some time to achieve, that at all places where a road intersects with another road it should be clearly indicated which traffic on which road has priority over the other.

5.6.1.2 The simplest method of indicating priority at a junction is by the use of road markings.

5.6.1.3 Road markings alone however are only suitable for minor junctions and at more major junctions, these must be supplemented with traffic signs or even traffic signals.

5.6.1.4 Apart from establishing priority, road markings at junctions also ensure that the full capacity of the junction is exploited by dividing the approach road into traffic lanes and by directing traffic requiring to make certain manoeuvres into particular lanes.

5.6.1.5 To achieve the full benefits of road markings at junctions it is necessary that these are properly maintained and that the material used is of the required standard, being reflective, durable and having a high skidding resistance. If regular maintenance is not carried out or inferior material is used then the markings will be of only limited if any value.

5.6.1.6 For advice on the detailed design of junctions Chapter 4 of Volume 2 should be referred to generally and for specific advice on signal controlled junctions Volume 4should be consulted.

5.6.2 Priority Junction Markings

5.6.2.1 In the Territory there is not, unlike other countries, a priority rule, where for example vehicles at a junction must give way to vehicles on their right. Because of this, uncertainty and danger can arise at unmarked junction as to who has priority, and to avoid this it should be the objective to ensure that all junctions are suitably marked.

5.6.2.2 It is recognized that the marking of all junctions will take some time to complete, and therefore in the determination of any programme to carry out this work, the following order or priority is recommended :

(i) All junctions with Trunk Roads, Primary Distributor Roads, and Rural Roads A, not otherwise controlled.

(ii) Other junctions where there are difficulties which could give rise to accidents, or where accidents have occurred.

(iii) All junctions with District Distributor Roads and Rural Roads B

(iv) All junctions with Local Distributor Roads and Feeder Roads

(v) All other junctions

The above priority is for guidance only and should not prejudice the marking of any particular junction if the opportunity arises merely because it has lower priority than other junctions. For example in new developments all junctions should be suitably marked prior to opening of traffic regardless of the road hierarchy.

5.6.2.3 Road marking 1013, “Give Way” is the most commonly used method for indicating priority and should be used in preference to road marking 1012, “Stop”, unless circumstances indicate otherwise at the following locations :

(i) at all junctions, which are not signal controlled, and there is a need to indicate which approaches have priority, and

(ii) at all roundabout approaches.

5.6.2.4 It is relevant to note that the legislation does permit road marking 1013 to be used without traffic sign 102, “Give Way”, and therefore at minor intersection the signing implications are greatly reduced. Further information of when signs and road markings should be used together or not are given in paragraph 2.3.2.16 of Chapter 2.

5.6.2.5 Normally as shown in Diagram 5.6.2.1 road marking 1013, should align with the kerbline of the more major road, and extend across the exit half of the minor junction, with road marking 1106, junction edge line, laid across the entry side of the road.

5.6.2.6 On all two way approaches, as shown in Diagrams 5.6.2.1, 5.6.2.2 and 5.6.2.3, road marking 1013 should always be accompanied by central longitudinal warning line, road marking 1104 or 1105, having at least seven marks in accordance with table 5.4.2.3, other than in exceptional circumstances.

5.6.2.7 Where the minor road is narrow and to divide the road into two halves would result in road marking 1013 being less than 2.75m long, then road marking 1013 should be extended across the full width of the carriageway as shown in Diagram 5.6.2.1.

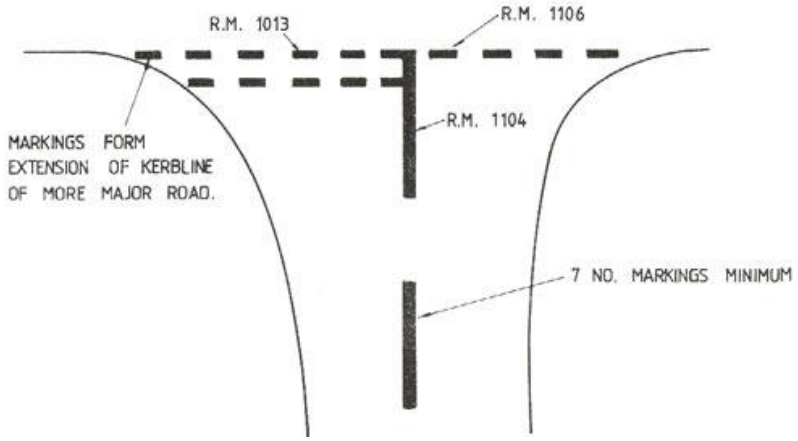
5.6.2.8 Along some of the more rural roads there may not be a defined kerbline and at these locations it will be necessary to determine on site the appropriate location where the “Give Way” road marking 1013 should be laid. Often along these roads visibility from the lesser road is restricted or the lesser road is little more than a run-in. To assist visibility both from the minor of the two roads, and for drivers of vehicles on the more major road, road marking 1013 should be laid as close to the inner wheel path of traffic along the more major road as possible. In respect of the latter the resultant lane width along the major road should preferably be not less than 3m and never less than 2.75m. At such junctions it can also be helpful, as shown in Diagram 5.6.2.1 to use the edge line road marking 1107 on the approach or both sides of the junction, as required, to impose an artificial kerbline so that the actual junction markings can be laid closer to the centre line of the main road. Obviously where the visibility still falls below the accepted criteria, as given in Table 2.3.2.1 of Chapter 2, it will be necessary to consider whether “Stop” signs and markings should be laid.

5.6.2.9 In respect of the markings used along the more major of the two carriageways at these minor road junctions, as shown in Diagram 5.6.2.2, the centre line road marking 1103 should normally be used. However where traffic emerging from the side road exceeds 100 vehicles per hour, or the visibility to the junction is less than that given in Table 5.4.2.5, road markings 1104 or 1105, warning lines, as appropriate must be provided.

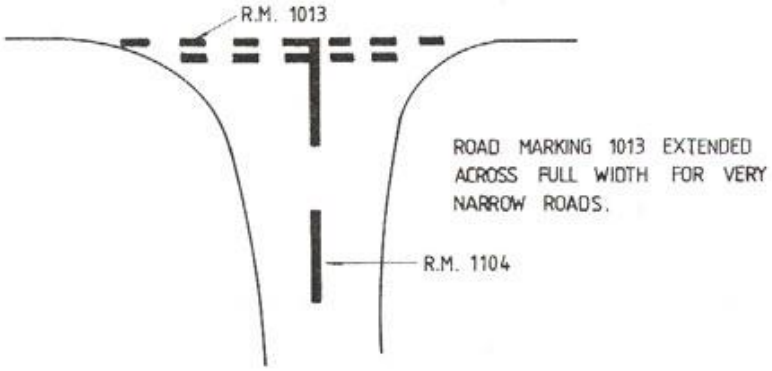
5.6.2.10 In the situation where road marking 1001, double white line, has been used as the centre line marking on the major road, this should be continued through the junction, as it is not necessary to provide a break in the marking as vehicles are permitted to turn right across road marking 1001. In any event the double white line should not be broken as it would provide a gap where legally overtaking could take place and from a road safety point of view this could be very dangerous. However where there is a four way junction, there is no dispensation under the regulations for vehicles to drive straight across double white lines. Therefore either the minor roads need to be marked with appropriate arrow markings indicating all the directions in which a vehicle may be driven, or road marking 1001 must be broken either side of the junction.

DIAGRAM 5.6.2.1 : MINOR / MINOR ROAD JUNCTIONS

NORMAL LAYOUT FOR MINOR/MINOR ROAD JUNCTIONS



NARROW MINOR ROAD APPROACH



MINOR / MINOR ROAD JUNCTION WITH NO DEFINED KERBLINE

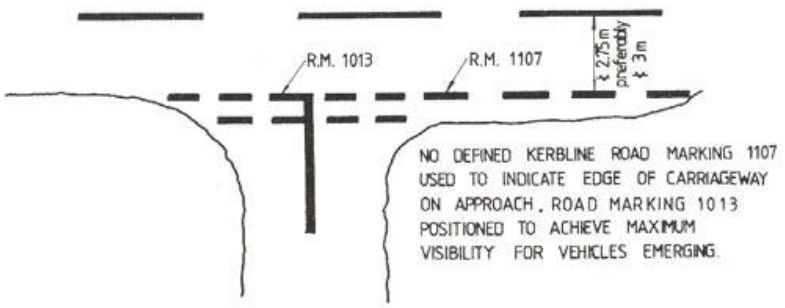


DIAGRAM 5.6.2.2 : MINOR / MINOR ROAD JUNCTION MARKINGS ALONG MORE MAJOR ROAD

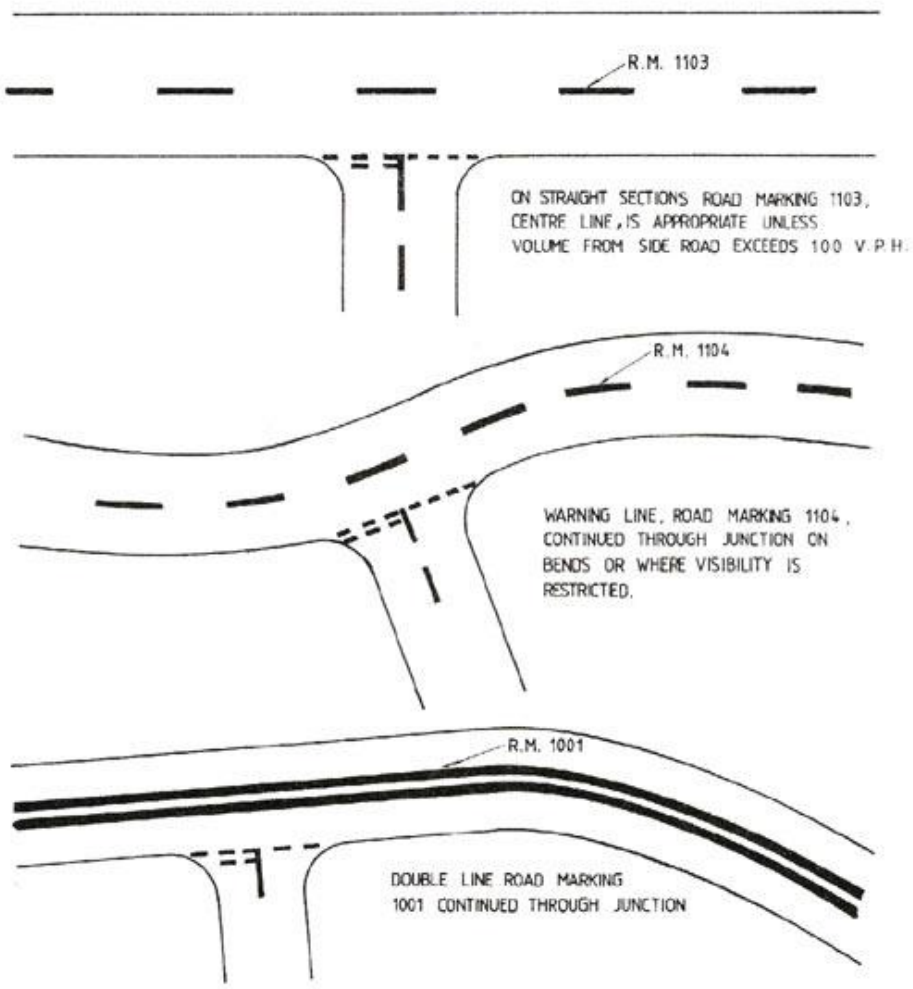
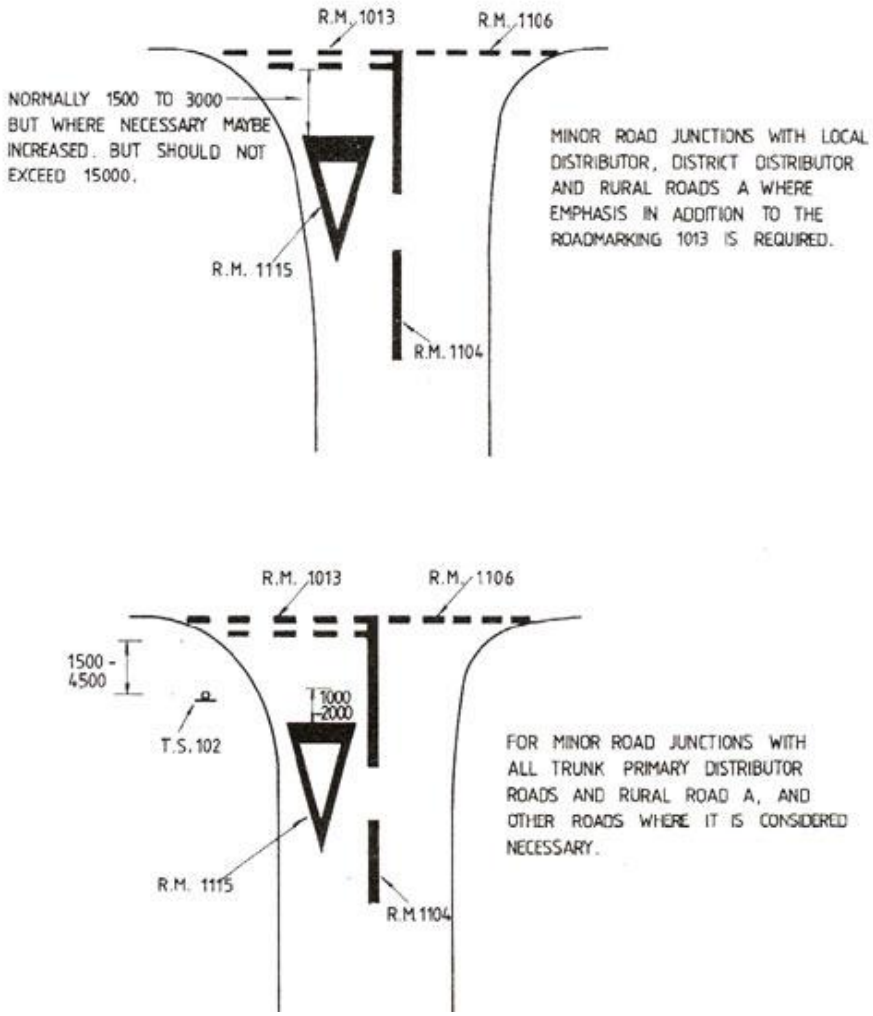


DIAGRAM 5.6.2.3 : MINOR / MAJOR ROAD JUNCTIONS MARKINGS FOR MINOR ROADS



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5.6.2.11 As the importance of the priority junction increases so will it be necessary to upgrade the markings used. In this respect the next stage is to provide road marking 1115, “Give Way Symbol”, in addition to road marking 1013.

5.6.2.12 Whilst it will be a matter of judgement to determine whether the use of road marking 1115 is necessary or not, at junctions with Local Distributor Roads, District Distributor Roads and Rural Roads B, where traffic from the side road exceeds 100 vehicles per hour, such a marking would normally be considered appropriate.

5.6.2.13 At locations where road marking 1115 is used in conjunction with road marking 1013, as shown in Diagram 5.6.2.3 the symbol should normally be located between 1.5m to 3m in front of road marking 1013. However to suit particular circumstance this distance may be increased but should never be greater than 15m.

5.6.2.14 With regard to roads having junctions with, Trunk Roads, Primary Distributor Roads and Rural Roads A the use of road markings 1013 and 1115 along is not sufficient and at these locations it is also essential to erect in addition traffic sign 102, “Give Way”. It is relevant to note that where traffic sign 102 is erected it must always be accompanied by road markings 1013 and 1115.

5.6.2.15 Traffic sign 102 should be erected 1.5m in advance of road marking 1013 as shown in Diagram 5.6.2.3. However at some locations this may not be possible or it may cause inconvenience to pedestrians, and therefore in these situations the traffic sign 102 may be positioned further in advance of road marking 1013 but not more than 4.5m. Road marking 1115 should be located 1m to 2m in advance of traffic sign 102.

5.6.2.16 For roads other than those mentioned in paragraph 5.6.2.14 it will be a matter of judgement as to whether both road markings 1013, 1115 and traffic sign 102 is necessary but where the following occur it is suggested that they should be provided :

(i) where the approach speed on the minor road is high relative to the character of the road;

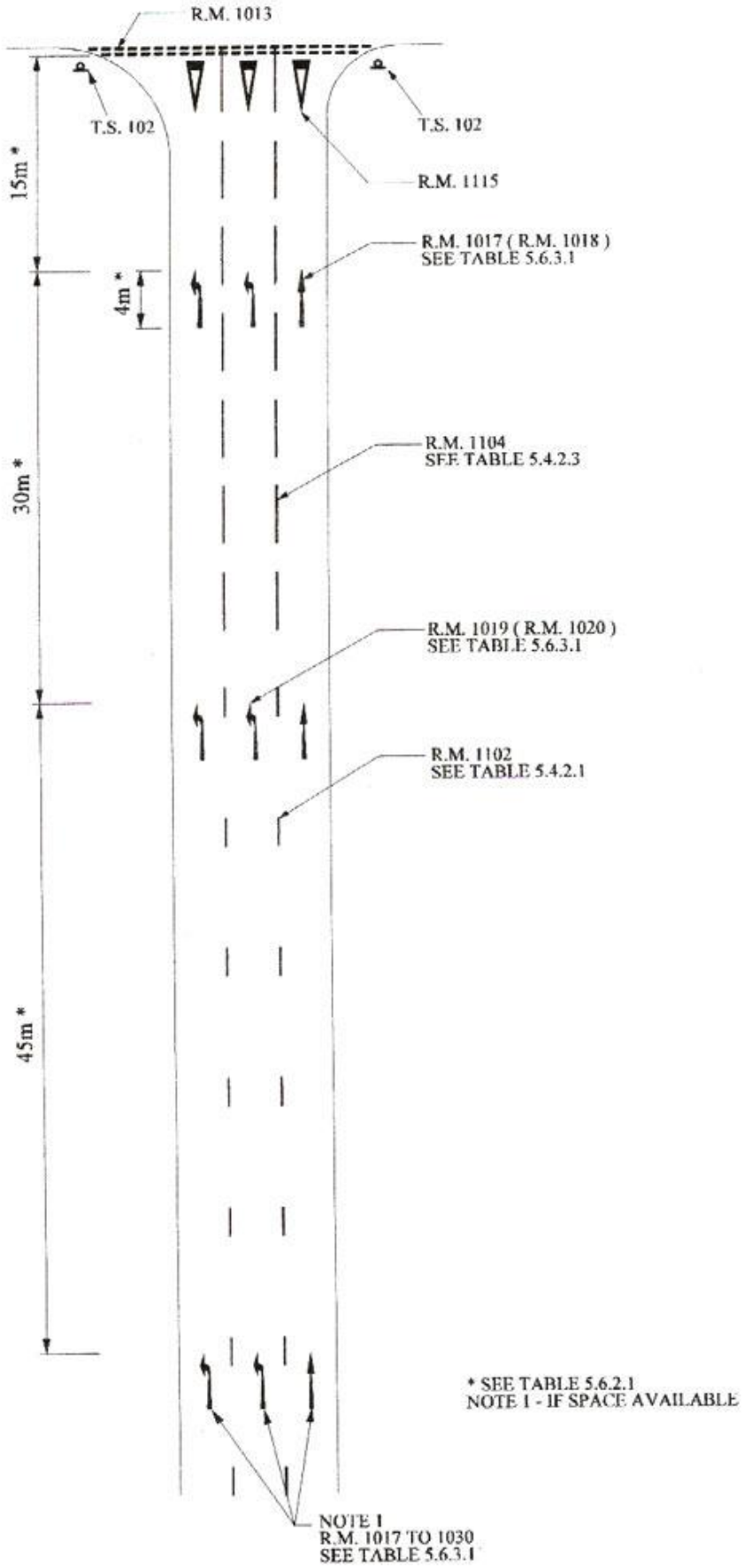
(ii) where visibility at the junction is restricted, and visibility requirements in accordance with paragraph 4.3.8.2 of Chapter 4, Volume 2 cannot be achieved;

(iii) where the minor road forms part of a through traffic route;

(iv) on one way streets having more than two approach lanes.

5.6.2.17 Where there is more than one approach lane to a junction and road marking 1115 is to be used, as shown in Diagram 5.6.2.4, each lane must be individually marked.

DIAGRAM 5.6.2.4 : MULTI - LANE APPROACH AT PRIORITY JUNCTION



5.6.2.18 On one way streets where traffic sign 102 is erected it should be located on both sides of the road as shown in Diagram 5.6.2.4. At some one way street junctions, and at two way road priority junctions, it may be appropriate to provide directional arrows in accordance with road markings 1017 to1030. These should be located in advance of the junction in accordance with Table 5.6.2.1. A third arrow together with/or directional sign may be considered appropriate at difficult locations providing that it will not cause obstruction or confusion.

Table 5.6.2.1
Location of Directional Arrows at Priority Junctions

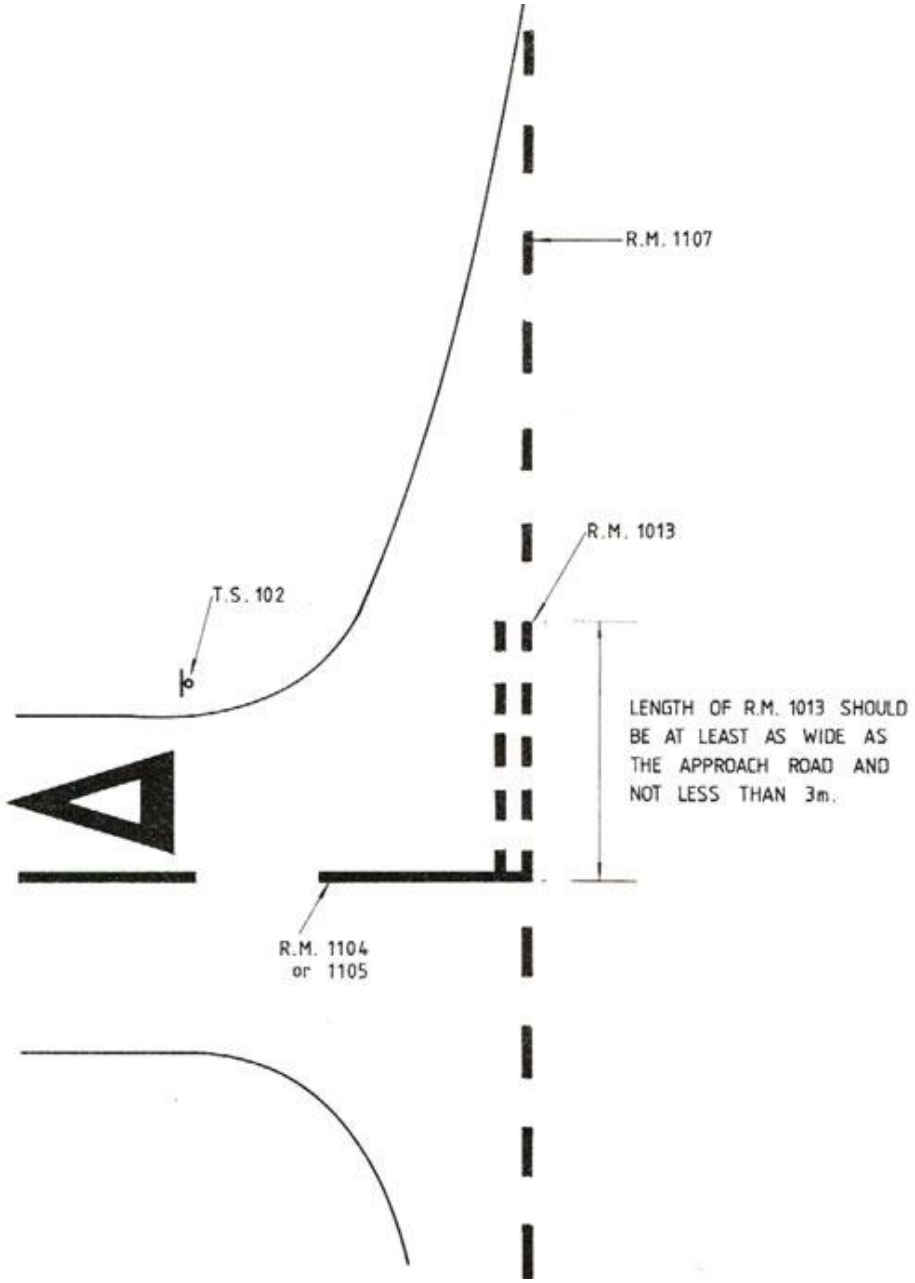
	Road Marking No.	Appropriate for roads having speed limits of : (km/h)	Arrow Height (mm)	1st Arrow Distance from RM 1012or 1013	2nd Arrow Distance from 1st arrow (m)	3rd Arrow Distance from 2nd arrow (m)
(i)	RM 1017	50 or less	4000	15	30	45
	RM 1019					
	RM 1021					
	RM 1023					
	RM 1025					
	RM 1027					
	RM 1029					
(ii)	RM 1018	70 or more	6000	25	50	25
	RM 1020					
	RM 1022					
	RM 1024					
	RM 1026					
	RM 1028					
	RM 1030					

5.6.2.19 Where directional arrows are used it is relevant to note that a driver may change lanes before the junction but after having passed over the "Give Way" line must in accordance with the Regulations proceed in the direction indicated by the arrows. Further information on this aspect is given in Section 5.6.3. in respect of signal controlled junctions.

5.6.2.20 Where a minor road joins the major road by means of a merging (acceleration) lane it is not appropriate to use road marking 1013, "give way lines", unless vehicles from the minor road are permitted to turn right. If this is the case then as shown in Diagram 5.6.2.5, road marking 1013, should extend from the centre of the minor road for a width at least as wide as the minor road, but not less than 3m, and road marking 1107 should indicate the remainder of the merging lane.

5.6.2.21 The criteria as to when it is appropriate to install the "Stop", traffic sign 101 at a priority junction are given in paragraphs 2.3.2.2. to 2.3.2.14 of Chapter 2. However where it is agreed that this type of control should be provided, then traffic sign 101, must be accompanied by road marking 1012, Stop Line, and road markings 1138or 1139"Stop", as appropriate as shown In Diagram 5.6.2.6. Additionally warning lines, to road markings 1104or 1105, as appropriate and in accordance with Table 5.4.2.3 must he laid as the centre line marking.

DIAGRAM 5.6.2.5 : MERGING LANE WITH RIGHT TURNING FACILITIES



5.6.2.22 With regard to road marking 1012, as shown in Diagram 5.6.2.6, the double lines should normally be placed so that the nearest of the lines to the major road forms a continuation of the kerbline of the major road.

5.6.2.23 In respect of road markings 1138 and 1139, “Stop”, the appropriate one to use should be in accordance with Table 5.6.2.2. Further information on the letter and character styles can be found in Section 5.8, “Letter and Character Markings”.

Table 5.6.2.2
"Stop" Letter and Character Marking Dimensions

	Road Marking No.	Appropriate for roads having speed limits of : (km/h)	Height of English Letters (mm)	Height of Chinese Characters (mm)	Overall Width of English Letters (mm)	Overall Width of Chinese Characters (mm)
(i)	RM 1138	50 or less	1600	2700	2050	900
(ii)	RM 1139	70 or more	2800	4700	2050	900

5.6.2.24 Where on the approach to a junction controlled by traffic sign 101, "Stop" or traffic sign 102, "Give Way", the visibility of the signs is less than given in Table 2.4.2.1 of Chapter 2, it will be appropriate to erect traffic sign 401, as a warning of the "Stop" or "Give Way" control ahead. On roads where approach speeds may be high relative to the general character of the road it may also be appropriate to install road markings 1141 or 1142 "Slow", as appropriate on the road adjacent to traffic sign 401 to provide additional emphasis and warning, as shown in Diagram 5.6.2.7.

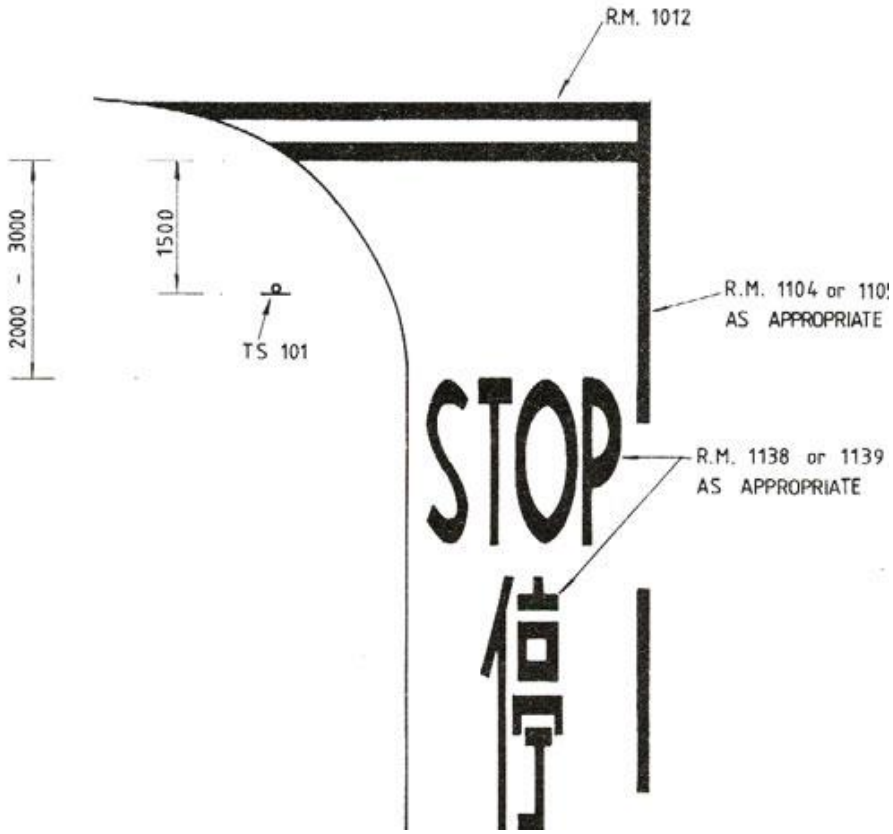
5.6.2.25 Table 5.6.2.3 indicates in respect of the "Slow" markings, when either road marking 1141 or 1142should be used. However it is stressed that road markings 1141 or 1142 are not appropriate for use in the immediate vicinity of any priority controlled junctions nor should they be used as a replacement for road markings 1115 "Give Way symbol", or 1138 or 1139 "Stop".

Table 5.6.2.3
"Slow" Letter and Character Marking Dimensions

	Road Marking No.	Appropriate for roads having speed limits of : (km/h)	Height of English Letters (mm)	Height of Chinese Characters (mm)	Overall Width of English Letters (mm)	Overall Width of Chinese Characters (mm)
(i)	RM 1141	50 or less	1600	2700	2280	2280
(ii)	RM 1142	70 or more	2800	4700	2080	2080

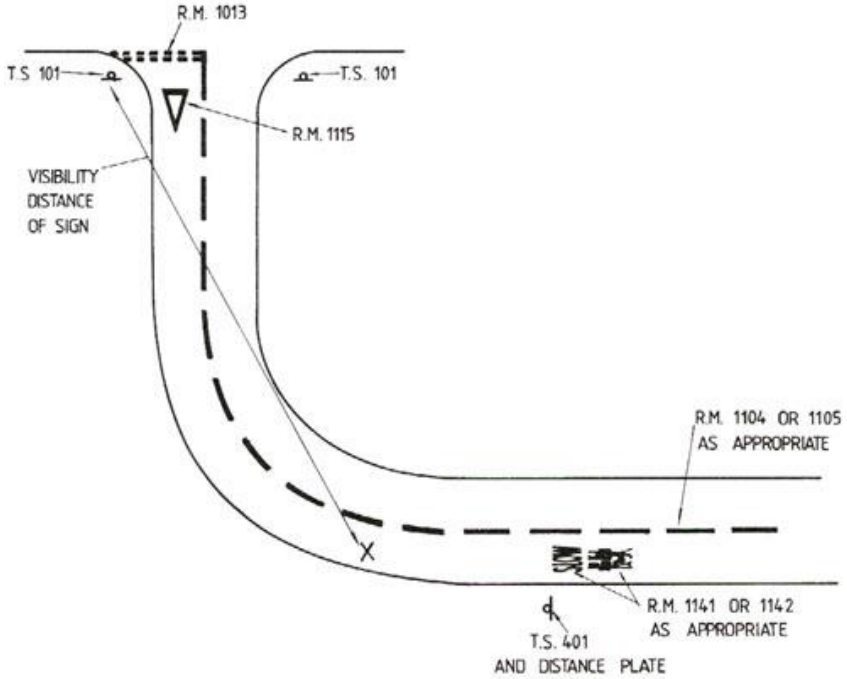
5.6.2.26 Further advice on the use of road markings 1141 and 1142 is contained in Section 5.8, "Letter and Character Markings".

DIAGRAM 5.6.2.6 : "STOP" PRIORITY JUNCTION



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DIAGRAM 5.6.2.7 : ADVANCE WARNING OF PRIORITY CONTROLLED JUNCTION



WHEN VISIBILITY OF SIGN AT JUNCTION IS LESS THAN CRITERIA GIVEN IN TABLE 2.4.2.1 OF CHAPTER 2 ADVANCE WARNING OF JUNCTION SHOULD BE GIVEN. ALSO APPROPRIATE FOR " STOP " CONTROLLED PRIORITY JUNCTION.

5.6.2.27 In addition to the markings on the lesser of the two roads of a major road junction, as with minor road junctions mentioned in paragraph 5.6.2.6, road markings are also required along the main road.

5.6.2.28 Diagrams 5.6.2.8, 5.6.2.9 and 5.6.2.10 illustrate the various road markings used at major priority junctions. However for examples of different types of these junctions Section 4.3.16 of Chapter 4, Volume 2 should be consulted.

5.6.2.29 On two way roads where central traffic islands or refuges are provided, any road markings leading to the refuges should be either inclined so that the marking passes to the side of the island or refuge and there is a gap between the marking and the island of at least 100mm and preferably 200mm or more, as illustrated in Diagram 5.6.2.11, or splayed as also shown in Diagrams 5.6.2.10 and 5.6.2.11. Generally where approach speeds are 70 km/h or more it is preferable to splay the markings as this provides a clearer warning to motorists. On other roads where approach speeds are less, engineering judgement will be necessary to determine whether inclined markings are acceptable or not.

5.6.2.30 Although box junction markings are normally associated with signal controlled junctions they can also be used at priority junctions. One use in this respect is half boxes at a T junction as shown in Diagram 5.6.2.12. Without the box marking traffic on the main road would have difficulty in turning right into the side road, and thus obstruct traffic behind. Further details of the dimensions of box junction markings and their use are given in paragraphs 5.3.2.45 to 5.3.2.53 and Appendix 2. Additionally advice on box junction markings is also given in paragraphs 5.6.3.12 to 5.6.3.16 in respect of signal controlled junctions.

DIAGRAM 5.6.2.8 : SIMPLE PRIORITY CONTROL AT MAJOR ROAD JUNCTIONS

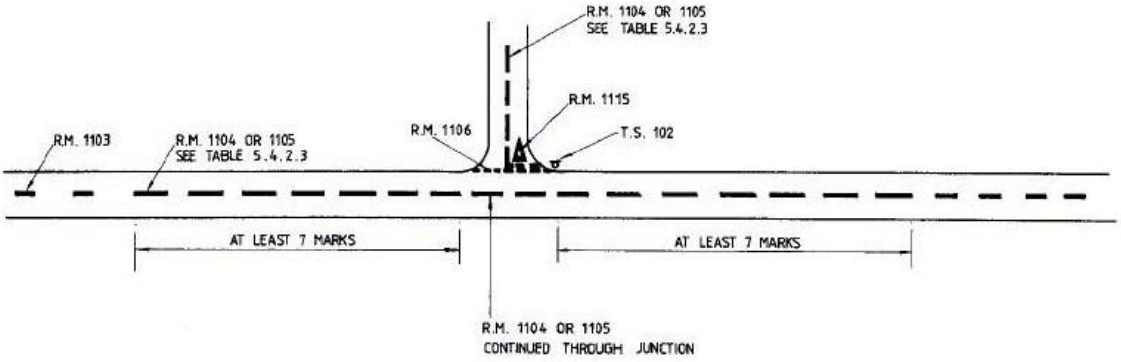


DIAGRAM 5.6.2.9 : SHADOW ISLANDS AT PRIORITY CONTROLLED JUNCTIONS

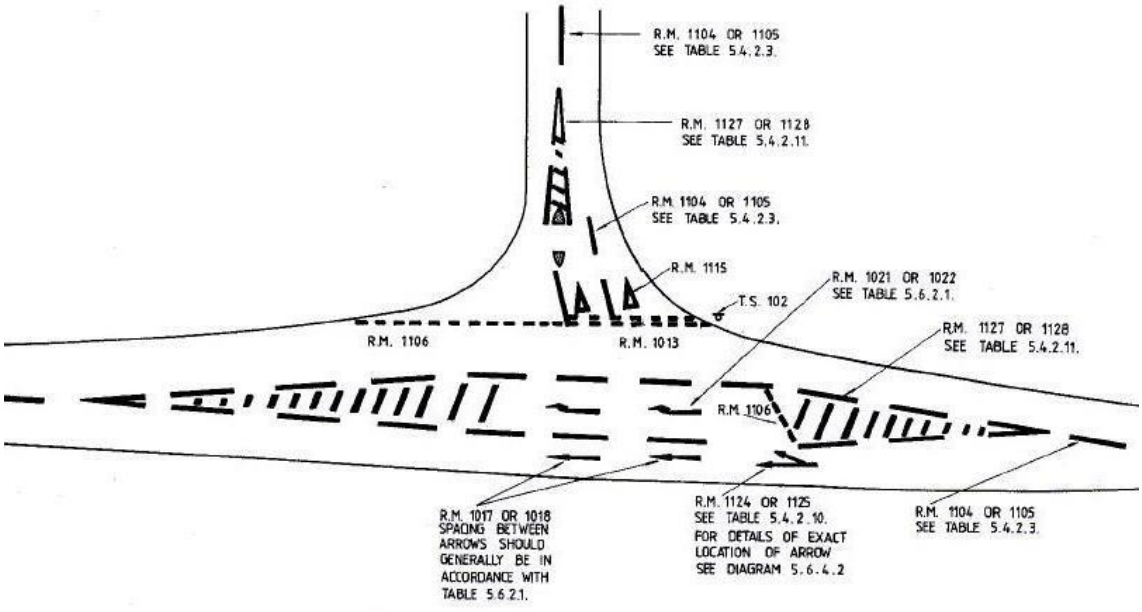


DIAGRAM 5.6.2.10 : PRIORITY CONTROLLED JUNCTION WITH LOCAL WIDENING TO PROVIDE CENTRAL ISLAND

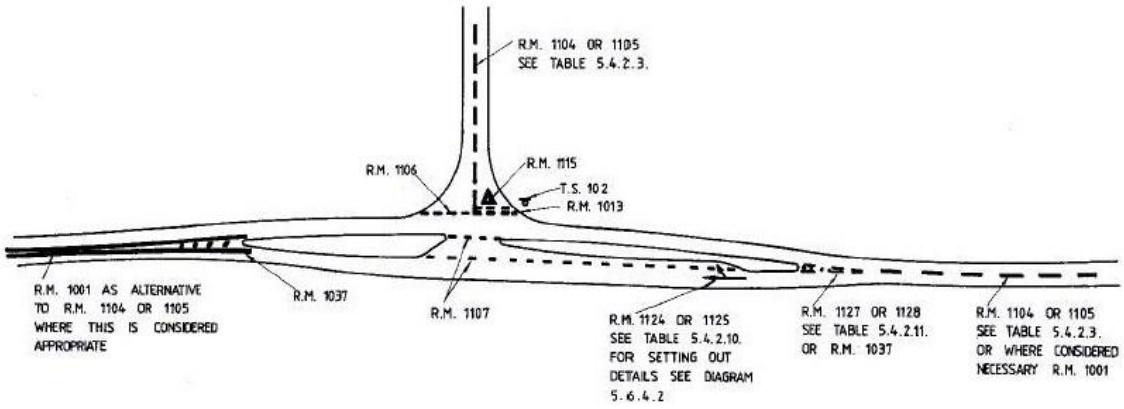
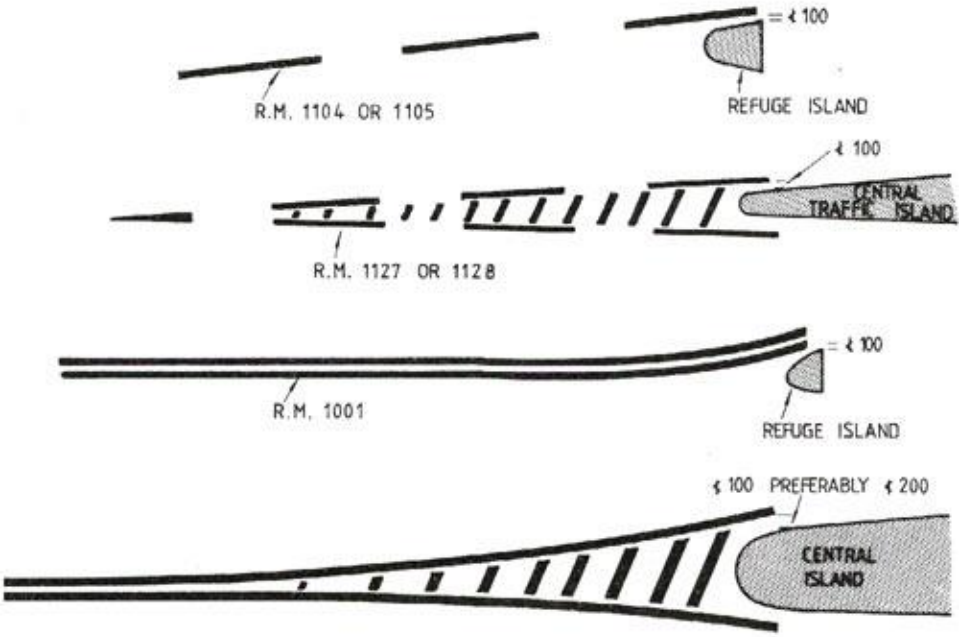
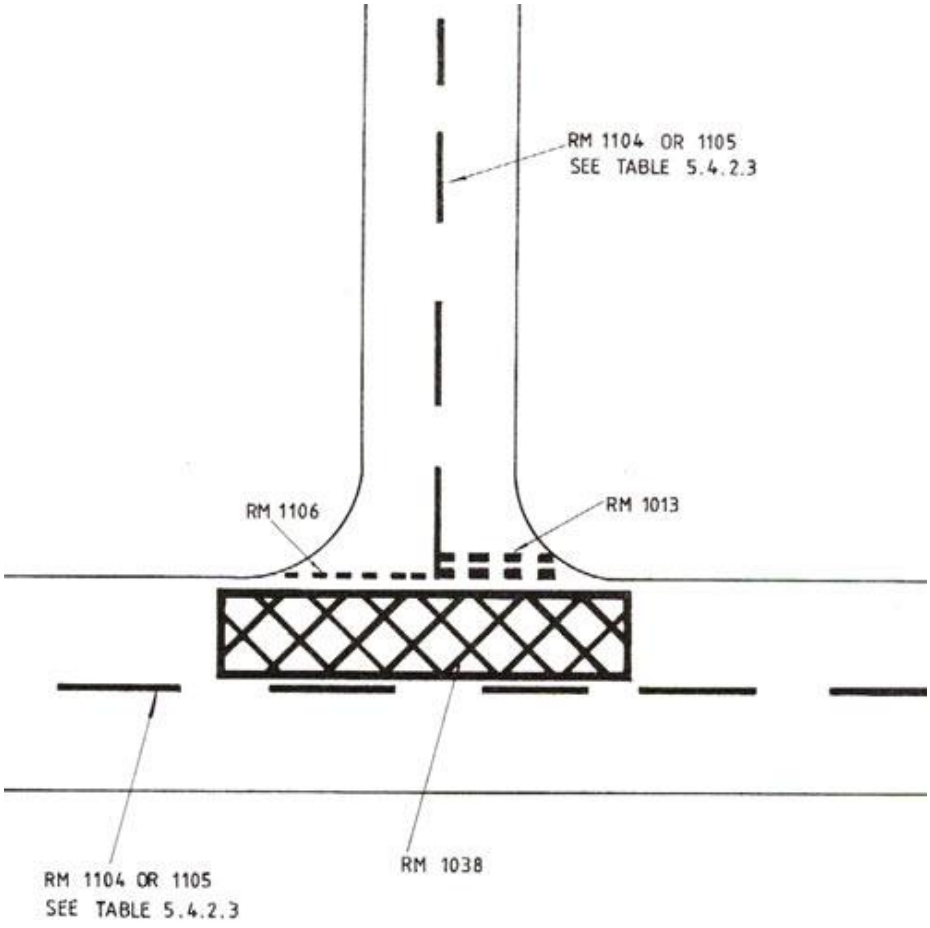


DIAGRAM 5.6.2.11 : MARKINGS AT CENTRAL ISLANDS AND REFUGES



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DIAGRAM 5.6.2.12 : HALF BOX JUNCTION



5.6.3 Signal Controlled Junctions

5.6.3.1 Advice on the detailed design of signal controlled junctions is contained within Volume 4, and should be consulted in respect of the actual lane widths and other design features.

5.6.3.2 Diagram 5.6.3.1 indicates the basic road markings required for a signal controlled junction.

5.6.3.3 Road marking 1011, "stop line", should normally be located 1m before the nearside primary signals.

5.6.3.4 Directional arrows, road markings 1017 to 1030 should be used on the approach lanes in accordance with table 5.6.3.1 to indicate the direction that traffic must proceed after having passed the stop line, road marking 1011, although motorists may change lanes before this. At least two arrows should be used on the approach lanes in advance of the stop line, generally in accordance with the spacing given in Table 5.6.3.1, but these distances may be varied by + 5m or - 5m to suit particular circumstances. A third arrow together with/or directional sign (see para 2.3.4.14 and 15) may be considered appropriate in the following circumstances :

(i) where there is more than one left or right turn lane;

(ii) where there are high traffic volumes;

(iii) when approach speeds are 70 km/h or more;

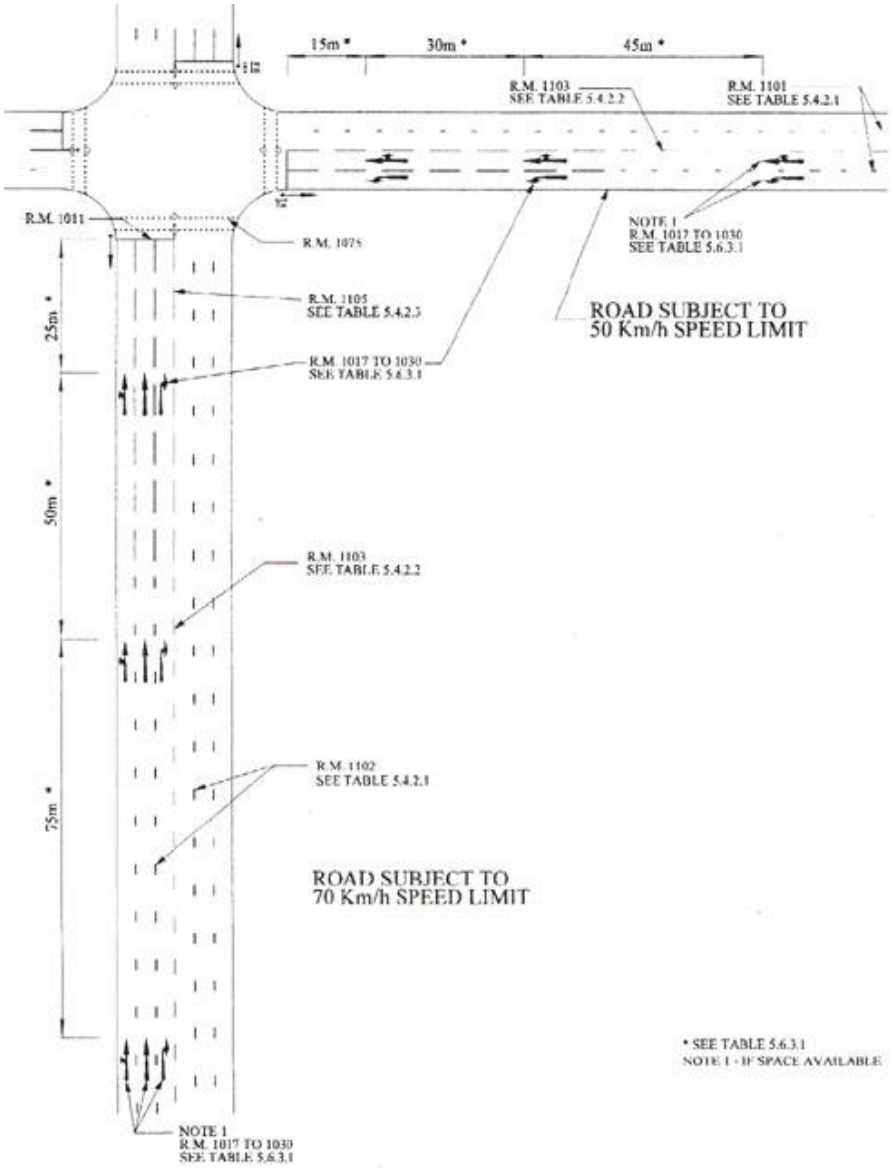
(iv) where additional lanes are added; and

(v) where the lane allocation is not obvious.

Table 5.6.3.1
Directional Arrows at Signal Controlled Junctions

	Road Marking No.	Appropriate for roads having speed limits of : (km/h)	Arrow Height (mm)	1st Arrow Distance from stop line (m)	2nd Arrow Distance from 1st arrow (m)	3rd Arrow Distance from 2nd arrow (m)
(i)	RM 1017	50 or less	4000	15	30	45
	RM 1019					
	RM 1021					
	RM 1023					
	RM 1025					
	RM 1027					
	RM 1029					
(ii)	RM 1018	70 or less	6000	25	50	75
	RM 1020					
	RM 1022					
	RM 1024					
	RM 1026					
	RM 1028					
	RM 1030					

DIAGRAM 5.6.3.1 : ROAD MARKINGS FOR SIGNAL CONTROLLED JUNCTION



5.6.3.5 Although enforcement of road markings 1017 to 1030, “Directional Arrows”, is the concern of the police it is important that the various aspects of this are appreciated by others so that these markings are used uniformly throughout the Territory and there is a consistent approach with regard to their enforcement. In this respect road markings 1017 to 1030 must not be used to indicate a turning prohibition, as traffic signs 107, “Turn Left”, 108, “Turn Right”, 131, “No Left Turn”, 132 “No Right Turn”, as appropriate must be used to indicate this.

5.6.3.6 The regulatory requirements for road markings 1017 to 1030, Directional Arrows, are given in the description to Figure No. 509, of the second schedule of the Road Traffic (Traffic Control) Regulations. The intention of this description is that vehicles may change lanes before the stop line, but after passing this must continue through the junction in the direction indicated by the arrow in the lane that the vehicle was driven from. It is not the intention to describe every situation in respect of illegal or acceptable movements at a junction where directional arrows are used but Diagrams 5.6.3.2 to 5.6.3.6 illustrate the main points with regard to this, and a brief description of each of the Diagrams is as follows :-

(i) Diagram 5.6.3.2
Traffic emerging from a “straight ahead” lane, on Approach A, in the Diagram, will be able to utilize any of the lanes on Exit C, as they will still be proceeding in the straight ahead direction. However once having passed beyond the extension to the kerb line of the minor road into Exit B an offence has been committed.

(ii) Diagram 5.6.3.3
Traffic emerging from a left turn marked lane could turn into any lane if there was more than one on Exit B, therefore an offence would not be committed until the vehicle passed the centre line extension of Approach B. It is essential that this centre line marking is clearly defined by appropriate warning line markings or if there is a traffic island by the use of a “keep left”, traffic sign 109, incorporated into the bollard on the island. Though the latter sign will face across the junction, towards Approach D.

(iii) Diagram 5.6.3.4
This Diagram is similar to Diagram 5.6.3.3 in that it illustrates that an illegal straight ahead movement from the minor road, Approach B, has not been made until the front of the vehicle passes the centre line formed by the central refuges of Approach C. As before the vehicle could utilize any of the lanes on Exit C to make the turn.

(iv) Diagram 5.6.3.5
Similarly to left turn movements an illegal right turn from the straight ahead lane on Approach A will not have been made until the front of the vehicle passes the extension of the centre line continuation of Approach A to Exit C, as shown in the Diagram.

(v) Diagram 5.6.3.6
Large vehicles do experience difficulties in making certain turns and it is important that as far as possible an adequate radius is provided to avoid vehicles having to encroach on to any adjacent lane in order to make the term. Whilst as shown in the Diagram such a manoeuvre is not illegal, it obviously can obstruct traffic from the straight ahead lane on Approach A. Additionally if in an attempt to more easily make the turn the vehicle had been moved partially in to the straight ahead lane on Approach A, that is before the stop line, then it is possible that an offence might be committed. To avoid this occurring as stated above either the kerb radius should be improved or the inside lane widened or both.

DIAGRAM 5.6.3.2 :

(a) ILLEGAL LEFT TURN

(b) ACCEPTABLE STRAIGHT AHEAD

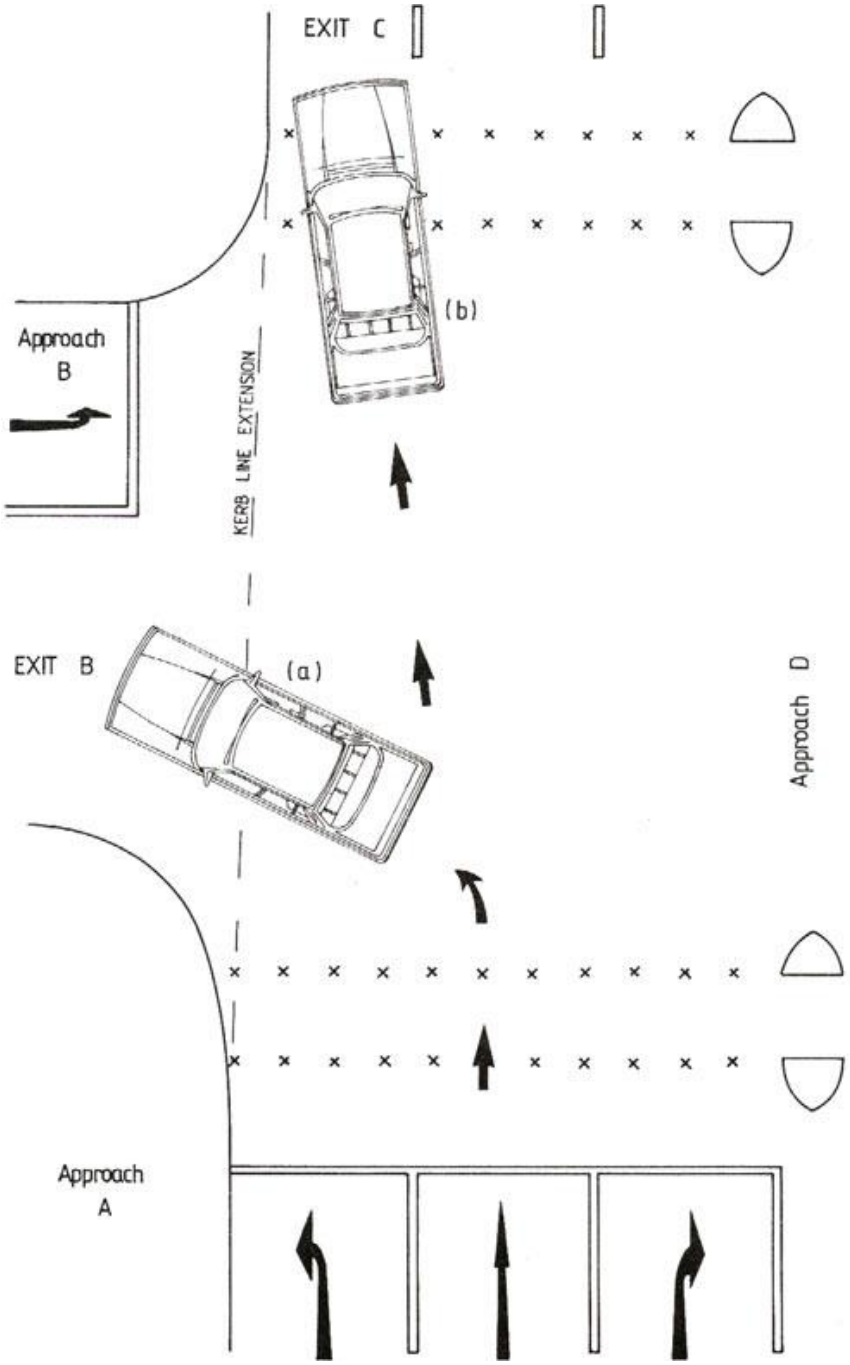


DIAGRAM 5.6.3.3 : ILLEGAL STRAIGHT AHEAD

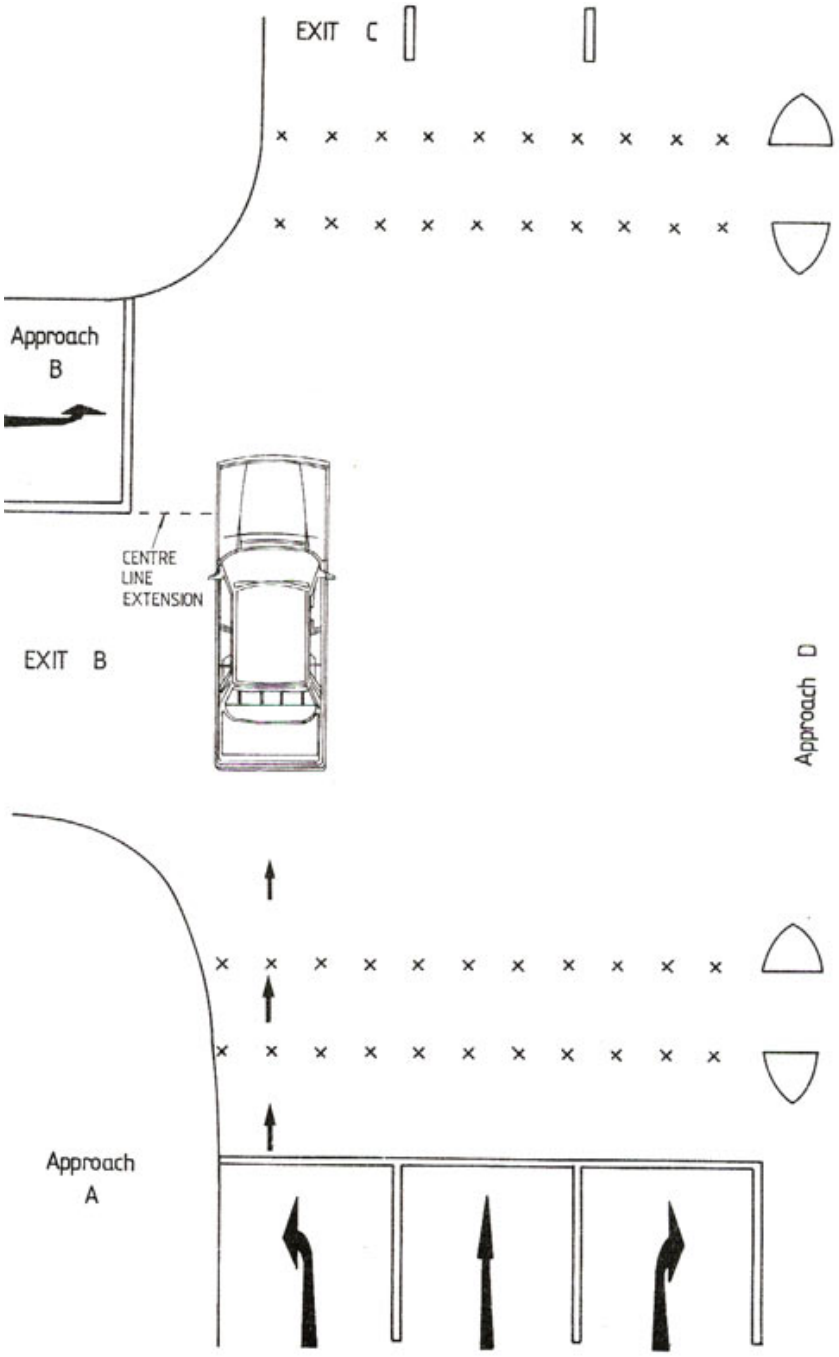


DIAGRAM 5.6.3.4 : ILLEGAL STRAIGHT AHEAD

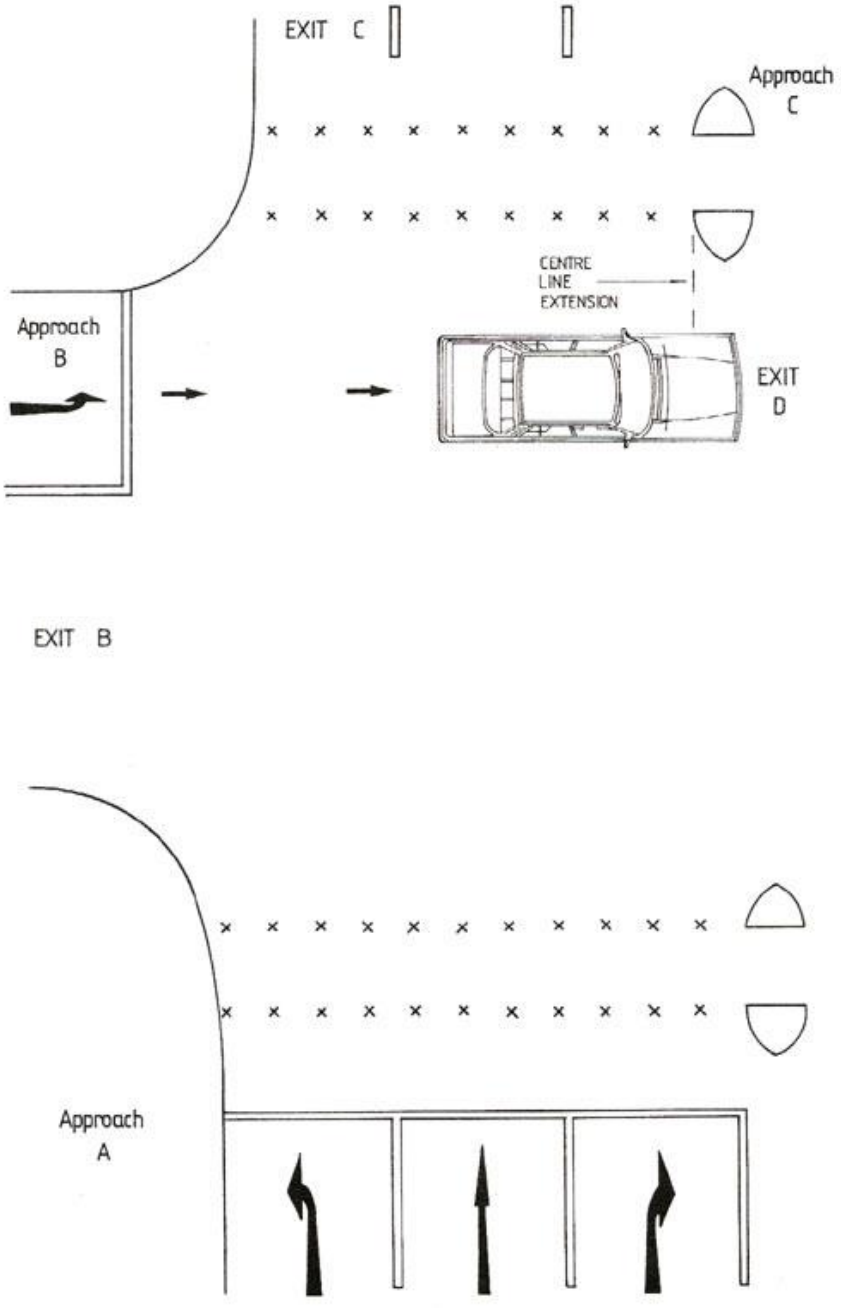


DIAGRAM 5.6.3.5 : ILLEGAL RIGHT TURN

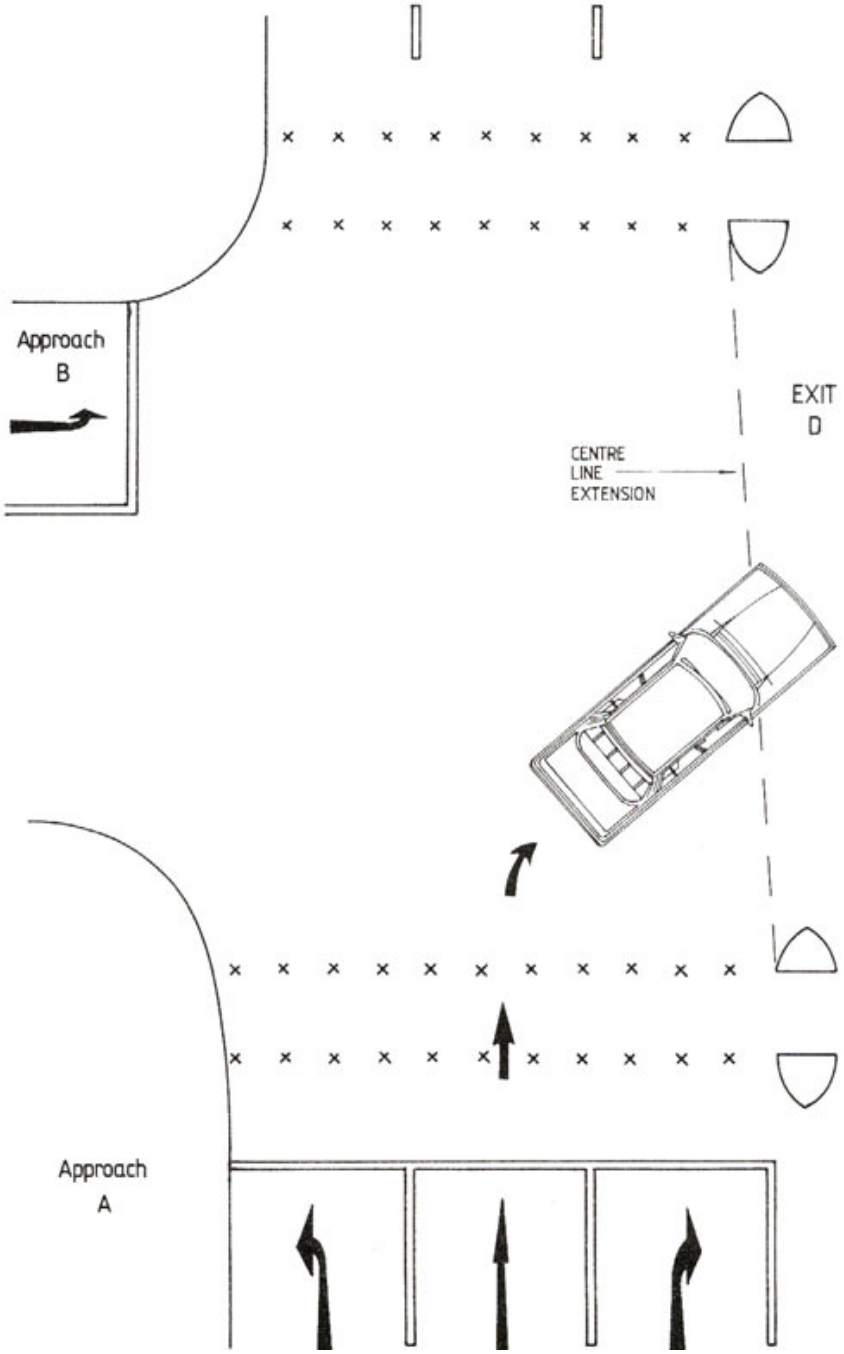


DIAGRAM 5.6.3.6 : ACCEPTABLE LEFT TURN

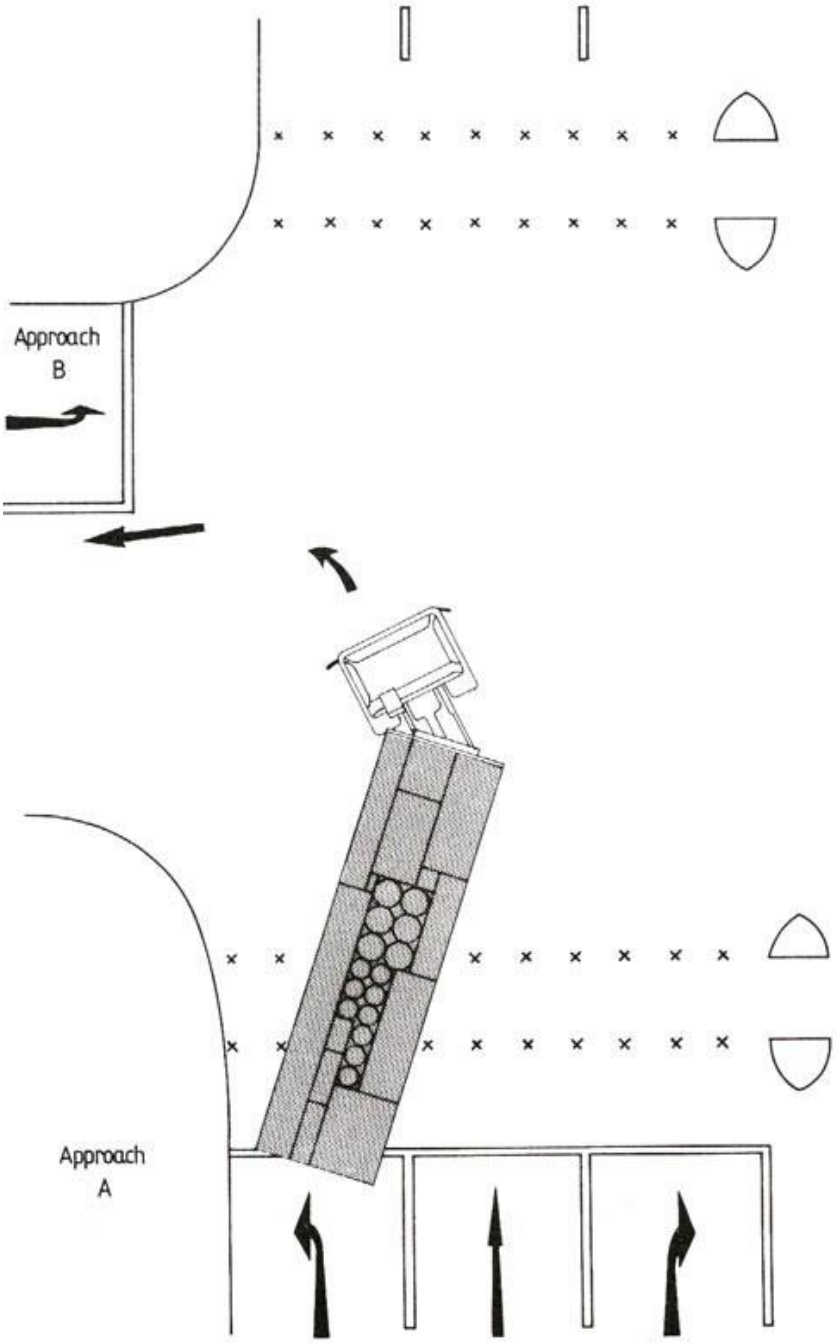
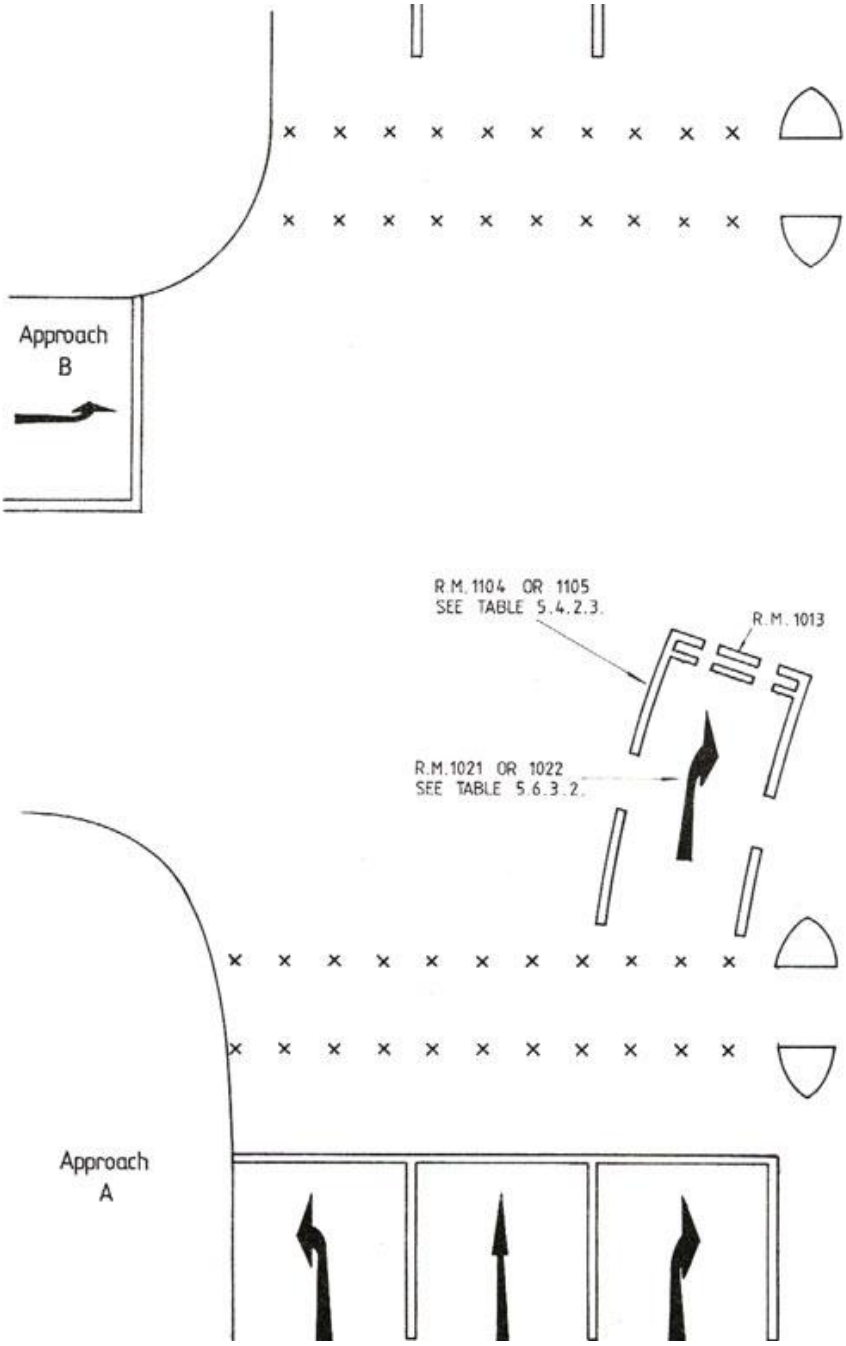


DIAGRAM 5.6.3.7 : RIGHT TURN POCKET



5.6.3.7 It is sometimes appropriate where right turning traffic may need to turn across an opposing traffic stream to indicate the position where right turning vehicles should wait by forming a right turning pocket as shown in Diagram 5.6.3.7. Where the pocket does not extend onto the opposing carriageway and road markings 1021 or 1022, right turn arrows, would only be slightly inclined, then these arrows may be used. However where the pocket extends onto the opposing carriageway as shown in Diagram 5.6.3.8 and road marking 1021 or 1022 would be nearly perpendicular to the approach road, the arrow markings should not be used. This is because it could be interpreted that at road marking 1106 the vehicle should make an extreme right turn i.e. a ‘U’ turn, rather than be driven into the side road.

5.6.3.8 In respect of the use of directional arrow markings it is sometimes necessary to permit franchised buses or similar to make a right or left turn as the case may be where this is normally prohibited to other traffic in order not to adversely affect the service. If the number of buses making this right turn exceeds 100 per hour consideration should be given to creating a right turn bus only lane. However where the number of buses is less than this 0or a bus only lane cannot be provided, then the junction should be marked in accordance with Diagram 5.6.3.9 with the outside lane having road marking 1017 or 1018 as appropriate. In accordance with Regulation 60 (h) of the Road Traffic (Traffic Control) Regulations authorization in writing should be given to the Franchised Bus Company or Companies, as appropriate, that road marking 1017 or 1018 as the case may be does not apply to franchised buses, at the location or locations where they are exempt from a right turn prohibitions.

5.6.3.9 At some signal controlled junctions a left turn slip road can be constructed in order that traffic turning left is not necessarily delayed by any signals. Road markings 1013, “give way line”, and 1115 “give way symbol”, should be provided at the junction of the slip road with the main road as shown in Diagram 5.6.3.10. Traffic sign 102, “give way” should be erected on the left of the slip road, and not traffic sign 404“merging into traffic on right” as this is not an appropriate sign for these junction types.

5.6.3.10 Although box junctions maybe used at priority controlled junctions as mentioned in paragraph 5.3.2.49 they are normally associated with signal controlled junctions.

DIAGRAM 5.6.3.8 : OPPOSING RIGHT TURN POCKETS

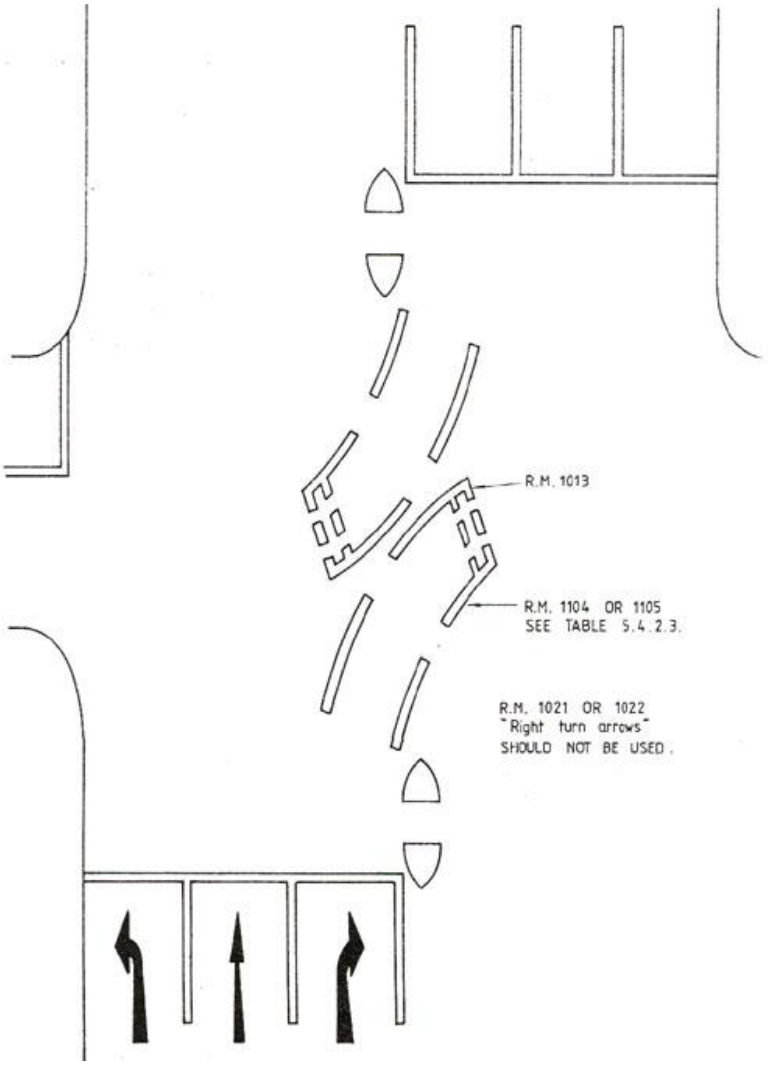


DIAGRAM 5.6.3.9 : MARKINGS WHERE "NO RIGHT TURN EXCEPT FRANCHISED BUSES" APPLIES

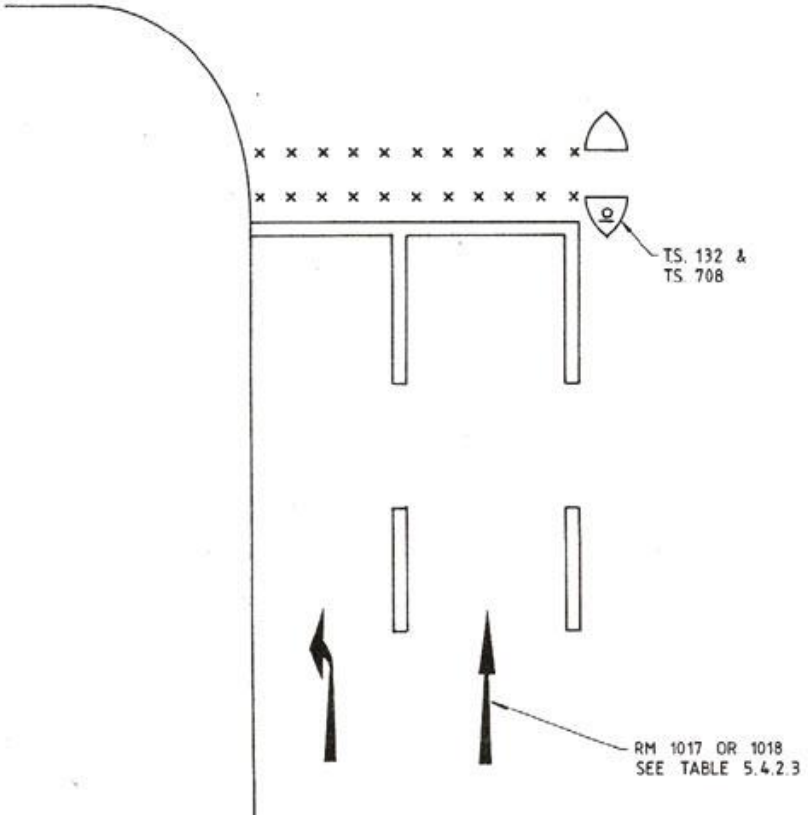
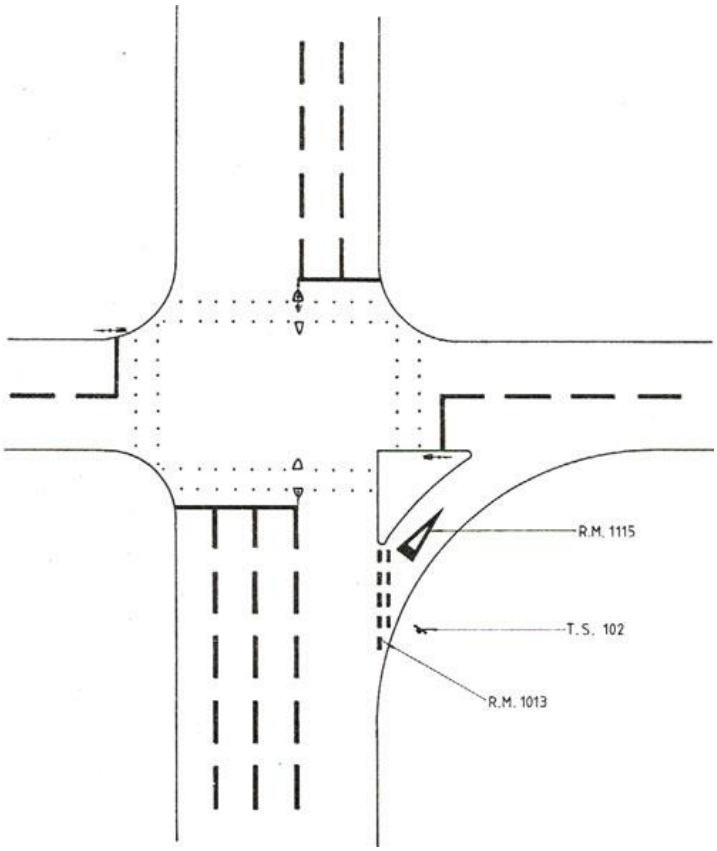


DIAGRAM 5.6.3.10 : LEFT TURN SLIP ROAD AT JUNCTION



5.6.3.11 The shape of the box at a box junction will depend on the actual junction layout but Diagram 5.6.3.11 illustrates a typical example, and further details of the setting out arrangements can be found in Appendix 2 of this Chapter.

5.6.3.12 Where road marking 1038, box junction, is provided, it must not extend onto any pedestrian crossing at the signals as this may give the impression to pedestrians that they can cross the junction diagonally. Appropriate markings for signal controlled crossings are referred to in section 5.7.3.

5.6.3.13 Vehicles may wait on road marking 1038 in accordance with Regulation 10 Road Traffic (Traffic Control) Regulations, when turning right, provided they have been driven from a lane having the marking 1021 or 1022, right turn arrows, as appropriate, and providing they are only prevented from completing the turn because of traffic from the opposite direction, see also paragraph 5.3.2.47. Right turning pockets however should not be provided, as this would create an area within the box not subject to Regulation 10 and the purpose of providing road marking 1038 would be lost.

5.6.3.14 In the situation of a single lane approach to a box junction a vehicle will not be able to wait on the box junction unless a right turn arrow is marked on the approach lane. Therefore unless for any reason it is considered unsafe to allow a vehicle to wait on the box, the approach lane will need to be marked with a multi-head arrow indicating all turns permitted, as shown in Diagram 5.6.3.12.

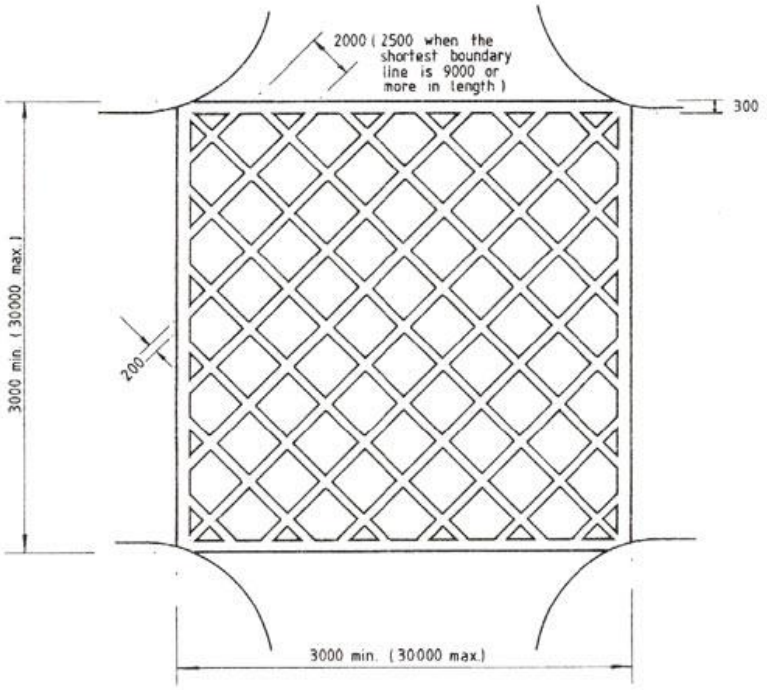
5.6.3.15 Where any “No Stopping” yellow line markings, road markings 1040, 1041 or 1039, are provided at a junction which also has road marking 1038 the lines should be continued across the box marking to avoid any doubts arising as to where the stopping restrictions apply as shown in Diagram 5.6.3.12.

5.6.3.16 For details of bus lane markings at signal controlled junctions see section 5.9.

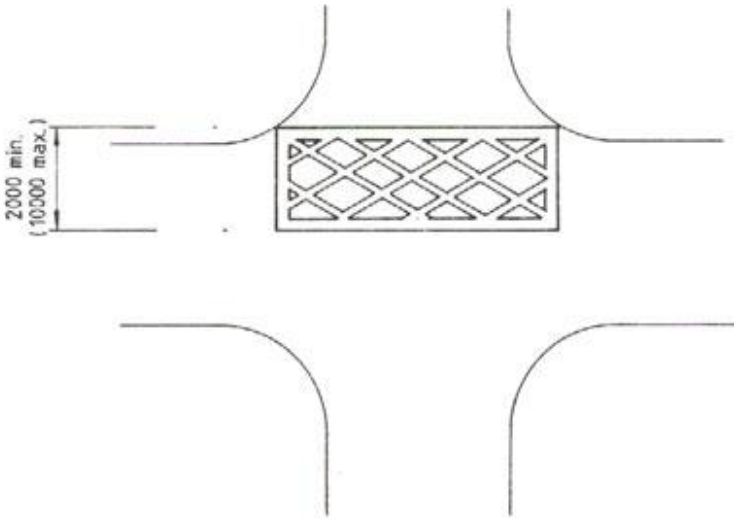
5.6.3.17 In the event of roadworks occurring in the vicinity of a junction providing these are minor and of short duration it should not normally be necessary to carry out any remarking. However for major works or those of longer duration remarking will be necessary if existing markings are affected by the road works.

DIAGRAM 5.6.3.11 : ROAD MARKING 1038 BOX JUNCTION TYPICAL DIMENSIONS

FULL BOX

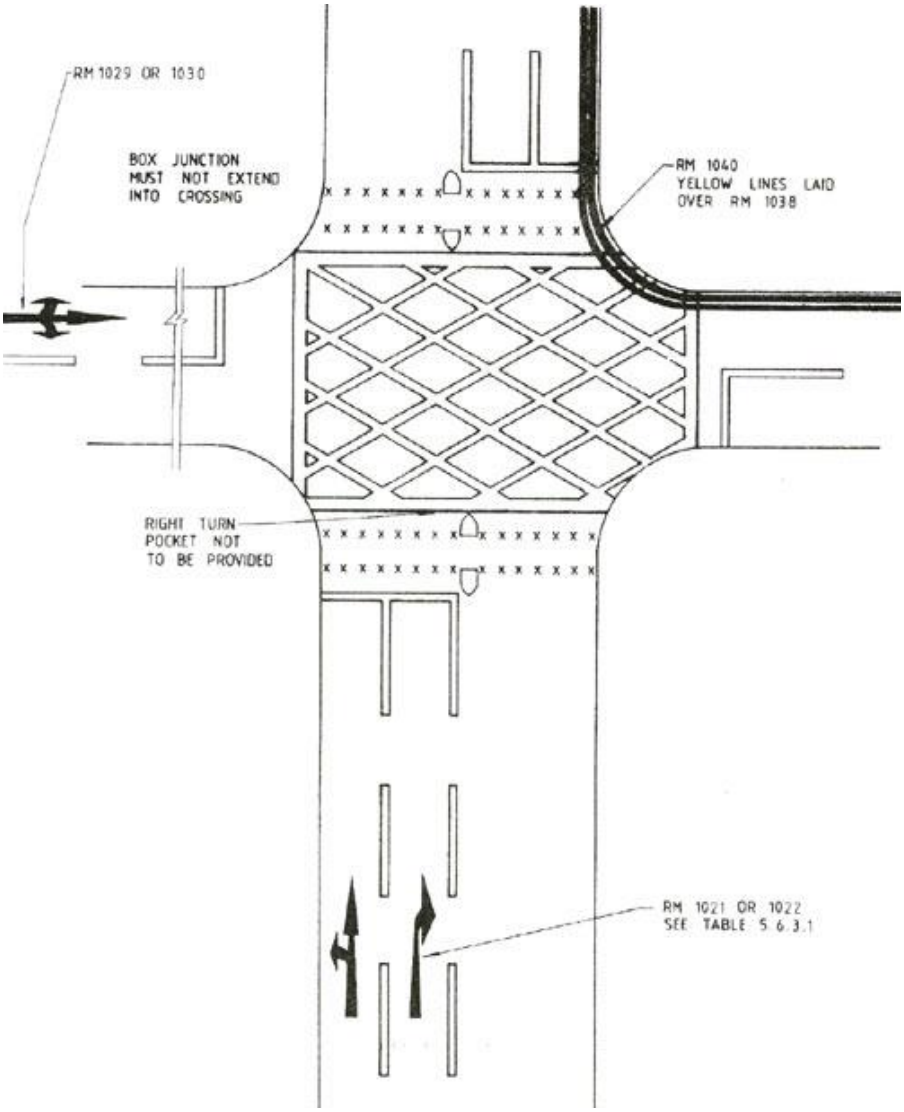


HALF BOX



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.6.3.12 : BOX JUNCTIONS AND OTHER MARKINGS



5.6.4 Grade Separated Junctions

5.6.4.1 Markings in this section are generally related to Trunk Roads, Expressways, Primary Distributor Roads and Rural Roads A. Discretion will need to be exercised as to whether such markings are appropriate for other road types which have grade separated intersections, but generally for these lesser road types regulatory chevrons and road studs will not be appropriate.

5.6.4.2 For the detailed design requirements of grade separated junctions Chapter 4 of Volume 2 should be referred to.

5.6.4.3 Markings at the commencement of a diverging (deceleration) lane should be in accordance with Diagram 5.6.4.1. Appropriately coloured road studs must also be provided as shown in Diagram 5.6.4.1, and in this respect it is preferable if the red and amber studs are staggered with regard to the white lane line studs, as shown in the Diagram.

5.6.4.4 Where any emergency crossing is provided on the central reservation the continuous edge line, road marking 1109, should be continued across the opening and not broken, as shown in Diagram 5.6.4.1.

5.6.4.5 It will normally be appropriate on Trunk Roads, Expressways, Primary Distributor Roads, and Rural Roads A for the junction edge line road marking 1107to be 200mm wide rather than 100mm, in order to provide the improved definition necessary because of the higher traffic speeds.

5.6.4.6 Diagram 5.6.4.2 illustrates the location of road marking 1124, “deceleration arrow” in respect of the diverging lane.

5.6.4.7 Details of the markings at the actual diverge of the slip road from the main carriageway are also illustrated in Diagram 5.6.4.3.

5.6.4.8 With regard to merging (acceleration) lanes the marking details for these are shown in Diagrams 5.6.4.4 and 5.6.4.5 and are generally similar to those for diverging lanes.

5.6.4.9 For a “lane drop” situation, that is where the nearside lane becomes a slip road leading off the main carriageway, the 200mm wide road marking 1107 should be used as the lane marking from a point adjacent to the Final Advance Direction Sign until the start of the prohibitory chevron road marking 1036, as shown in Diagram 5.6.4.6.

5.6.4.10 Where two main carriageways merge, markings should be in accordance with Diagram 5.6.4.7. However if a lane is to be dropped it is preferable that this is done after the merge is completed, that is at the end of the standard 7 No. warning line markings, road marking 1105. Where this cannot be achieved for any reason and the “lane drop” is carried out before the merge the outside lane of the left side carriageway should be the one to be dropped as shown in Diagram 5.6.4.8.

5.6.4.11 It should be stressed that the hatched marking forming the taper as shown in Diagram 5.6.4.8 is not a prohibitory marking as it is formed from the continuation of road marking 1109, “edge line”, and suitable hatching.

DIAGRAM 5.6.4.1 : MARKINGS AT COMMENCEMENT OF DIVERGING LANE

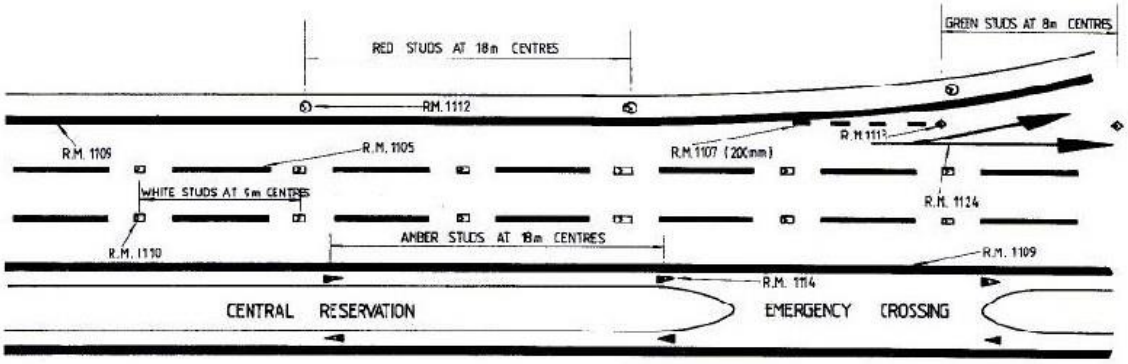
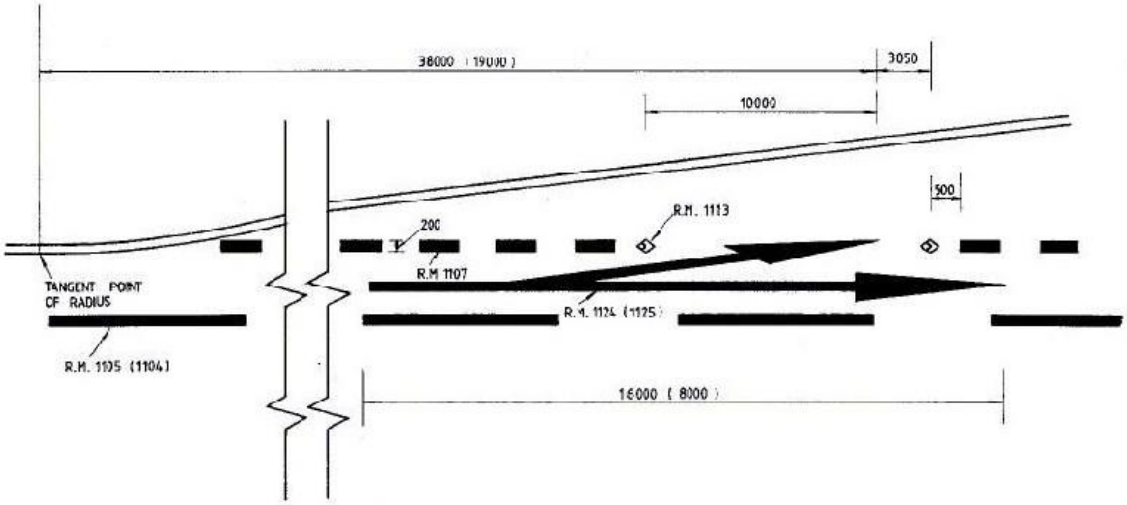


DIAGRAM 5.6.4.2 : LOCATION OF DECELERATION ARROW ROAD MARKING 1124 (1125)



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.6.4.3 : MARKINGS AT POINT OF DIVERGE

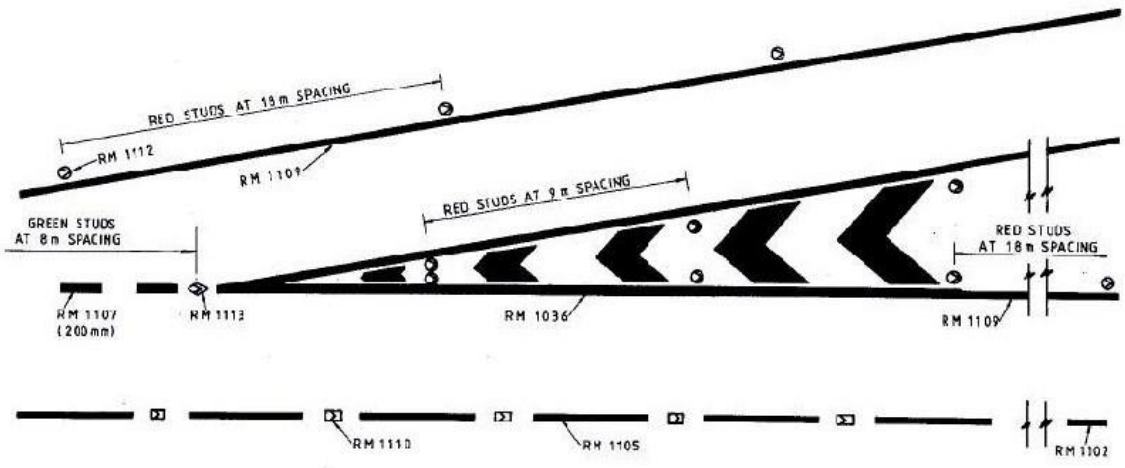


DIAGRAM 5.6.4.4 : MARKINGS AT COMMENCEMENT OF MERGE

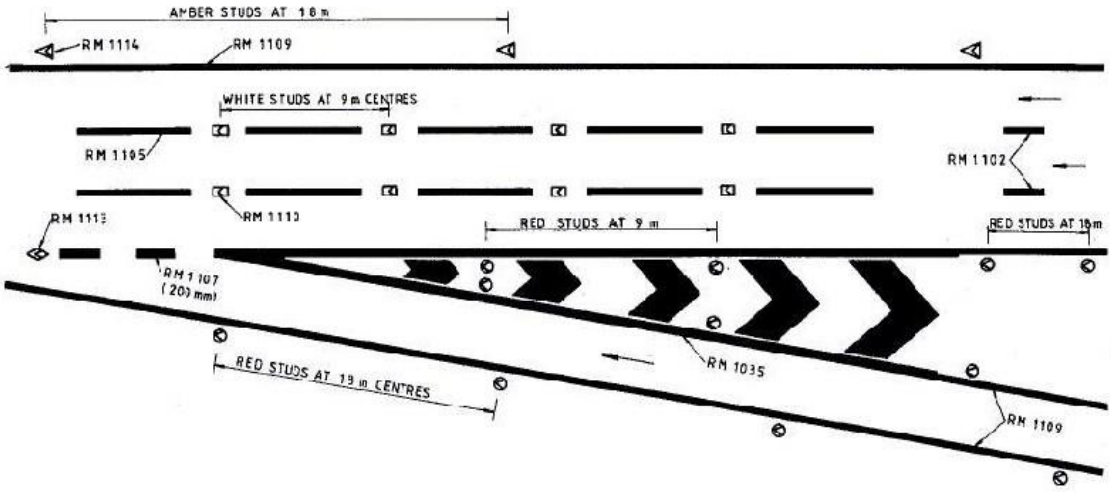


DIAGRAM 5.6.4.5 : MARKINGS AT COMPLETION OF MERGE

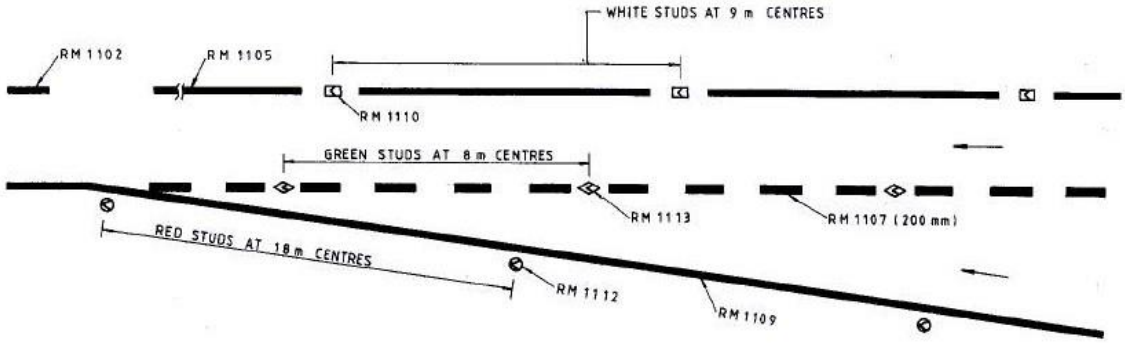
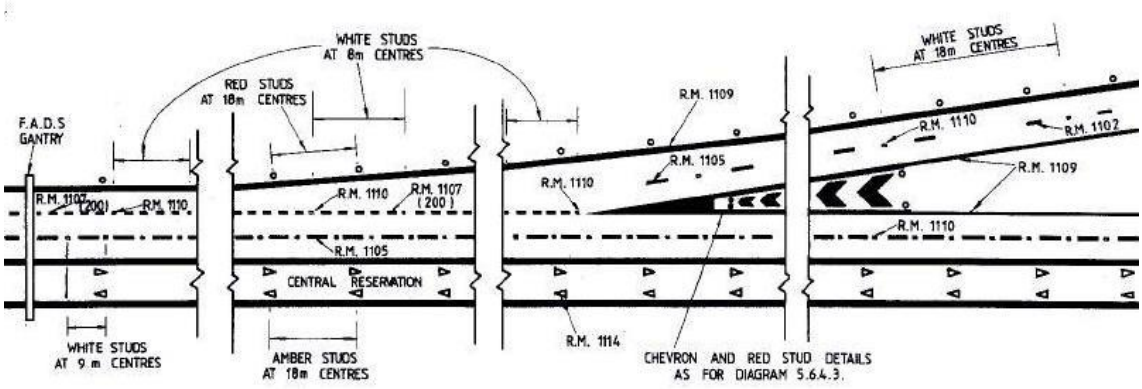


DIAGRAM 5.6.4.6 : MARKINGS FOR "LANE DROP"



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.6.4.7 : MARKINGS WHERE MAIN CARRIAGEWAYS MERGE

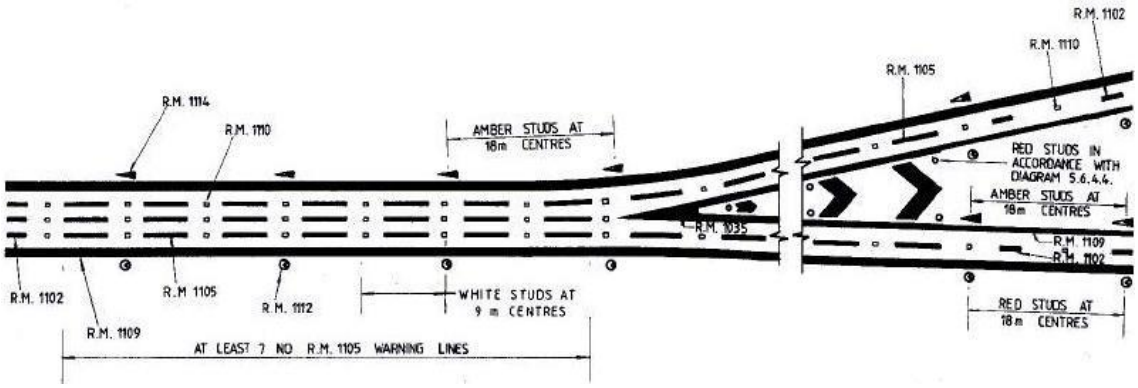
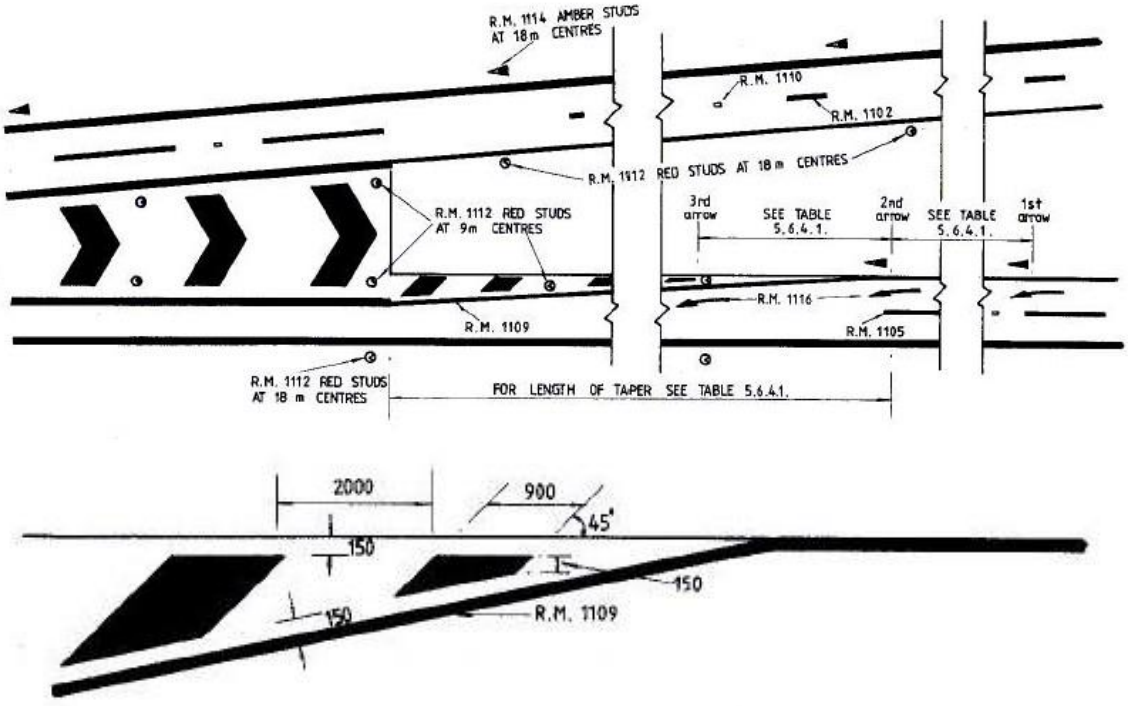


DIAGRAM 5.6.4.8 : "LANE DROP" BEFORE MERGE



ALL DIMENSIONS IN MILLIMETRES

5.6.4.12 The length of the taper for the "lane drop", and the location of the warning arrows, road marking 1116, will depend upon the approach speed of vehicles, and the appropriate distances for these are given in Table 5.6.4.1. It is recommended for all Expressway type roads that the spacing should be in accordance with that given for the 80km/h speed limit.

Table 5.6.4.1
Length of Taper and Location of RM 1116 at "lane drops" Prior to where Carriageways Merge<

	Speed limit of Road (km/h)	Taper Length (m)	1st Arrow in Distance in advance of start of taper (m)	2nd Arrow	3rd Arrow Distance from 2nd Arrow (m)
(i)	70	150	60	At start of taper	40
(ii)	80 or more	180	65	At start of taper	45
(iii)	50	100	45	At start of taper	30

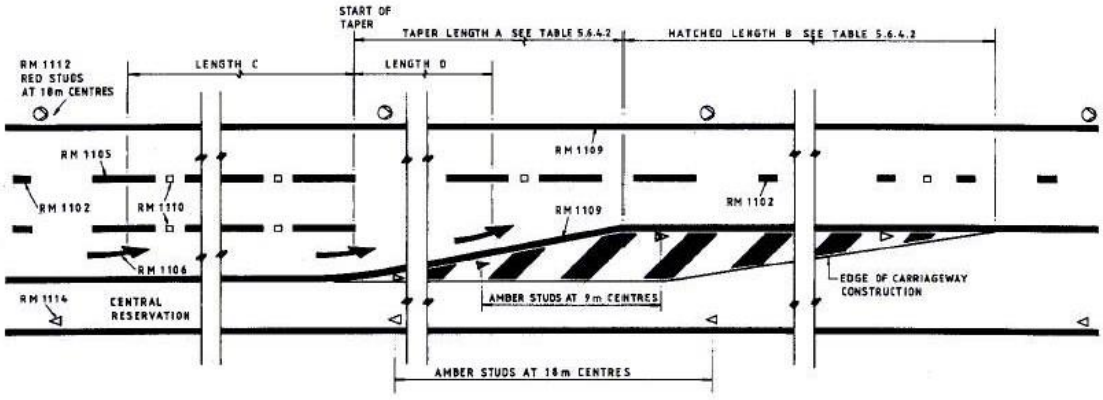
5.6.4.13 Where a "lane drop" is carried out past the merging point, as mentioned in paragraph 5.6.4.10, markings used should be in accordance with Diagram 5.6.4.9, and the taper and hatched area lengths, and warning arrow locations, should be in accordance with Table 5.6.4.2.

Table 5.6.4.2
Taper Lengths and Arrow Locations at "Lane Drops" After Carriageways Merge, Diagram 5.6.4.9

	Speed limit of road (km/h)	Taper length "A" (m)	Hatched length "B", not less than : (m)	Length "C" (m)	Length "D" (m)
(i)	80 or more	180	180	65	45
(ii)	70	150	150	60	40
(iii)	50	100	100	45	30

5.6.4.14 Where two lane slip roads merge into the main carriageway it is sometimes considered appropriate, see Section 4.6.8, Chapter 4, Volume 2, to split the lanes by means of a Shadow Island so that merging movements from the individual lanes is separated. Diagram 5.6.4.10 illustrates the markings to be used where this method is employed.

DIAGRAM 5.6.4.9 : "LANE DROP" MARKINGS



HATCHED MARKING DETAILS

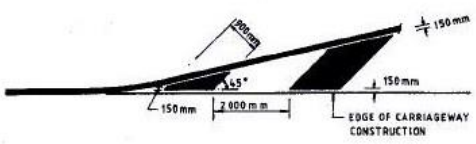
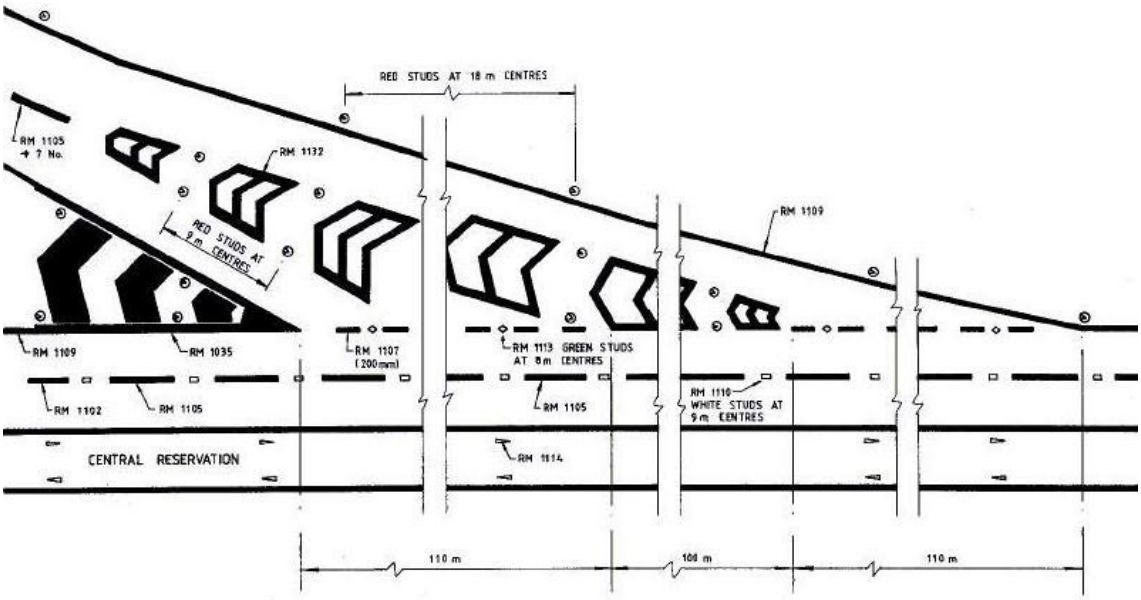


DIAGRAM 5.6.4.10 : SHADOW ISLAND MERGING LANES



5.6.5 Roundabouts

5.6.5.1 Information on the detailed design of the various roundabout types is given in Chapter 4 of Volume 2.

5.6.5.2 For conventional and spiral roundabouts, the markings should be in accordance with Diagram 5.6.5.1 and Diagram 5.6.5.2 respectively. It should be noted that the "Give Way Symbol", road marking 1115, is not used on the approaches unless particular emphasis is required, however traffic sign 102, "Give Way" must be erected. In respect of the latter, erecting the sign on the nearside should normally be sufficient, however on wide approaches it may be appropriate to erect the sign on the offside as well, but care will need to be taken that it does not interfere with the sightline of drivers on the approach.

5.6.5.3 The criteria for adopting spiral lane marking for a roundabout is provided in Volume 2 Section 4.5.3. For spiral roundabout, spiral lane marking is to be adopted at the exit arm with two traffic lanes. Concentric lane marking, instead of spiral marking, should be adopted at the exit arm with one traffic lane only.

5.6.5.4 At some roundabouts generally those with a large diameter central island, it may be appropriate to segregate left turning traffic on the approach. The appropriate road markings for this situation are shown in Diagram 5.6.5.3.

5.6.5.5 Diagram 5.6.5.4 indicates the road markings required for mini-roundabouts including details of the central island. It is stressed that the central island of mini-roundabouts must be kept completely clear so that if necessary the rear wheels of long vehicles may pass over the island.

5.6.5.6 As explained in Section 5.4.4 of Volume 2, yellow transverse bars may be used on the approaches to certain roundabout or on certain slip roads as a means of reducing the approach speed of vehicles. The application of the bar markings should be limited to the approach roads to the roundabout having speed limits of 70 km/h or more. Each approach to a given roundabout is treated as a separate site and the use of the markings on each approach must be justified independently. For details as to which roundabouts are most appropriate for the use of these markings Section 5.4.4 of Volume 2 should be referred to. Diagram 5.6.5.5 illustrates the details of these markings and Table 5.6.5.1 gives the appropriate spacing for each of the 90 No. markings required.

5.6.5.7 Transverse bar markings as shown in Diagram 5.6.5.5 must be yellow in colour and laid in suitable reflective thermoplastic material.

5.6.5.8 For slip roads of expressways and other major roads with speed limits of 70 km/h or above leading to roundabouts, the provision of transverse bar markings should be in accordance with Diagram 5.6.5.6 and Diagram 5.6.5.7. They should not be provided after the point where speed limit is changed to 50 km/h, as motorists should by then have lowered their speed.

5.6.5.9 At least 7 No. Warning Lines, road markings 1105, should be laid in advance of the start of the transverse bar markings and then continued through until the “Give way” line, road marking 1013, at the roundabout. Where necessary the warning line should be laid across and over the yellow transverse bar markings.

DIAGRAM 5.6.5.1 : ROAD MARKINGS FOR CONVENTIONAL ROUNDABOUT

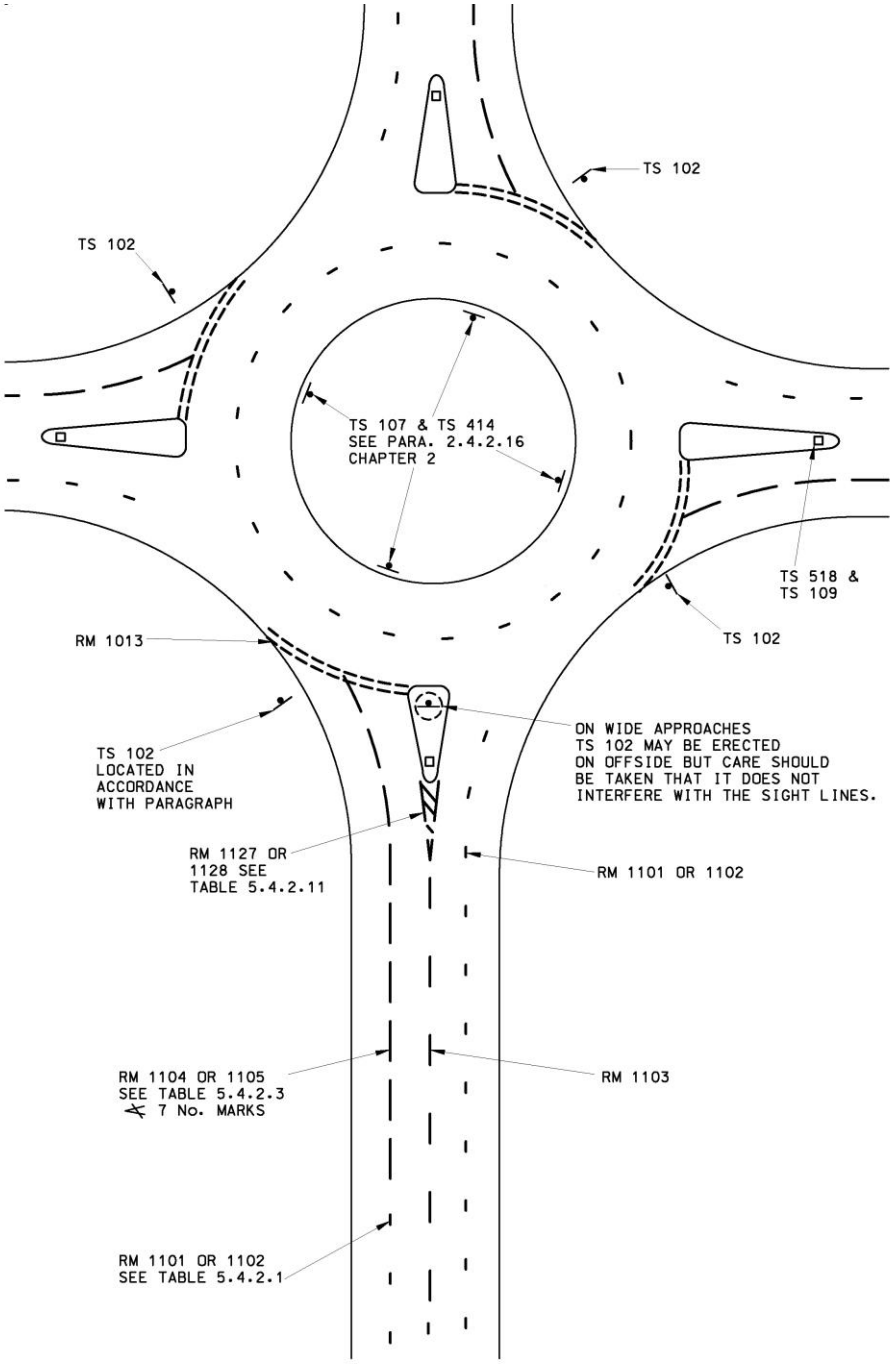
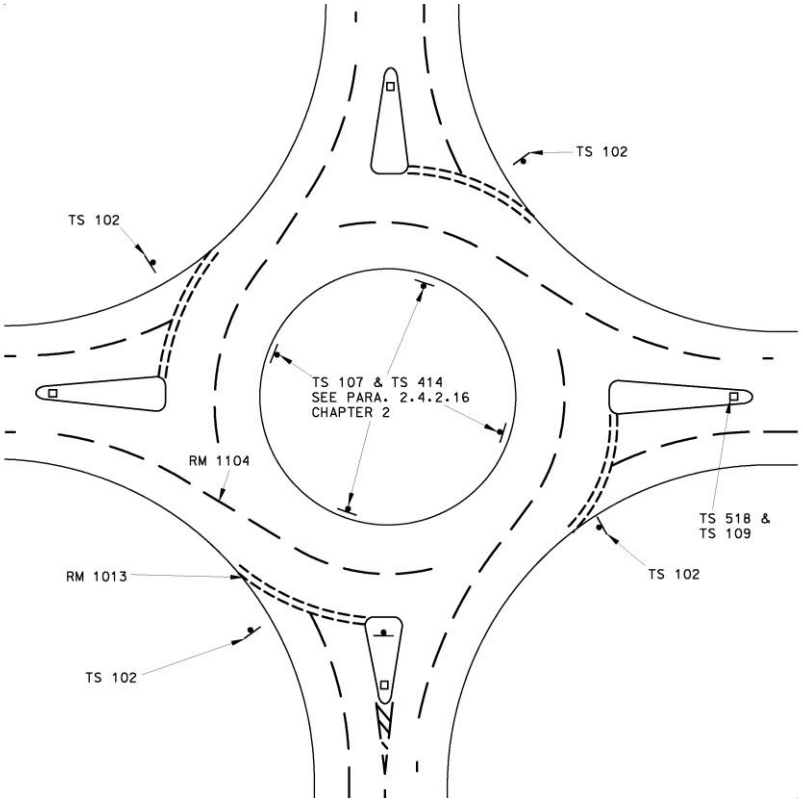


DIAGRAM 5.6.5.2 : ROAD MARKINGS FOR SPIRAL ROUNDABOUT

i) All ARMS HAVING TWO EXIT LANES



ii) ARM HAVING ONE EXIT LANE ONLY

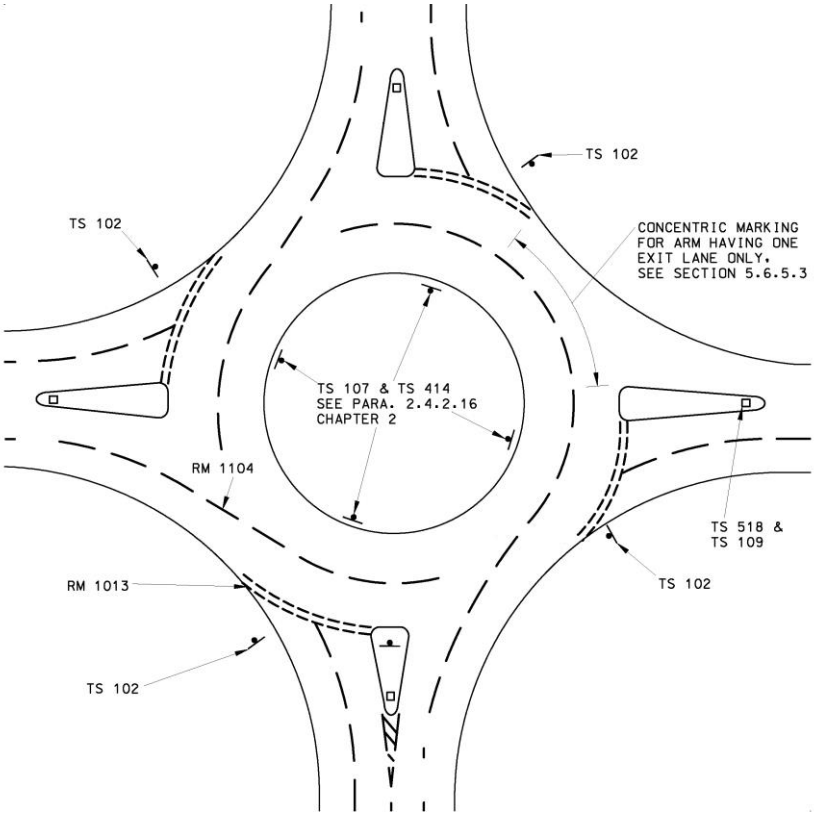


DIAGRAM 5.6.5.3 : SEGREGATED LEFT TURNING LANE AT LARGE ROUNDABOUTS

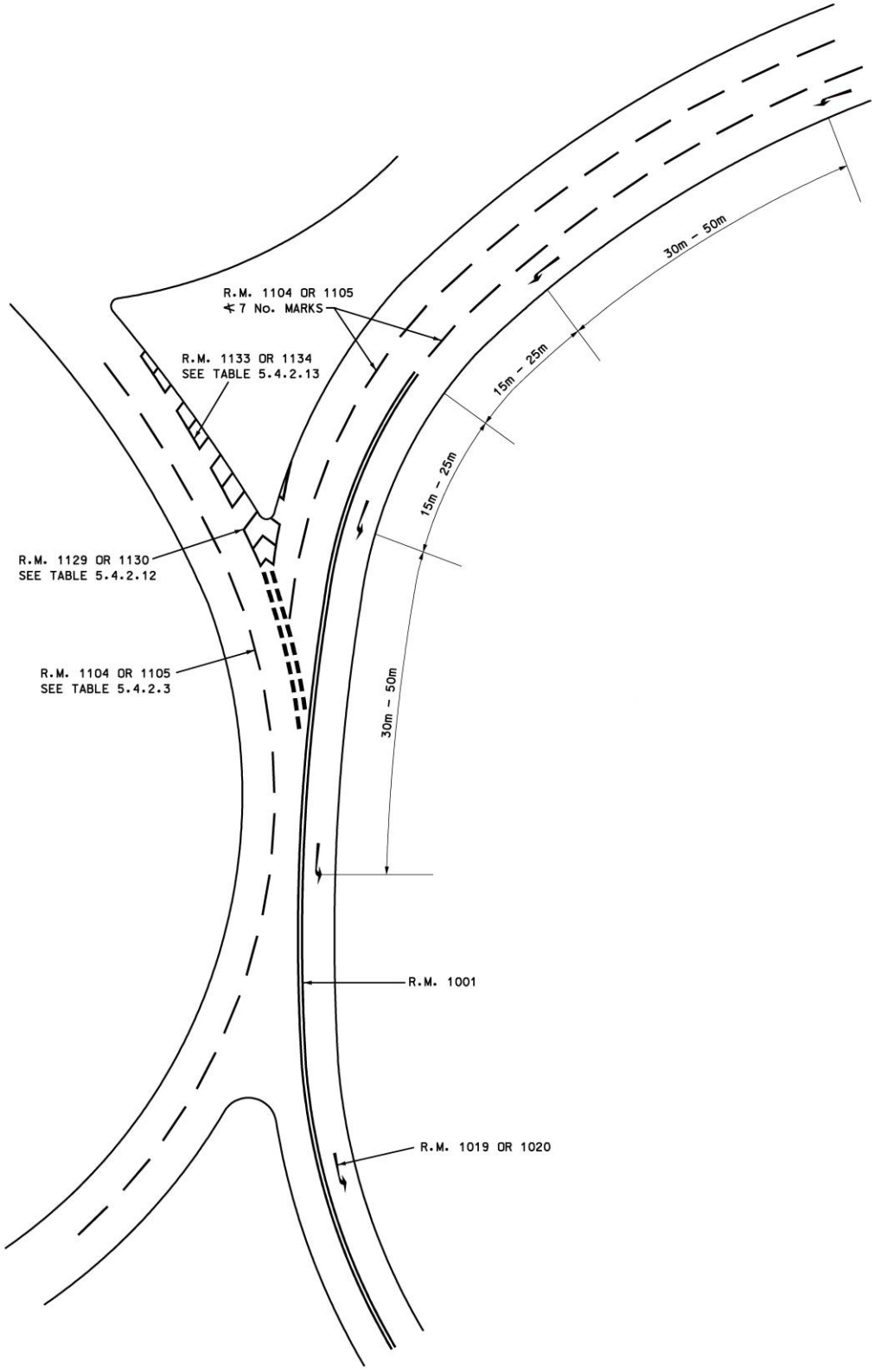
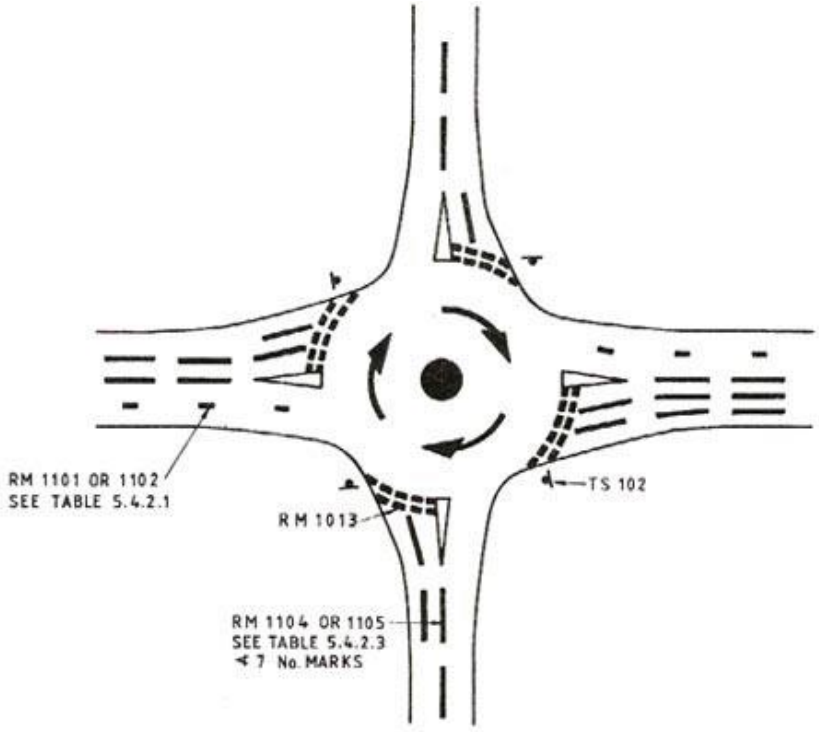
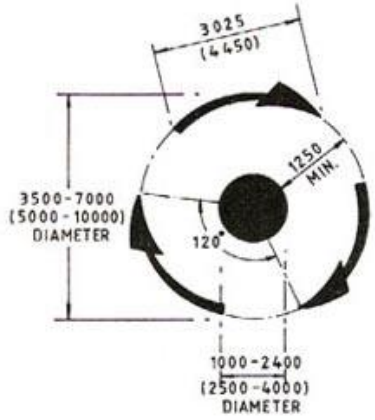


DIAGRAM 5.6.5.4 : MINI ROUNDABOUT MARKINGS



CENTRAL ISLAND AND ARROW DETAILS



CROSS SECTION FOR CENTRAL ISLAND

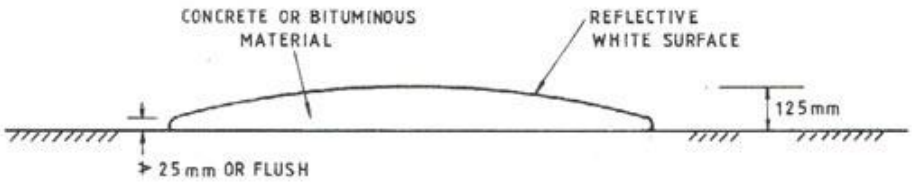


DIAGRAM 5.6.5.5 : YELLOW TRANSVERSE BAR MARKINGS AT APPROACH TO ROUNDABOUTS

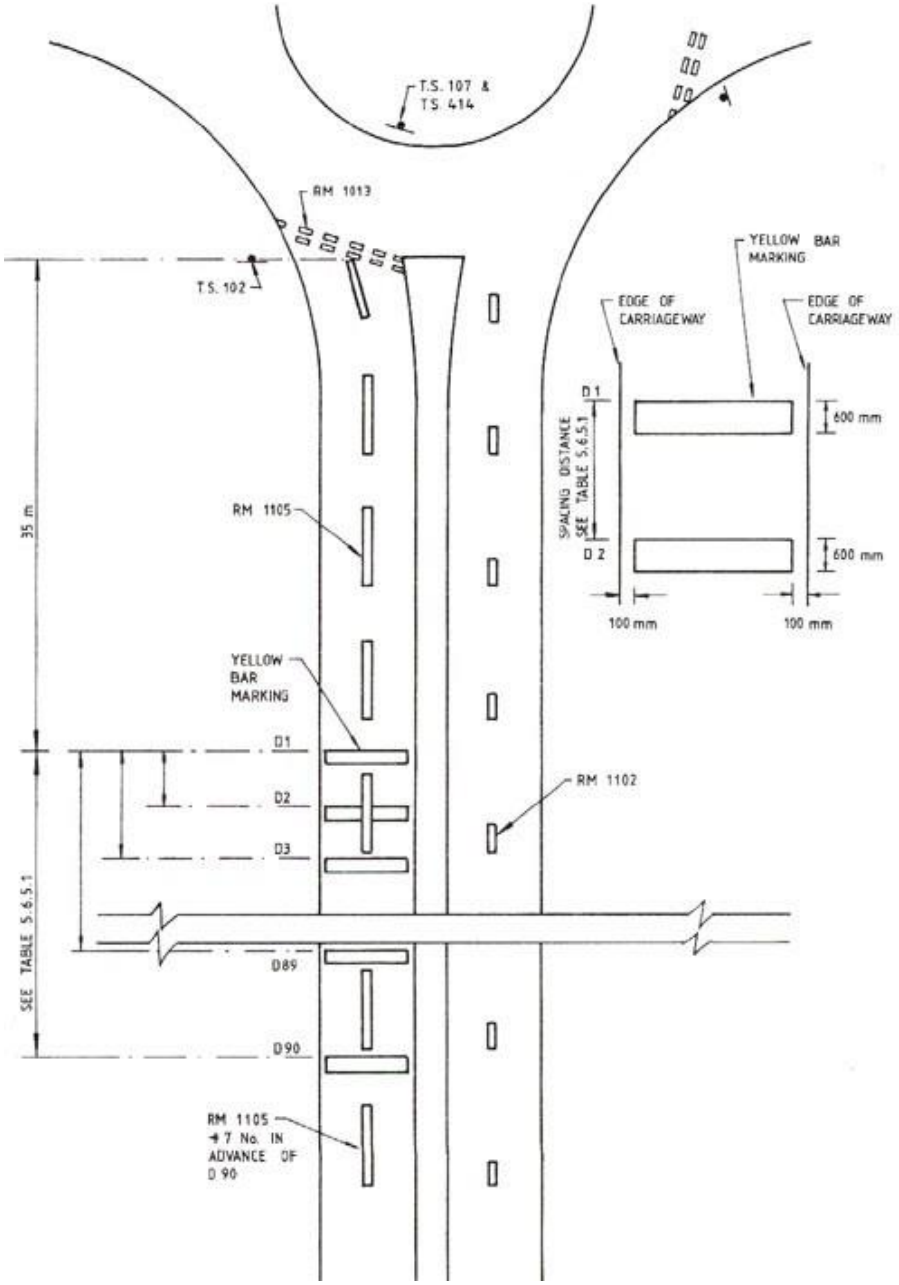
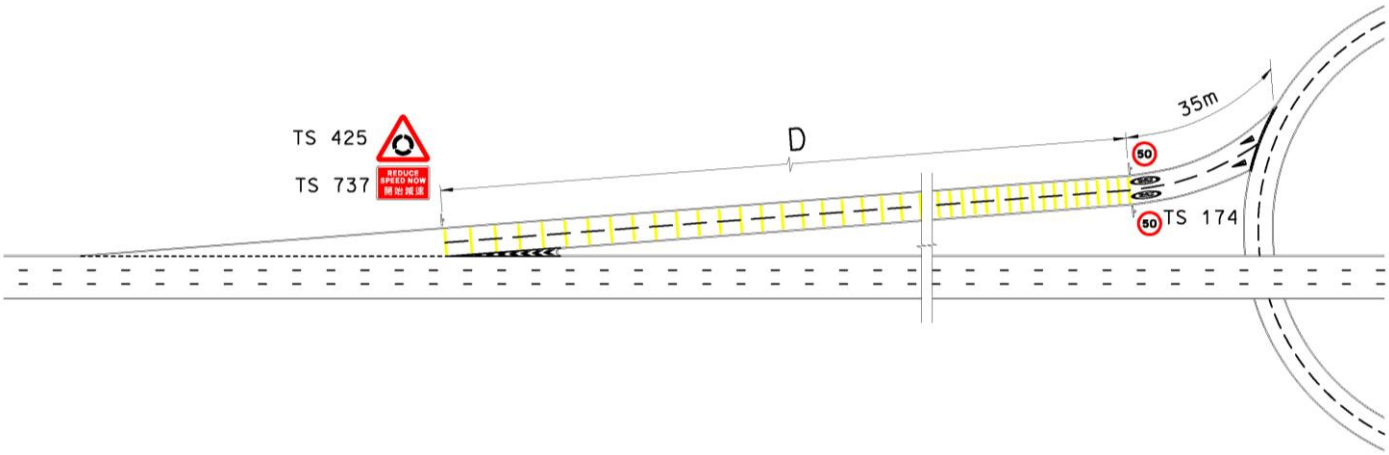


DIAGRAM 5.6.5.6 : YELLOW TRANSVERSE BAR MARKINGS AT SLIP ROAD LEADING TO ROUNDABOUTS (D ≥ 170m)



SIMILAR FOR LANE DROP ARRANGEMENT

Notes:

(1) Nos. of transverse yellow bar marking:

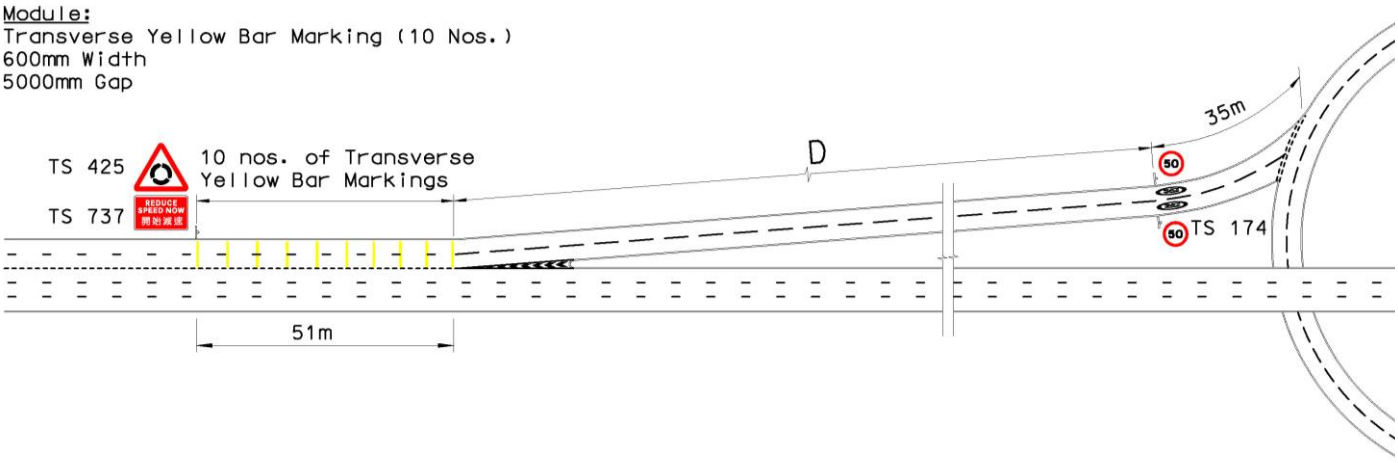
CASE 1: D > 400m, 90 nos. of transverse yellow bar marking should be used.

CASE 2: 170m ≤ D ≤ 400m, at least 50 nos. of transverse yellow bar marking should be used.

(2) Transverse yellow bar marking is stipulated in Diagram 5.6.5.5 and Table 5.6.5.1.

DIAGRAM 5.6.5.7 : YELLOW TRANSVERSE BAR MARKINGS AT SLIP ROAD LEADING TO ROUNDABOUTS (D < 170m)

(i) LANE DROP ARRANGEMENT



(ii) DIVERGING LANE ARRANGEMENT
(FOR SHORT TAPER LENGTH SIMILAR TO DIAGRAM 6.4.1.3(ii) of VOLUME 2 CHAPTER 2)

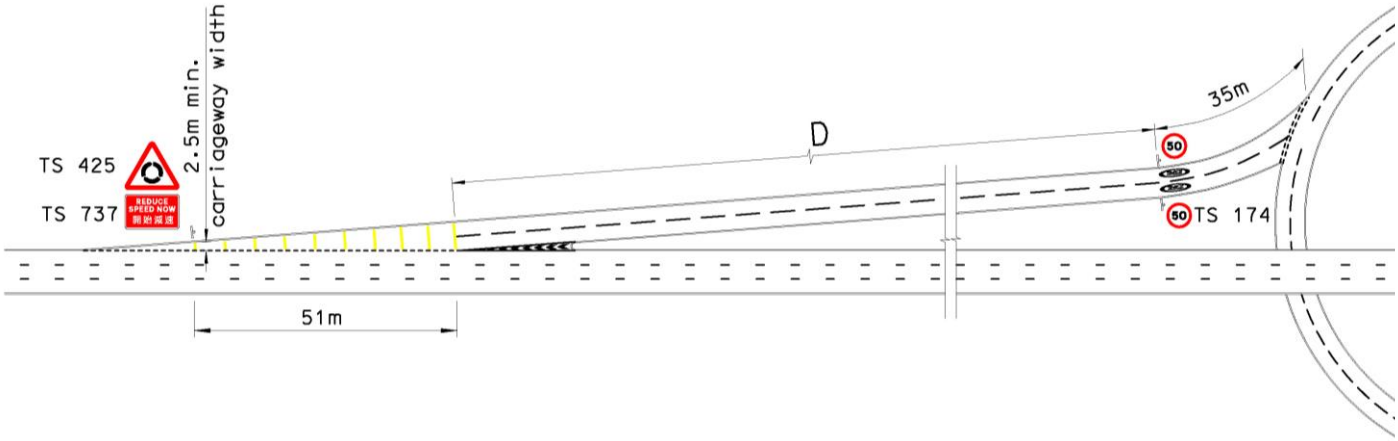


Table No. 5.6.5.1
Yellow Transverse Bar Marking Spacing

Bar No.	Distance From D1(m)	Bar No.	Distance From D1(m)	Bar No.	Distance From D1(m)
D1	0.00	D31	94.94	D61	224.70
D2	2.73	D32	98.64	D62	229.78
D3	5.48	D33	102.38	D63	234.92
D4	8.26	D34	106.16	D64	240.12
D5	11.07	D35	109.98	D65	245.38
D6	13.91	D36	113.84	D66	250.70
D7	16.78	D37	117.74	D67	256.08
D8	19.68	D38	121.68	D68	261.52
D9	22.61	D39	125.66	D69	267.02
D10	25.57	D40	129.68	D70	272.58
D11	28.56	D41	133.74	D71	278.20
D12	31.58	D42	137.84	D72	283.88
D13	34.63	D43	141.98	D73	289.62
D14	37.71	D44	146.16	D74	295.43
D15	40.82	D45	150.38	D75	301.31
D16	43.96	D46	154.65	D76	307.26
D17	47.13	D47	158.97	D77	313.28
D18	50.33	D48	163.34	D78	319.37
D19	53.56	D49	167.76	D79	325.53
D20	56.82	D50	172.23	D80	331.76
D21	60.11	D51	176.75	D81	338.13
D22	63.43	D52	181.32	D82	344.66
D23	66.78	D53	185.94	D83	351.37
D24	70.16	D54	190.61	D84	358.28
D25	73.58	D55	195.33	D85	365.51
D26	77.04	D56	200.10	D86	373.20
D27	80.54	D57	204.92	D87	380.89
D28	84.08	D58	209.79	D88	388.58
D29	87.66	D59	214.71	D89	396.27
D30	91.28	D60	219.68	D90	403.96

5.7 Road Markings for Pedestrian Crossings

5.7.1 General

5.7.1.1 Pedestrian crossing types used in the Territory are as follows :-

(i) zebra crossings

(ii) signal controlled crossings

(iii) cautionary crossings at signal controlled junctions

(iv) foot bridges

(v) subways

5.7.1.2 For details of the design criteria for the various pedestrian crossings section 3.7 of Chapter 3, Volume 2should be referred to. Chapter 3 of Volume 4, also contains further design details in respect of light controlled crossings.

5.7.1.3 Markings are not a feature of all crossing types but where they are required or used it is essential that the markings are adequately maintained and that the material is not slippery and does not therefore affect the passage of pedestrians under any conditions.

5.7.2 Zebra Crossing Road Markings

5.7.2.1 Regulations 30 to 32 and the Fourth Schedule of the Road Traffic (Traffic Control) Regulations provide the necessary powers in respect of the use and installation of, and control at, zebra crossings. The main points of the legislation being in summary as follows :-

(i) The Commissioner of Transport is the Authority for establishing zebra crossings.

(ii) Pedestrians have precedence over vehicles whilst the former are on the crossing.

(iii) Vehicles are not permitted to overtake within a zebra controlled area.

(iv) Zebra crossings must be set out in accordance with the Fourth Schedule, i.e. :-

(a) the zebra crossing must be indicated by black and white stripes, though the surface colour of the carriageway may form the black colour;

(b) studs shall be used to indicate the limits of the crossing;

(c) a zebra crossing shall not be less than 2.5m in width;

(d) zig-zag lines, with appropriate give way and terminal lines indicate a zebra controlled area;

(e) the standard number of marks for zig-zag lines is 8 No., but this may be reduced to 2 No. to suit particular circumstances;

(f) the zebra crossing must be marked with a yellow globe, which may be illuminated by a flashing or constant light, on a black and white post, on each side of the crossing.

5.7.2.2 Further regulations concerning zebra crossings are contained in the Fixed Penalty (Traffic Contraventions) Ordinance and the effect of these are briefly as follows :-

(i) Regulation 5 makes it an offence for a motor vehicle to stop within the limits of a zebra crossing unless it is prevented from proceeding by traffic conditions.

(ii) Regulation 6 makes it an offence for vehicles to stop in a zebra controlled area, other than :-

(a) to allow a pedestrian to cross the crossing;

(b) when engaged in building operations;

(c) when engaged in road maintenance operations;

(d) for the provision or repair of public utility apparatus;

(e) when waiting to turn left or right;

(f) if it is a bus waiting to enter a bus stop area.

5.7.2.3 Zebra crossing markings consist of the striped markings for the crossing point itself, and the zig-zag terminal and give way lines forming the zebra controlled area as shown in Diagram 5.7.2.1. This Diagram also illustrates the standard layout in respect of single carriageway 2-lane 2 way roads.

5.7.2.4 The width of the striped crossing area, between the centers of the road studs road marking 1075, should not be less than 2.5m and not greater than 9m. For details in respect of the studs to be used see section 5.5.

5.7.2.5 The first stripe adjacent to the kerbs on each side of the crossing, and where there is a central refuge on each side of this, is black, and normally formed from the carriageway surface itself. As shown in Diagram 5.7.2.1 a greater tolerance is allowed in respect of the depth of this first stripe in order for this to be adjusted to suit the total crossing length available. The remaining stripes should as far as possible be all equal in depth and have dimensions between 500mm to 700mm.

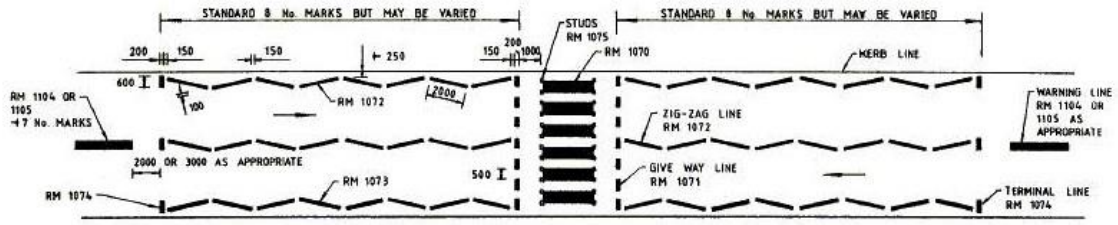
5.7.2.6 The “give way lines” formed from road marking 1071, should generally be parallel to the line of studs, approximately 1000mm apart. However where the angle of the crossing makes it impractical for the give way lines to be parallel to the line of studs, the give way lines may be at an angle to the studs and the distance between the give way lines and the studs may be varied, but should not be less than 1000mm.

5.7.2.7 Zig-zag and terminal lines, formed from road markings 1072, 1073 and 1074, should be laid adjacent to each kerb and between each traffic lane as shown in Diagram 5.7.2.1. In this respect the zig-zag lines should replace any centre or lane lines and not be in addition to these.

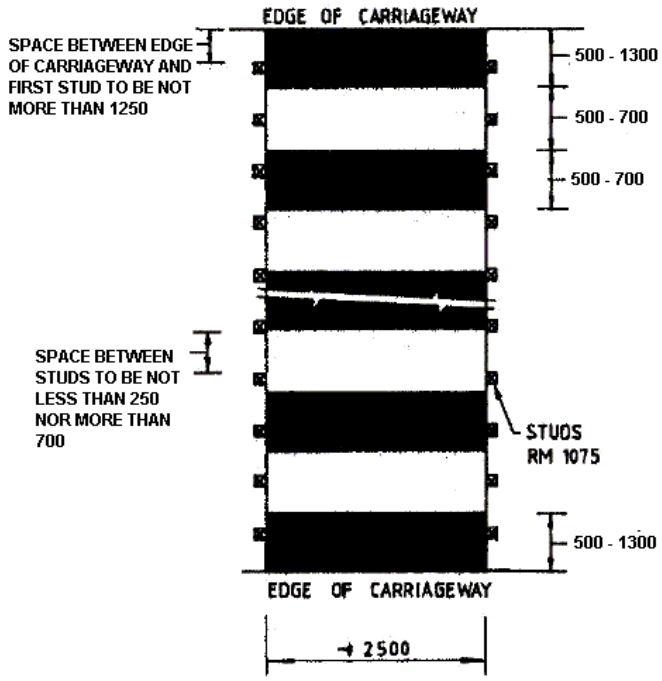
5.7.2.8 The standard length for a controlled area consists of 8 No. zig-zag marks each 2m long and it should be the aim to provide this number. However this number may be increased to up to 18 No. marks where a longer warning approach is required because for example of poor visibility or where the speed of traffic is relatively high.

DIAGRAM 5.7.2.1 : ZEBRA CROSSING ROAD MARKINGS

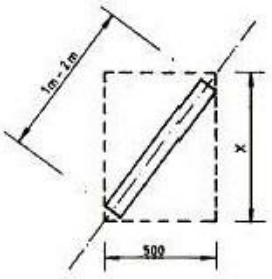
SINGLE CARRIAGEWAY 2-LANE 2 WAY ROAD



ROAD MARKING 1070



ZIG-ZAG MARK



ALL DIMENSIONS IN MILLIMETRES

5.7.2.9 In certain locations site conditions may prevent the standard controlled length from being achieved and in these cases, the number of marks may be reduced to not less than 2 No., subject to the length available for these markings being at least 3.75m, and the length of each mark may be reduced to not less than 1000mm. However as far as possible even in these situations marks should be as near 2000mm in length as is practicable and in this respect Table 5.7.2.1 indicates how this can be achieved by using fewer markings. The controlled area lengths given in Table 5.7.2.1 includes the terminal line, the give way line, the zig-zag marks and all intermediate gaps. Where the available controlled area length is less than 3.75m zig-zag marks should not be laid. In respect of where the controlled area is 1000mm or 1200mm in length, for example, the lesser number of marks indicated in Table 5.7.2.1 should be used.

Table 5.7.2.1
Number of Zig-Zag marks where less than standard length is available

	Overall control area length available (mm)	Number of equal length zig-zag marks
(i)	3750 - 5500	2
(ii)	5500 - 7500	3
(iii)	7500 - 10000	4
(iv)	10000 - 12000	5
(v)	12000 - 14000	6
(vi)	14000 - 16500	7
(vii)	16500 - 18600	8

5.7.2.10 The zig-zag mark should be inclined as shown in Diagram 5.7.2.1 between the 500mm width. For marks conforming to Table 5.7.2.1 the length 'X' will need to be calculated using the following equation :

$$X = \frac{L - 1400 - 150(N + 1)}{100N}$$

where X is in metres,

L = the overall length of the controlled area available measured in millimeters, and
N = the number of marks in accordance with Table 5.7.2.1.

5.7.2.11 The layout of standard controlled areas for zebra crossings on one way roads, dual carriageways and single carriageway two way roads having four or more lanes should be in accordance with Diagram 5.7.2.2 In respect of this Diagram it should be noted that for one way roads and dual carriageways, controlled areas should be installed on both the approach and exit side of the crossing.

5.7.2.12 Where a zebra crossing is located on a main road near a minor road junction, if when the 8 No. standard zig-zags are laid they would terminate between the projection of the kerb lines of the minor road, the zig-zag marks should be extended across the minor road to the tangent point of the kerb radius as shown in Diagram 5.7.2.3.

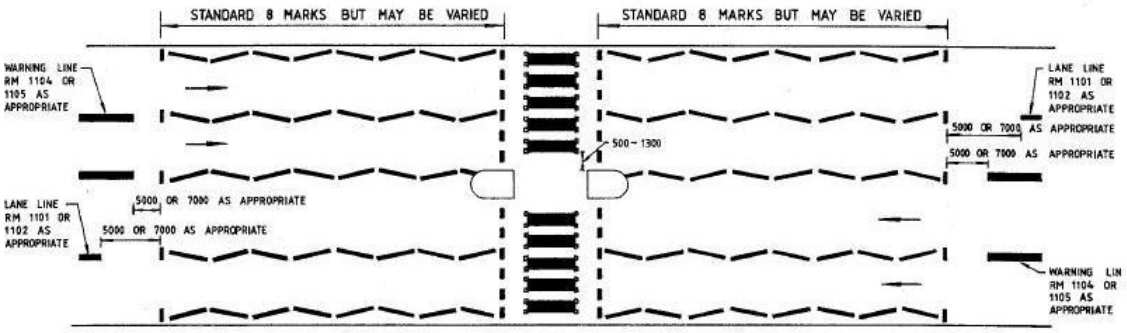
5.7.2.13 If it is necessary to provide a zebra crossing an a minor road near the junction with a major road, though this should be avoided wherever possible, the zig-zag and terminal lines should not extend closer than 1000mm to the nearest of the double lines forming road marking 1013, give way lines, as shown in Diagram 5.7.2.4. Where there is a stop priority controlled junction the distance between the terminal line and the "Stop" road markings 1138 or 1139, as appropriate, should not be less than 1000mm. Whilst zig-zag lines can in these situations be omitted in accordance with the Regulations and the Fifth Schedule it is preferable that this is not done, as the restrictions imposed by these lines will not be available, and the position of the crossing should be located such as to avoid this occurring.

5.7.2.14 In respect of roundabouts zebra crossings should not normally be provided within 20m of the roundabout exit, but where this is unavoidable the zig-zag lines should not be closer than 2m from the give way line or the extension of the outer inscribed kerbline of the roundabout as shown in Diagram 5.7.2.5. Additionally zig-zag lines should be provided on both sides of the central island at the roundabout as shown in Diagram 5.7.2.5.

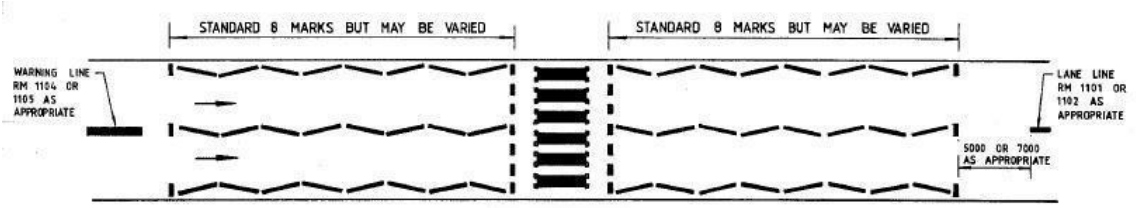
5.7.2.15 If a zebra crossing is located within a no stopping zone the yellow line markings should stop, though not terminated with a transverse bar, at the start of the zig-zag lines as shown in Diagram 5.7.2.6.

DIAGRAM 5.7.2.2 : ZEBRA CROSSING MARKINGS AT MULTI-LANE SITES

SINGLE CARRIAGEWAY 4 LANES 2 WAY ROAD



ONE WAY ROAD OR HALF OF A DUAL CARRIAGEWAY ROAD



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.7.2.3 : ZEBRA CROSSING NEAR MINOR ROAD JUNCTION

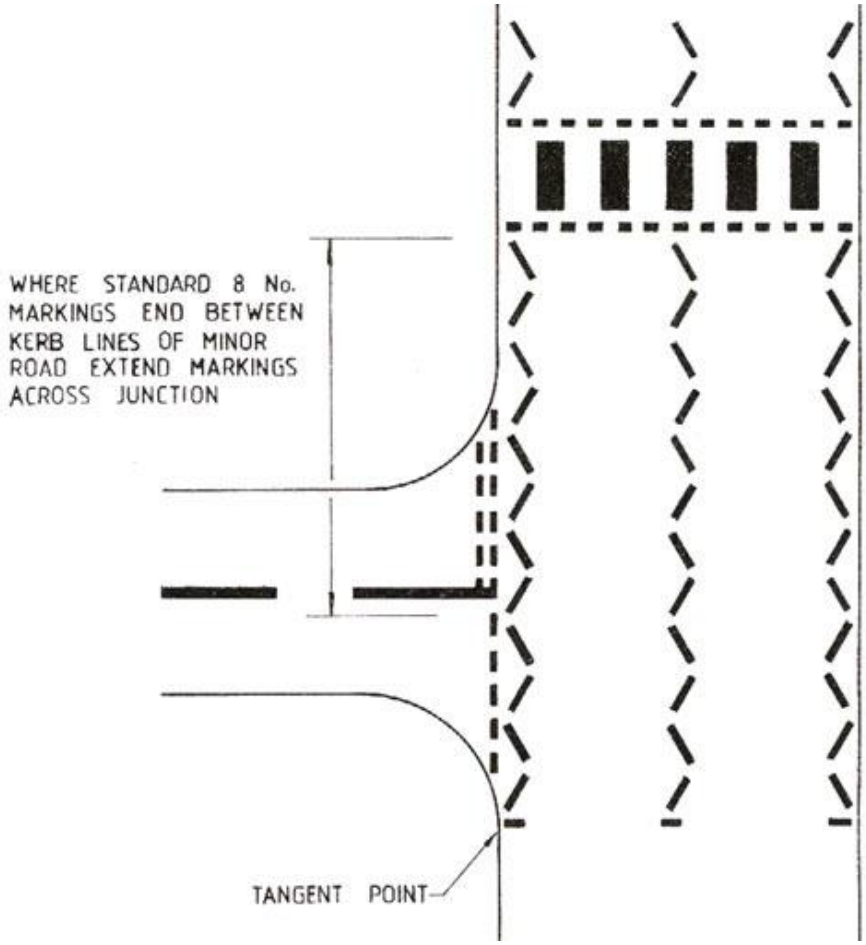


DIAGRAM 5.7.2.4 : ZEBRA CROSSING NEAR JUNCTION WITH MAJOR ROAD

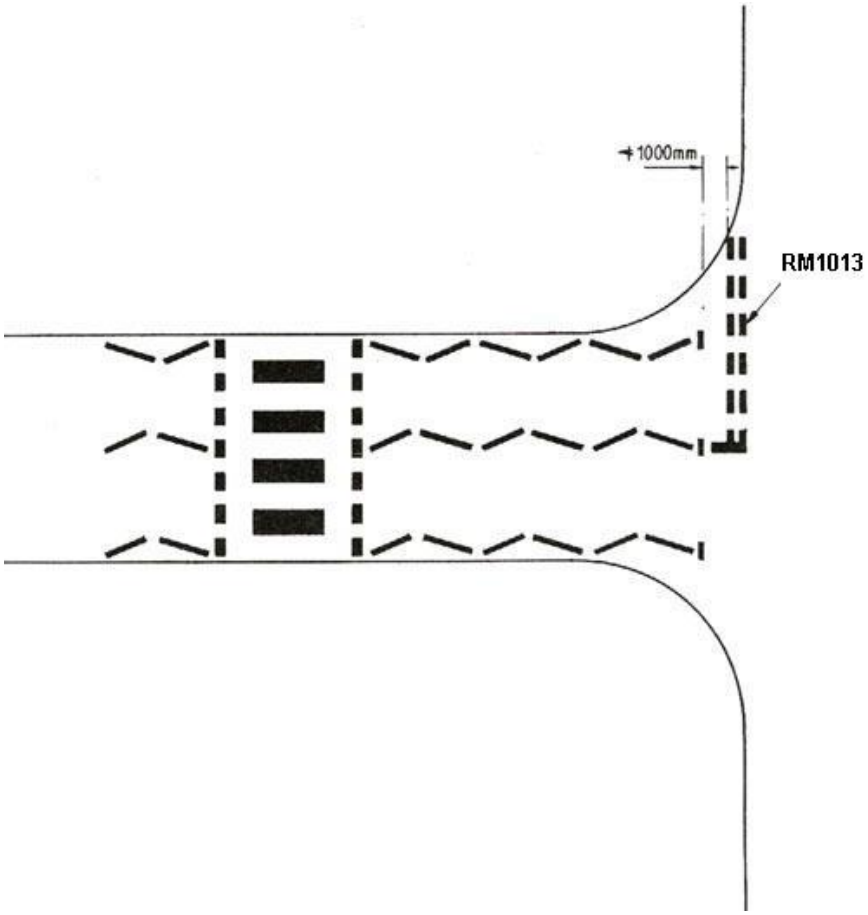


DIAGRAM 5.7.2.5 : ZEBRA CROSSING NEAR ROUNDABOUT

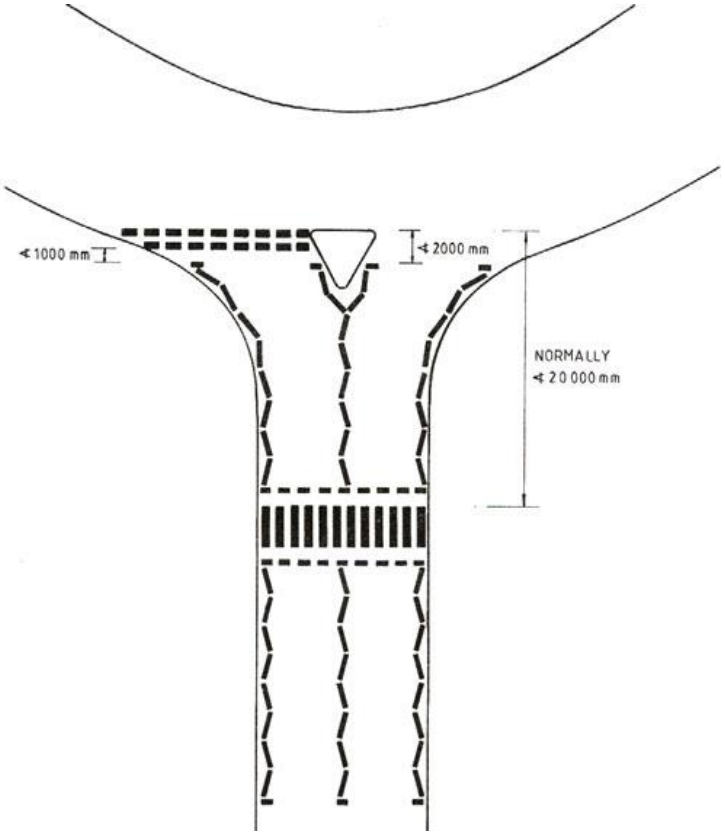
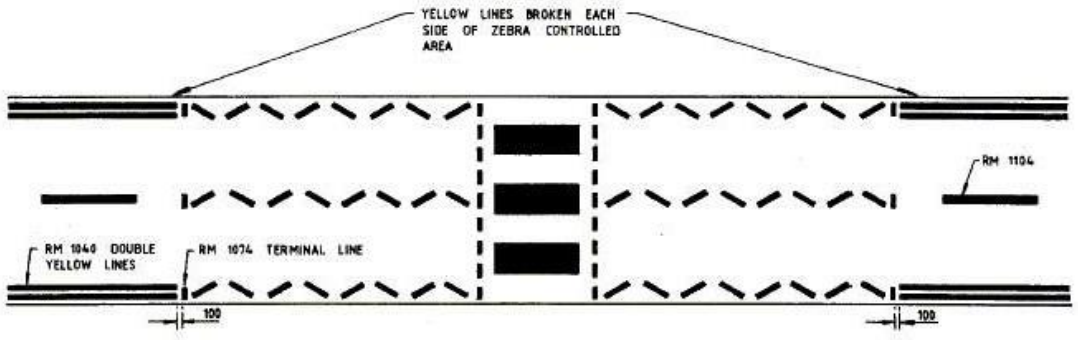


DIAGRAM 5.7.2.6 : ZEBRA CROSSING IN NO-STOPPING ZONE



ALL DIMENSIONS IN MILLIMETRES

5.7.3 Markings for Signal Controlled Crossings

5.7.3.1 Details on the actual design and layout of signal controlled crossings may be found in Chapter 3 of Volume 4.

5.7.3.2 Diagram 5.7.3.1 illustrates the basic markings for a signal controlled crossing and it should be noted that the studs, road marking 1075, are permitted to have a closer spacing than the similar studs for zebra crossings.

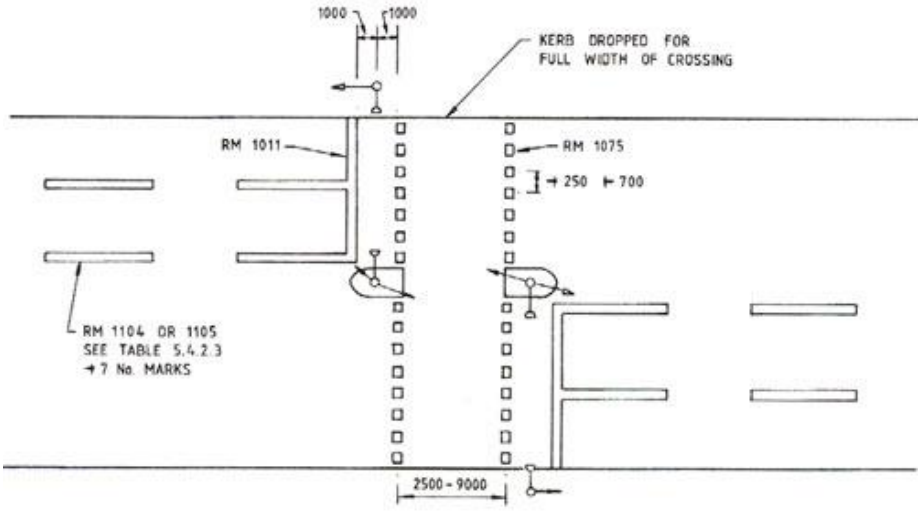
5.7.3.3 There are no regulations, as there are for zebra crossings, preventing the stopping of vehicles on signal controlled junctions therefore any yellow line markings, road markings 1041, 1042 or 1039 indicating stopping restrictions, should be carried through the crossing and not broken either side.

5.7.3.4 As a further measure to prevent vehicles stopping on the crossing yellow transverse bar markings have been used to delineate the crossing, as shown in Diagram 5.7.3.2. It should be stressed however that these markings have no regulatory effect and are merely used to emphasise to drivers the position and extent of the crossing and in this respect they have proved very successful. However these marking must only be used with signal controlled crossings that have a pedestrian phase, and not at signal controlled junctions which have only cautionary crossings, or any other cautionary crossings.

5.7.3.5 As with zebra crossings the yellow transverse bars need to be laid in a material which, is not slippery, is durable and preferably is reflective. In this respect therefore ordinary road paint is not recommended.

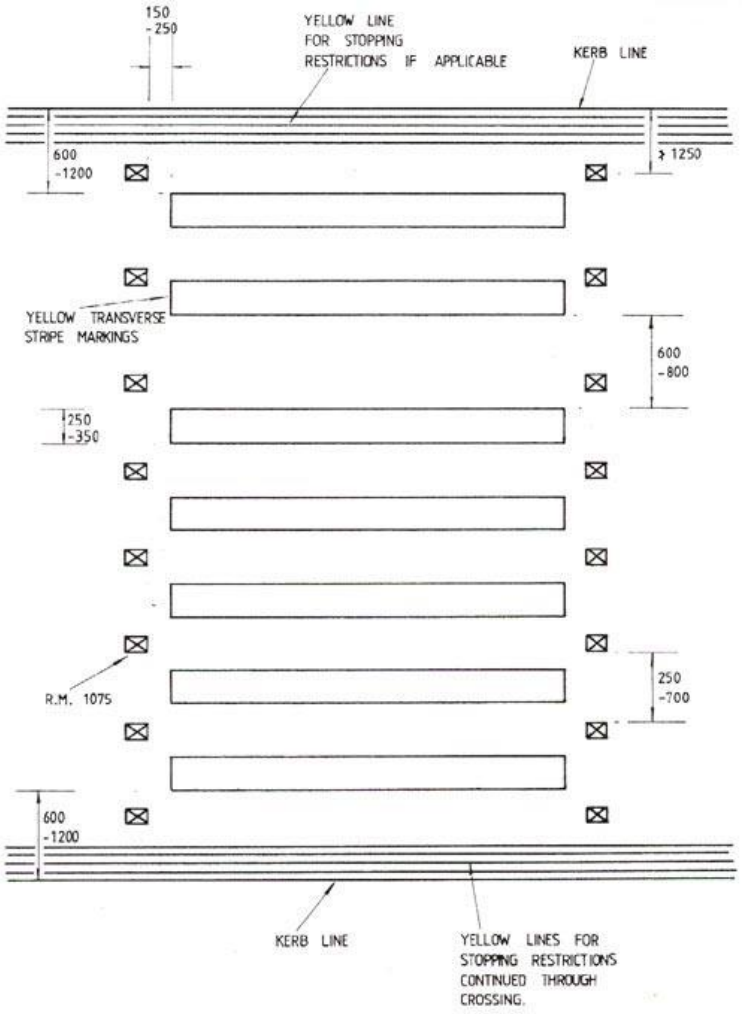
5.7.3.6 A further marking that may be used in conjunction with a signal controlled crossing at a signal controlled junction is road marking 1126, “Pedestrian Crossing Area”. The marking has been used at junctions where the arrangement is such that there is a wide area for pedestrians to cross as a method to indicate that pedestrians may utilize the whole area. However care must be exercised in its use as it has no regulatory effect, and in many respects it has now been superseded by the yellow transverse bar markings which are in any event preferable. Diagram 5.7.3.3 however illustrates its possible use.

DIAGRAM 5.7.3.1 : ROAD MARKINGS FOR SIGNAL CONTROLLED CROSSING



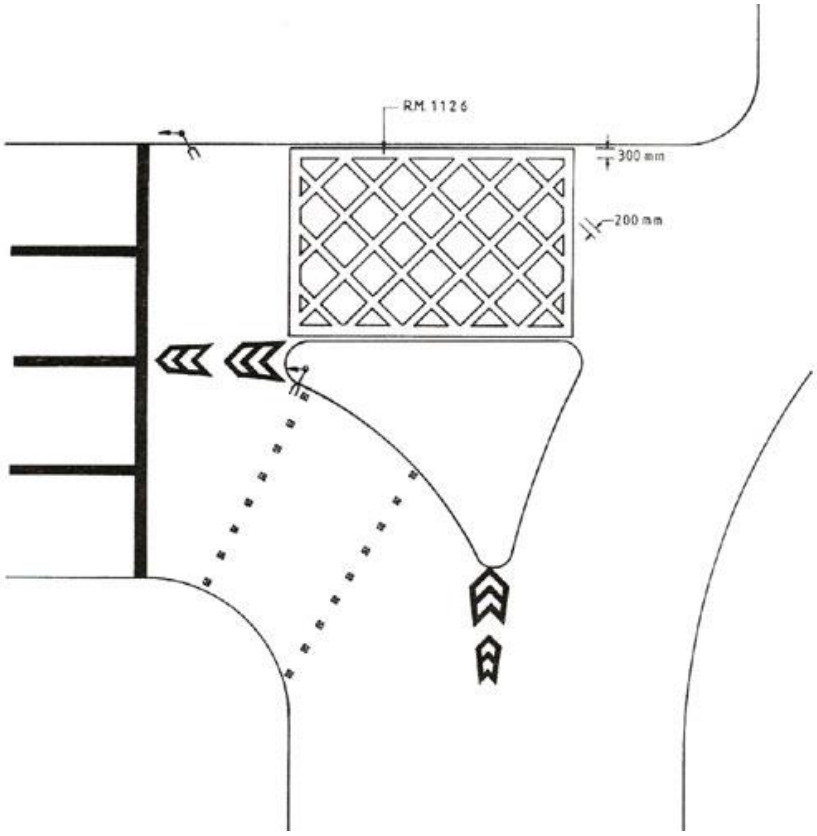
LL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.7.3.2 : YELLOW TRANSVERSE MARKINGS FOR SIGNAL CONTROLLED CROSSING



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.7.3.3 : PEDESTRIAN CROSSING AREA MARKING AT SIGNAL CONTROLLED JUNCTIONS



5.7.4 Markings for Cautionary Crossings

5.7.4.1 Two types of cautionary crossings exist, which are :-

(i) Cautionary crossings at signal controlled junctions; and

(ii) Uncontrolled cautionary crossings

5.7.4.2 Details of appropriate crossing widths and other design criteria are contained in Chapter 3 Volume 2.

5.7.4.3 The only markings that may be used to mark actual crossing at a signal controlled junction having a cautionary crossing are the road studs indicating the limits of the crossing, as shown in Diagram 5.7.4.1. However a further marking which may be appropriate particularly where there is turning traffic into the crossing is road marking 1135 “Look right”, or road marking 1136, “Look left” as the case may be. Yellow transverse bars or road marking 1126, “pedestrian crossing area”, must not be used.

5.7.4.4 Further details in respect of road markings 1135 and 1136 are contained in Section 5.8.2.

5.7.4.5 At uncontrolled cautionary crossings road studs must not be used at all, and the only markings that may be appropriate, and then only in particular circumstances where emphasis for pedestrians to look in the appropriate direction is necessary are road markings 1135, “Look Right” or 1136 “Look Left” as shown in Diagram 5.7.4.2. Circumstances where the use of these markings might be appropriate are :-

(i) on one way streets, including dual carriageway roads;

(ii) contra flow bus lanes;

(iii) at junctions where there is relatively heavy turning traffic into the street, particularly from the pedestrians blind side; and

(iv) in areas of tourist attraction.

DIAGRAM 5.7.4.1 : ROAD MARKINGS FOR SIGNAL CONTROLLED JUNCTION WITH CAUTIONARY CROSSING

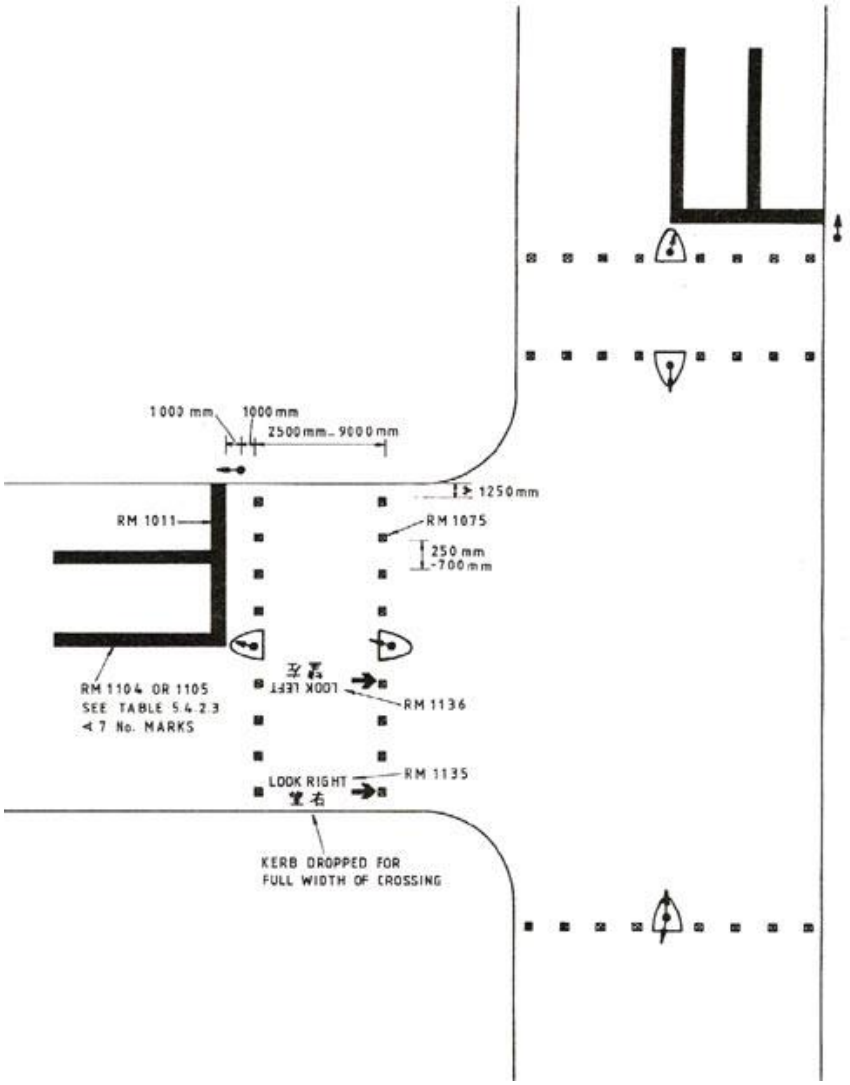
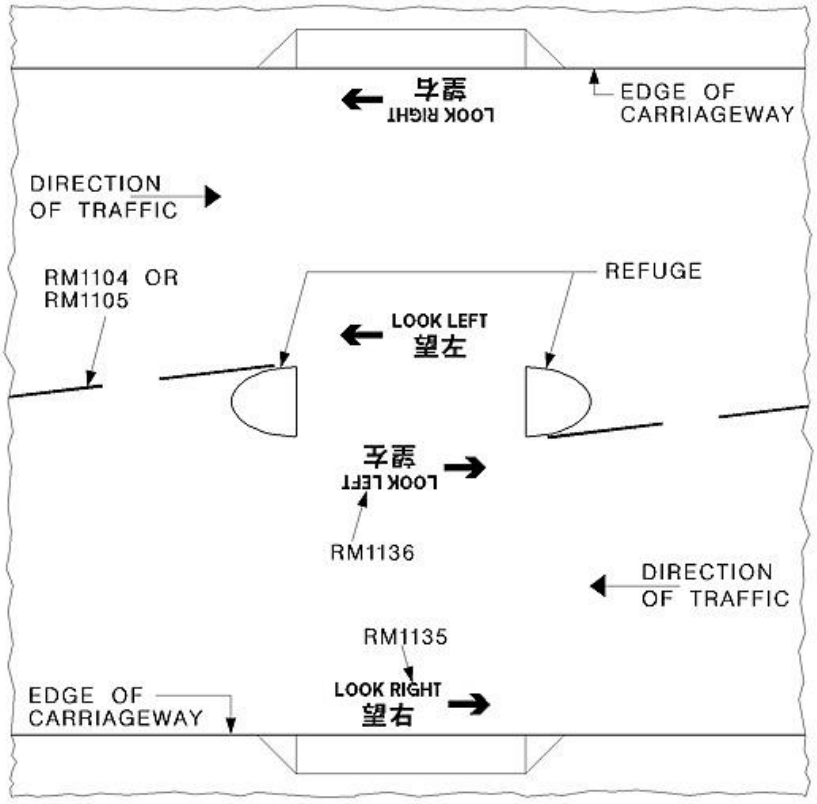


DIAGRAM 5.7.4.2 : ROAD MARKINGS FOR UNCONTROLLED CAUTIONARY CROSSING



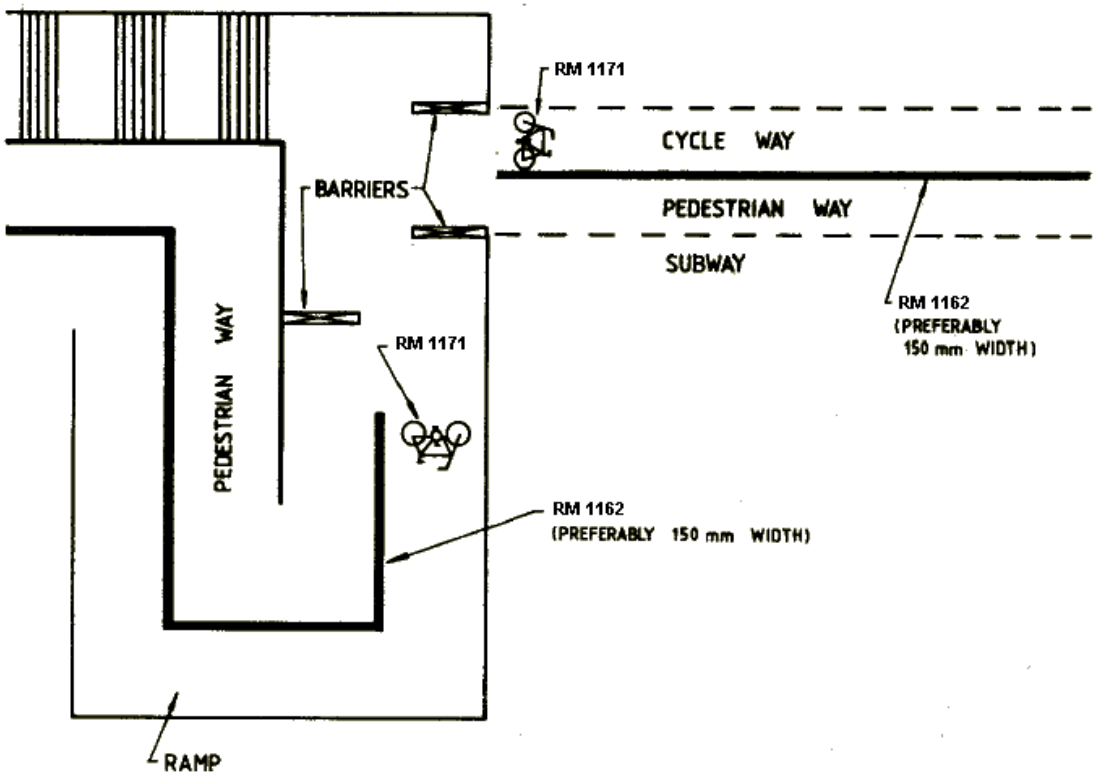
RM 1135 AND 1136 ARE NOT REQUIRED AT EVERY CAUTIONARY CROSSING

5.7.5 Road Markings for Grade Separated Crossings

5.7.5.1 Road markings are generally not a requirement for foot bridges or subways. However in situations where these facilities are shared between pedestrians and cyclists it may be appropriate to use marking as indicated in Diagram 5.7.5.1. Further information on traffic signing and road markings for cycle tracks is contained in Chapter 6.

5.7.5.2 Additionally it may be appropriate to provide a continuous edge line marking, road marking 1109, approximately 300mm from any parapet/railing as a guide to direct cyclists away from these. However the provision of this edge line should not reduce the effective width of the cycle track across the bridge to less than that appropriate for the cycle flows expected. If allowance for this edge line has not been made in the original design of the cycle track and its provision will detrimentally effect the cycle track width, consideration may be given to reducing the width between the parapet and the edge line or alternatively omitting the edge line.

DIAGRAM 5.7.5.1 : CYCLE WAY MARKINGS FOR SUBWAYS AND FOOTBRIDGES



5.8 Letter and Character Road Markings

5.8.1 General

5.8.1.1 As with traffic signing the use of letters and characters are generally avoided in favour of symbolic markings, such as road marking 1001, double white lines, road marking 1104, warning line, and road marking 1019, turn left, when providing information to drivers as to prohibited movements, warning of hazards ahead, and instructions as to movements to be followed.

5.8.1.2 In particular circumstances, however, the use of symbolic markings alone is not sufficient and further information either to emphasise the requirement, as in road marking 1139, “Stop”, or to give more detailed directions, as for example when providing information as to the destination of a particular traffic lane, is required.

5.8.1.3 Before using any letter and character markings however, because the cost of both the initial marking and subsequent maintenance is relatively high, consideration must be given to whether the marking will be of value and in this respect the following should be taken into account :-

(i) It should be determined that the message is necessary and without it road users would not have sufficient information as to the route to be followed or a particular action to be taken.

(ii) That the message can be provided in a suitably shortened form and can be accommodated within the required space.

(iii) That the message will generally be visible to road users.

(iv) That the message is unambiguous and does not conflict with the meaning of any other road marking or traffic sign.

5.8.1.4 Once having decided that a letter and character marking is required it may in certain instances be desirable to repeat the message in order for example that where traffic densities are high every opportunity is given for drivers to be able to see the message. However over repitition should be avoided as it is wasteful of road marking material and may not actually serve any useful purpose. Generally unless specific circumstances dictate otherwise a letter and character marking should not be repeated more than once.

5.8.1.5 Another important feature of letter and character markings in the style of lettering used. Normal type lettering and characters are acceptable for pedestrians but for drivers of vehicles who require to read the message at an acute angle using normal type letters and character makes the message practically illegible. For the latter therefore a system of elongated letters and characters have been developed and it is important that this style is used when providing information for moving traffic.

5.8.1.6 Letter and character marking can and often do because of their bilingual nature take up a considerable amount of space within a traffic lane, and are located such that generally some portion lies across the wheel tracks of vehicles. For these latter reasons therefore it is essential that any marking material, is durable to lessen the requirement for replacement, has an acceptable skidding resistance otherwise there is an increased risk of skidding accidents occurring, and is reflective so that the message is visible both day and night.

5.8.1.7 A further point in respect of the use of letter and character markings is that normally they are intended to apply to the oncoming motorist in a particular traffic lane. Therefore even though the message may be the same for all adjacent lanes, each message should be confined to the individual traffic lane, and if necessary, the same message repeated in the adjacent traffic lanes. This is to say the message should not be marked out such that it spreads across several lanes. Road marking 1139, "Stop" is a particular case in point where the marking should be laid separately in each traffic lane, and not stretched across several lanes.

5.8.2 Prescribed Letter and Character Road Markings

5.8.2.1 These markings are those which are featured in the schedules to particular traffic related legislation. They have already been described in Section 5.3 and Section 5.4 and therefore only brief descriptions are included in this section.

5.8.2.2 Road markings 1033, "Bus Lane" and 1034, "Tramlane" are used to indicate the start of bus only lanes and tram only lanes, respectively, as shown in Diagram 5.8.2.1. The markings are formed from elongated letters and characters and only one size is specified that is 1600 mm for the English Letters and 2700 mm for the Chinese Characters. Further information on their use in respect of bus and tram lanes is contained in Section 5.9.

5.8.2.3 "Tram Stop", road marking 1046 is used with the yellow transverse bar, road marking 1045 as shown in Diagram 5.8.2.2. Only one size of elongated letters and characters is prescribed that is 1600 mm and 2700 mm respectively, and these should be arranged centrally about the yellow transverse bar road marking 1045. For further information on the use of markings see paragraphs 5.3.2.64 and 5.3.2.65.

5.8.2.4 "Bus Stop" road marking 1047 is used in conjunction with road marking 1048 to form bus stops, as shown in Diagram 5.8.2.2. For franchised bus stops the elongated letter and character heights, should be 1600 mm and 2700 mm respectively, but for stopping places used by scheduled service vehicles, the letter and character heights should be reduced to 800 mm and 1400 mm respectively see Diagram 5.3.3.1. Further information on Bus Stop markings is given in paragraphs 5.3.2.66 to 5.3.2.70and paragraphs 5.3.4.2 to 5.3.4.4.

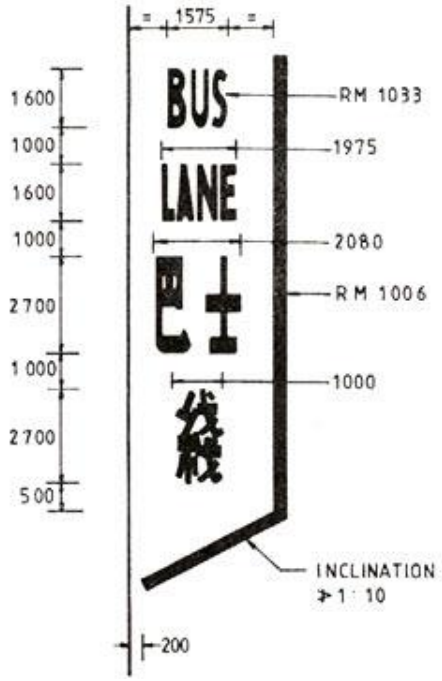
5.8.2.5 "Look Right" and "Look Left" letter and character markings forming road markings 1135 and 1136 respectively are not elongated but standard letter and character markings based on an x-ht = 200 mm, and Transport Medium Lettering, as shown in Diagram 5.8.2.3. Their use is described in paragraphs 5.4.2.68 and 5.7.4.3- 5.7.4.5.

5.8.2.6 "End of Bus Lane", road marking 1137, is formed from elongated letters and characters as shown in Diagram 5.8.2.4. Only one size is specified that is 1600 mm for the English and 2700 mm for the Chinese, as generally bus only lanes are only appropriate in urban areas on roads of District Distributor status or less. If at any time bus lanes are provided on roads of higher status then the letter and character heights should be increased to 2800 mm and 4700 mm respectively.

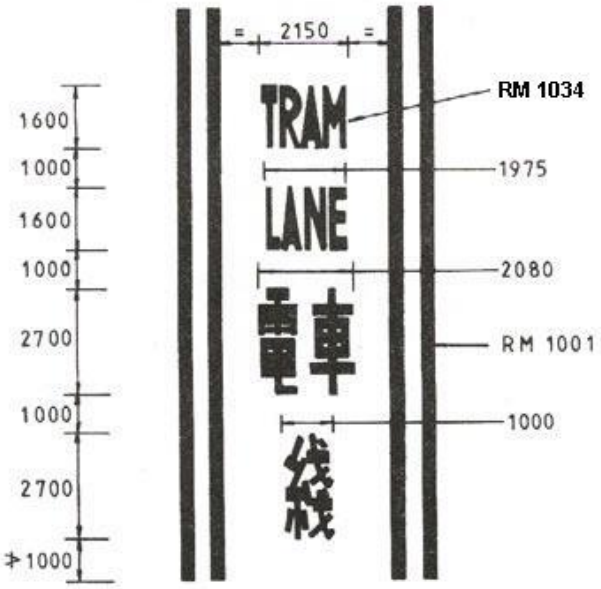
5.8.2.7 A shown in Diagram 5.8.2.4, road marking 1137, "End of bus lane" is used in conjunction with the arrow, road marking 1122. However the regulations do not require that road marking 1137 always be used with road marking 1122, and therefore because of the area of carriageway utilized road marking 1122 may be used alone unless it is regarded as essential for this to be accompanied by road marking 1137. Further detail with regard to bus only lanes may be found in Section 5.9.

DIAGRAM 5.8.2.1 : BUS AND TRAM LANE LETTER AND CHARACTER MARKINGS

BUS LANE



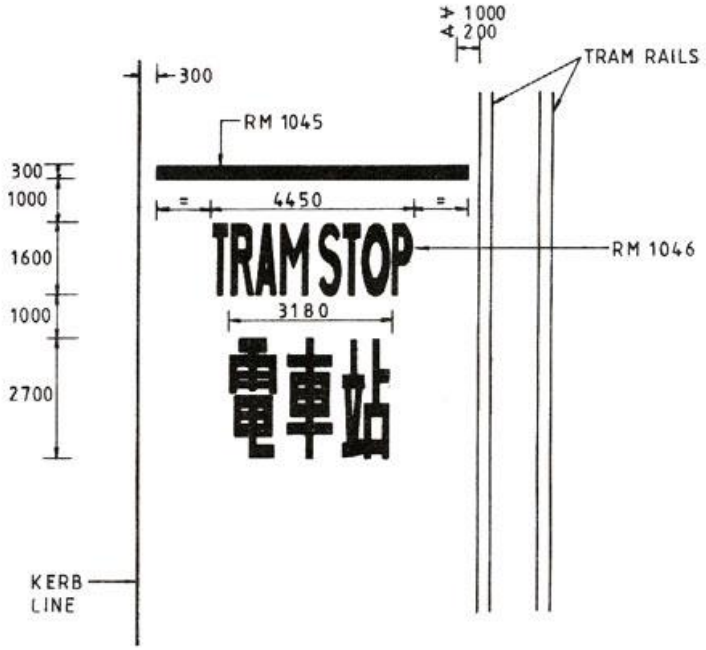
TRAM LANE



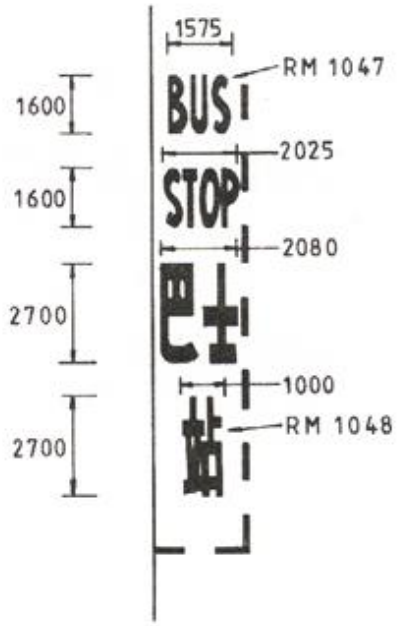
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.2.2 : TRAM AND FRANCHISED BUS STOP LETTER AND CHARACTER MARKINGS

TRAM STOP

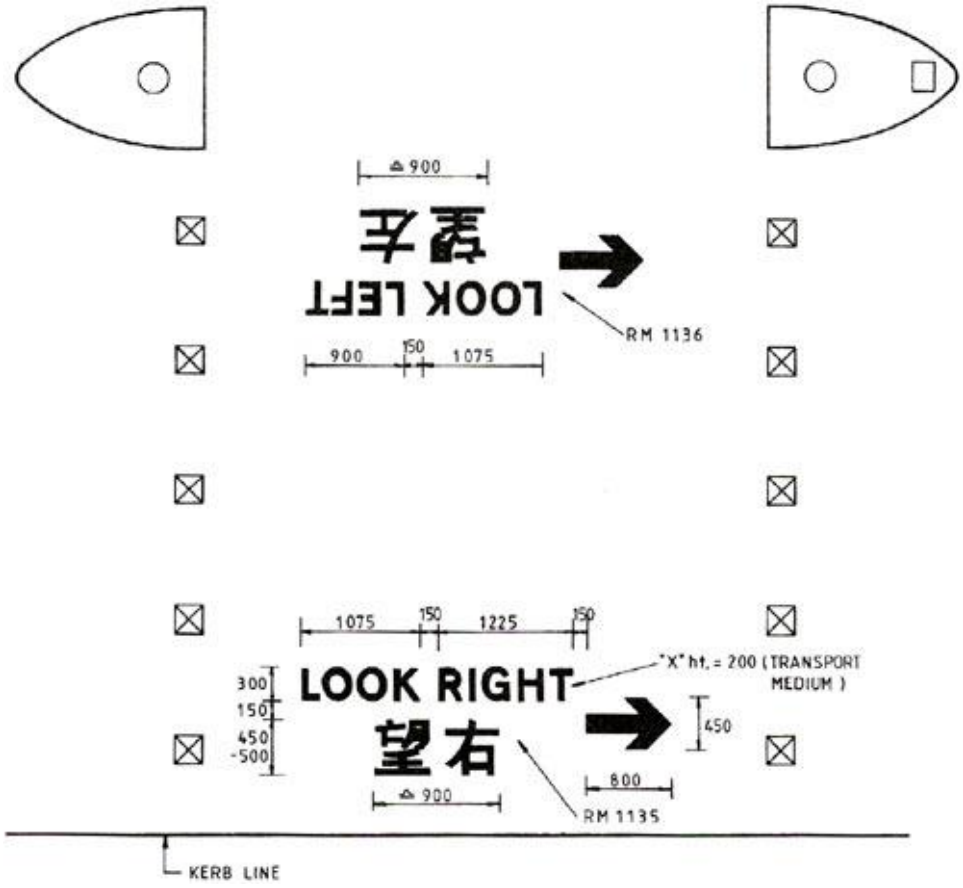


FRANCHISED BUS STOP



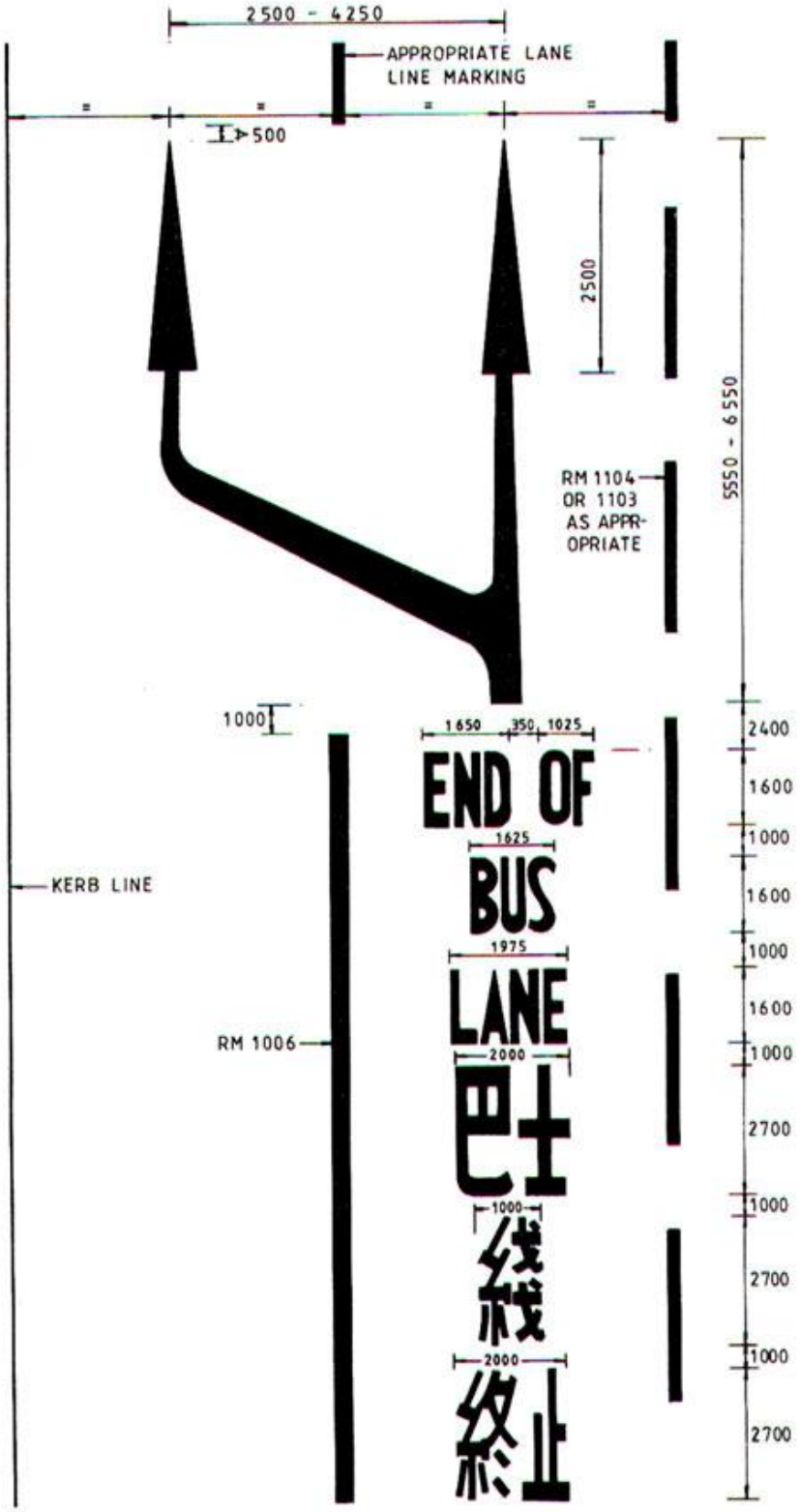
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.2.3 : "LOOK RIGHT" AND "LOOK LEFT" LETTER AND CHARACTER MARKINGS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.2.4 : END OF BUS LANE MARKINGS



ALL DIMENSIONS IN MILLIMETRES

5.8.2.8 Road markings 1138 and 1139 “Stop” as shown in Diagram 5.8.2.5, are elongated letters and characters prescribed in two sizes. Details of the use of the different sizes are given in paragraphs 5.4.2.71 to 5.4.2.73. For information concerning the location of these road marking in respect of the stopline, road marking 1012, paragraphs 5.6.2.23 to 5.6.2.27 should be referred to.

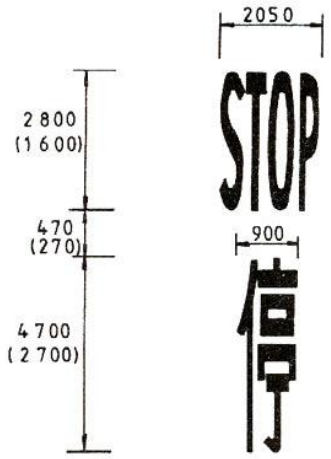
5.8.2.9 The “Slow” marking, road markings 1141 and 1142 as shown in Diagram 5.8.2.5 is prescribed in two sizes. Details as to the appropriate use for the different sizes is given in paragraphs 5.4.2.74 to 5.4.2.77. The slow markings should not be used in conjunction with any junction markings, but may be used in association with appropriate warning signs to provide additional emphasis to motorists of the necessity to slow down. Further information on this is given in paragraphs 5.6.2.24 to 5.6.2.26 of this Chapter, and paragraph 2.4.2.12 of Chapter 2.

5.8.2.10 Road marking 1144, “Get in lane” will normally be used in association with gantry signs, in the same manner as the traffic sign 611, “Get in lane”. The message is formed from elongated letters and characters, and although only one size is prescribed it may be used at a larger size e.g. letters 2800 mm, characters 4700 mm, where the approach speed warrants this. It should be stressed that this is only an advisory marking and any control over the use of individual lanes must be achieved by other means e.g. double white lines.

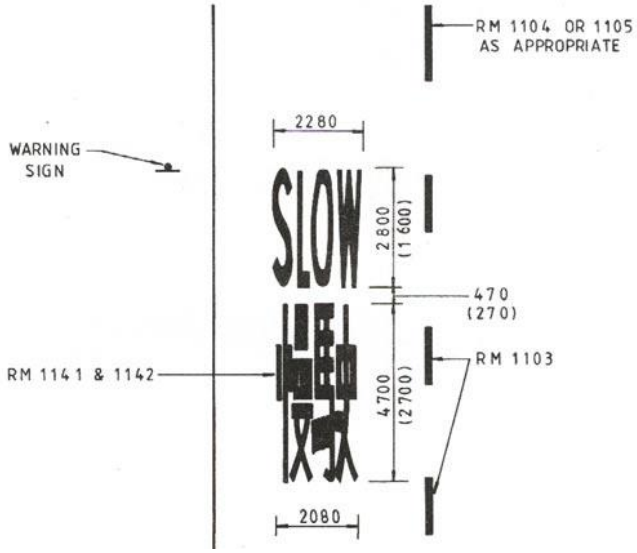
5.8.2.11 As shown in Diagram 5.8.2.6 each lane should be separately marked with road marking 1144 and normally the marking should be located approximately 50 m in advance of any gantry sign. For roads where the 85th percentile speed is above 70 km/h and the larger lettering and characters are used this distance should be increased to 75 m to 100 m in advance of the gantry sign.

DIAGRAM 5.8.2.5 : "STOP" AND "SLOW" MARKINGS

RM 1138 & 1139

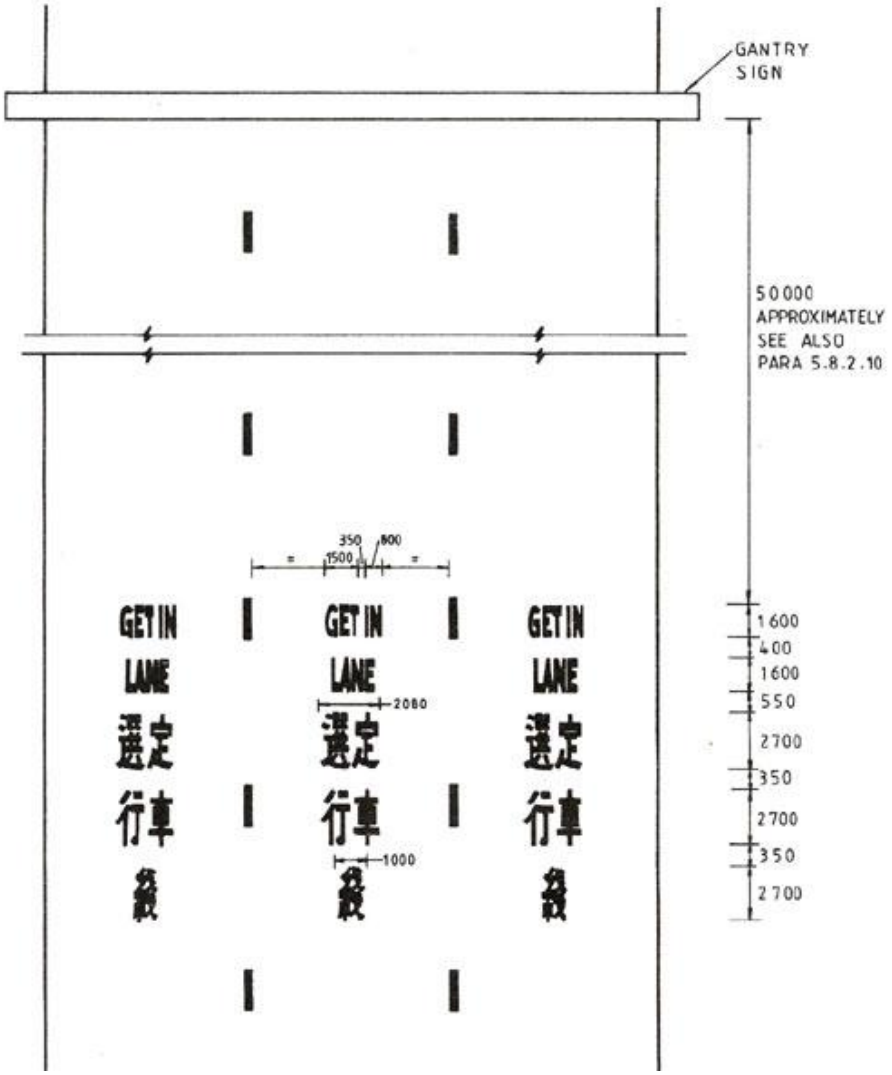


RM 1141 & 1142



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.2.6 : "GET IN LANE" MARKINGS



ALL DIMENSIONS IN MILLIMETRES

5.8.3 Non-prescribed letter and character markings

5.8.3.1 Non-prescribed letter and character markings should as a general principle not be used as they have no regulatory effect and normally the same advice can be provided by the use of alternative prescribed traffic signs or road markings. Such messages as "keep clear" written on the carriageway for example cannot be enforced and if ignored by motorists can cause disrespect for road markings generally.

5.8.3.2 At times non-prescribed letter and character markings can provide very useful guidance, but even so it does need to be carefully examined on a case by case basis whether the marking is of value or not, taking into account the following :-

(i) Is there an alternative prescribed traffic sign or road marking which could be used to convey the same message?

(ii) Does the message in any way convey or could be construed to convey a regulatory meaning? If it does then it should not be used.

(iii) Can the message be reasonably marked with in the available carriageway space and still be legible?

(iv) Will the marking be generally visible at most times? That is, it will not be frequently obscured by vehicles stopping on it. If for the majority of time it is likely to be obscured then there is little value in providing the marking.

(v) Will the message contribute to the improvement of road safety?

5.8.3.3 Where it is agreed that non-prescribed letter and character markings should be provided, then the style of marking should be in accordance with the following :-

(i) Where parallel to the kerb the English letters should conform to the upper case Transport Medium Alphabet at a suitable "x height", and the Chinese letters in Gothic Style at an appropriate size related to the "x height" stipulated. Generally "x heights" of less than 200 mm will not be appropriate.

(ii) Where transverse to the carriageway the English letters should be of the stretched upper case Transport Medium Style of a letter height of either 1600 mm or 2800 mm in accordance with Table 5.8.3.1. The Chinese characters should be of stretched gothic style of character height of either 2700 mm or 4700 mm in accordance with Table 5.8.3.1.

Table 5.8.3.1
Appropriate Letter and Character Heights

	Road Type	English Letter heights(mm)	Chinese Character heights(mm)
(i)	Roads having speed limits of 70 km/h or more	2800	4700
(ii)	Roads having speed limits of 50 km/h or less	1600	2700

5.8.3.4 (i) The one form of non-prescribed letter and character marking which are usefully used quite frequently are lane destination markings. These are markings for individual traffic lanes which indicate the destination that can be reached if that lane is followed. Generally place names should be used, but it is also appropriate to use the names of roads.

(ii) Lane destination markings can be used in advance of direction signs to provide additional warning of the correct lane to follow and are particularly useful where more complicated junction layouts are used and/or where the double white line system is installed after the direction sign to prevent any lane changing.

5.8.3.5 (i) Lane destination markings may also be used as confirmatory markings to confirm that the motorist is in the correct lane after the manoeuvre takes place. The purpose of these markings is to assure the driver that he is following the desired route and thus prevent any unnecessary manoeuvres.

(ii) Over use of lane destination markings however should be avoided and whilst there may be advantage in repeating the same destination, particularly in traffic congested roads, as stated in paragraph 5.8.1.4 this should not normally result in more than two similar destination markings being used in the same traffic lane.

5.8.3.6 Each lane should be marked separately, regardless of whether adjacent lanes have the same destination, as spreading the lane destination marking across two or more lanes may cause confusion as to the number of lanes that are actually available, as well as obscuring the lane markings. Additionally where there are heavy traffic flows spreading the marking over two or more lanes may result in only part of the message being visible which could provide further confusion.

5.8.3.7 Normally lane destination markings should not be closer than 50 m in advance of any direction sign or location where lane changing is prevented, and this should be increased to 75 m on roads having speed limits of 70 km/h or more. Where the destination is repeated the distance between markings should generally not be less than 50 m.

5.8.3.8 Because lane destination markings are required to be in both English and Chinese particular attention needs to be given to its content. In this respect for consistency the destination should as far as possible be the same as that used on any direction sign it is associated with. Certain abbreviations to the English are acceptable e.g. “RD” for “ROAD”, but following the practice as used in some countries of deleting all vowels may be confusing. Cotton Tree Drive for example would become “C’TT’N TR’ DR’V’” which is probably incomprehensible to most drivers. However, some use of appostrophes is appropriate and in this respect “C’TT’N TREE DR’VE” would be acceptable. Suggested abbreviation for certain English main road names are given in Appendix 3 of this Chapter.

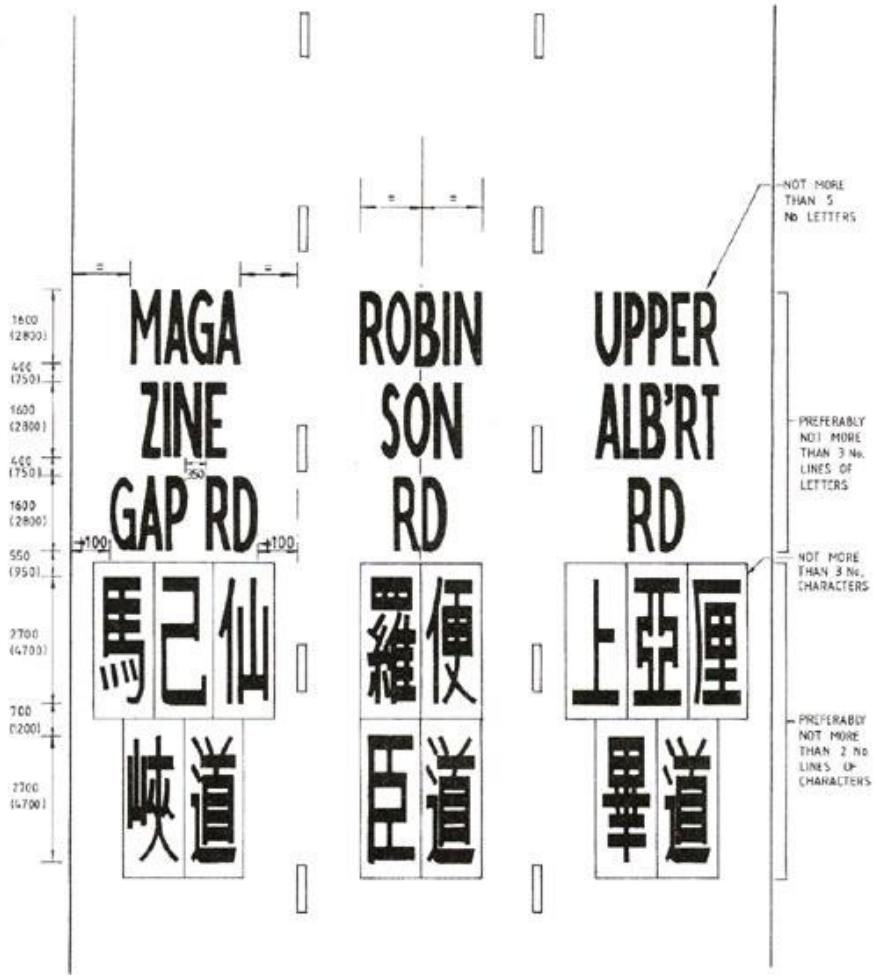
5.8.3.9 Lane widths can vary quite considerably and allowing for lane line markings and suitable spacing not more than about 3 m will normally be available for lettering and characters. Although individual letters and character widths do vary the available traffic lane width will generally mean that not more than five letters can be used in any line and not more than three characters as illustrated in Diagram 5.8.3.1.

5.8.3.10 For the English place or road names the use of suitable apostrophes can sometimes enable the number of letters required to be reduced to not more than 5 No. However, for some names even the use of apostrophes will still result in more letters than can be accommodated and/or the message being incomprehensible. For example in Diagram 5.8.3.1 if all the vowels from “Magazine” were replaced by apostrophes, the resulting “M’G’Z’N’ would be rather long to conveniently fit into a lane width and in any event would be difficult to understand. For these situations therefore it is necessary to mark the name over two lines as shown in Diagram 5.8.3.1 “ROBINSON” in “Robinson Road” is similarly treated as this cannot be conveniently abbreviated. However “ALBERT” in “Albert Road” can be reduced to a convenient length and be comprehensible by the use of apostrophes, as shown in Diagram 5.8.3.1. In the case of “ROAD” whilst for a number of locations this could be marked in full, for economy and consistency in respect of the different lane destinations “RD” is acceptable in all locations.

5.8.3.11 As stated before messages should not be too long and in this respect for English Lettering, it should not occupy more than three lines. Similarly for Chinese Characters not more than two lines should normally be used. In respect of the latter although the separation of the Chinese Characters into two lines may result in a presentation which is not normally used as with the English, for road markings this is acceptable and it is still understandable. How the characters should be divided, will need to be determined on a case by case basis. Whether for example in a five character message there should be three characters on the first or three on the second line will need to be determined on the basis of what is considered to be the most acceptable and understandable presentation of the place or road name.

5.8.3.12 Further information on letters and characters is given in Section 5.8.4.

DIAGRAM 5.8.3.1 : LANE DESTINATION MARKINGS



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5.8.4 Elongated Letter and Character Details

5.8.4.1 The widths of elongated letters and numerals shown in Diagrams 5.8.4.1 and 5.8.4.2 are based on the Transport Medium Alphabet at 400 mm x-height.

5.8.4.2 The letters and numerals in Diagrams 5.8.4.1 and 5.8.4.2 are shown in tile form with their appropriate tile widths. Whilst it may be impractical to form templates to the individual tile sizes so that the letters can be chalked out properly on the carriageway surface, it is important whatever method of setting out is employed that the general shape, width, height and spacing of the letters as shown should as far as possible in adhered to. The design of the letters is such that they are clearly legible when viewed at an angle some distance in advance. Distorting the letter shape or size by too much, merely to make it easier to form on the carriageway, can make the message illegible and defeat the purpose of providing the marking.

5.8.4.3 A space equivalent to 200 mm between adjacent tiles, or 350 mm between the actual letters, should be provided between different words on the same line, as shown in Diagram 5.8.4.3.

5.8.4.4 Where the English lettering forms more than one line the tiles on the consecutive lines should be butted up together as shown in Diagram 5.8.4.3 to form a space between letters of 400 mm for 1600 mm height letters and 700 mm for 2800 mm height letters.

5.8.4.5 For Chinese Characters the detailed information similar to that for the English Lettering unfortunately is not available. However general guidance on the size and spacing of characters can be obtained by considering each character in the form of a tile.

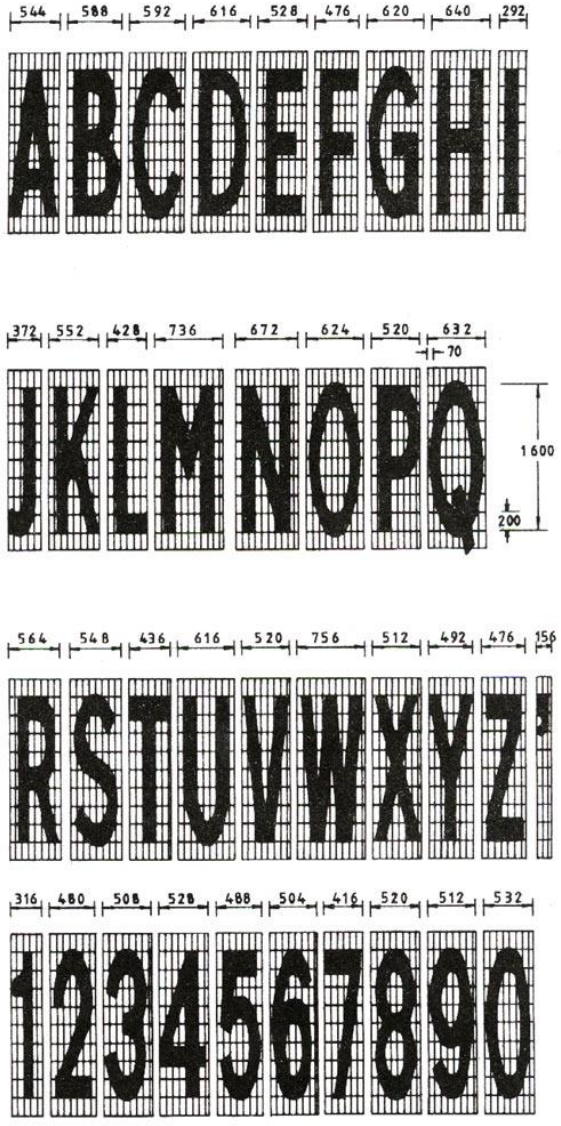
5.8.4.6 Diagram 5.8.4.4 indicates the basic dimensions of the tiles for 2700 mm height characters and 4700 mm height characters.

5.8.4.7 The tile sizes for characters are as can be seen from Diagram 5.8.4.4, 1100 mm x 3400 mm and 1100 mm x 5900 mm for 2700 mm and 4700 mm height characters respectively. The additional depth of tile being to provide for the spacing between tiles on consecutive lines as shown in Diagram 5.8.4.4.

5.8.4.8 The width of an actual character will vary but as far as possible there should be a space of not less than 100 mm between the sides of the tile and the character as shown in Diagram 5.8.4.4.

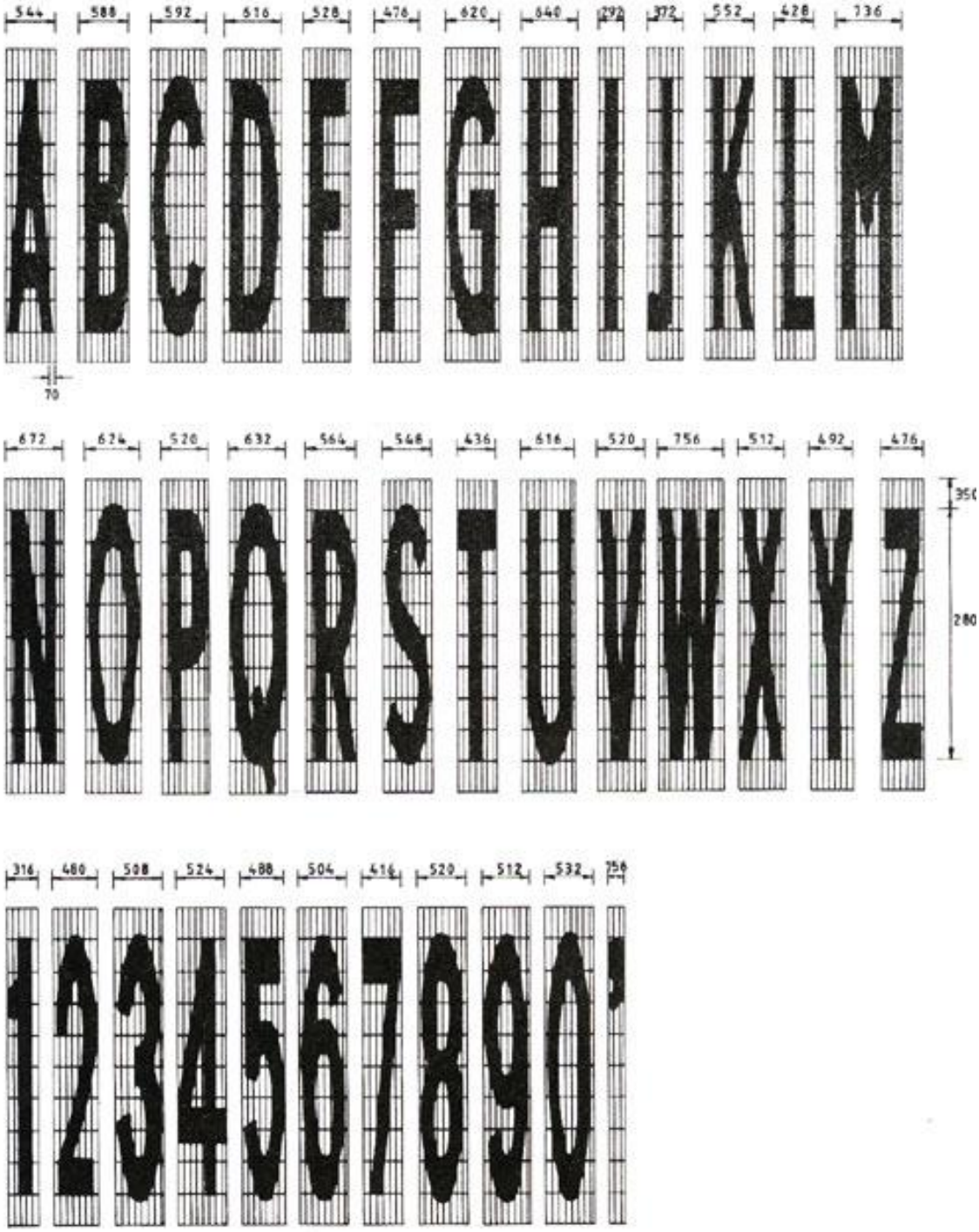
5.8.4.9 Chinese characters should read from left to right, and tiles for characters on the same line and on consecutive lines should all be butted together as shown in Diagram 5.8.4.4.

DIAGRAM 5.8.4.1 : "1600 mm" HEIGHT LETTERS AND NUMERALS



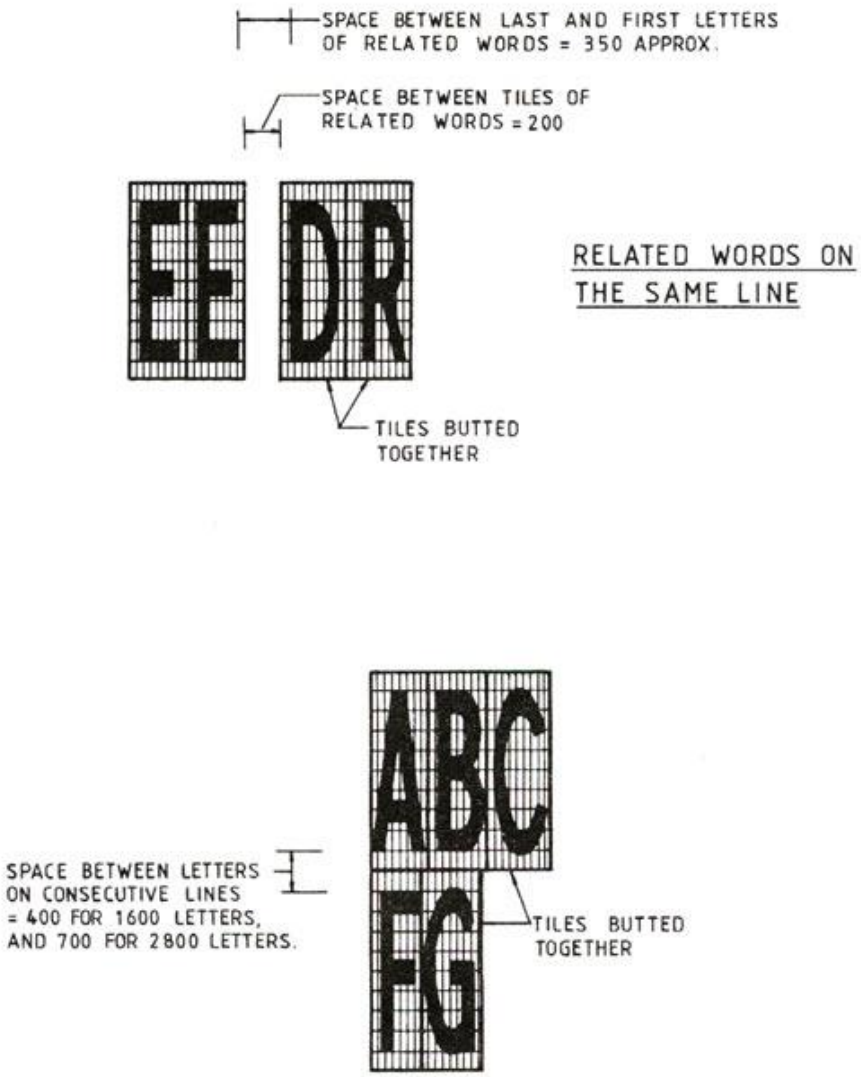
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.4.2 : "2800 mm" HEIGHT LETTERS AND NUMERALS



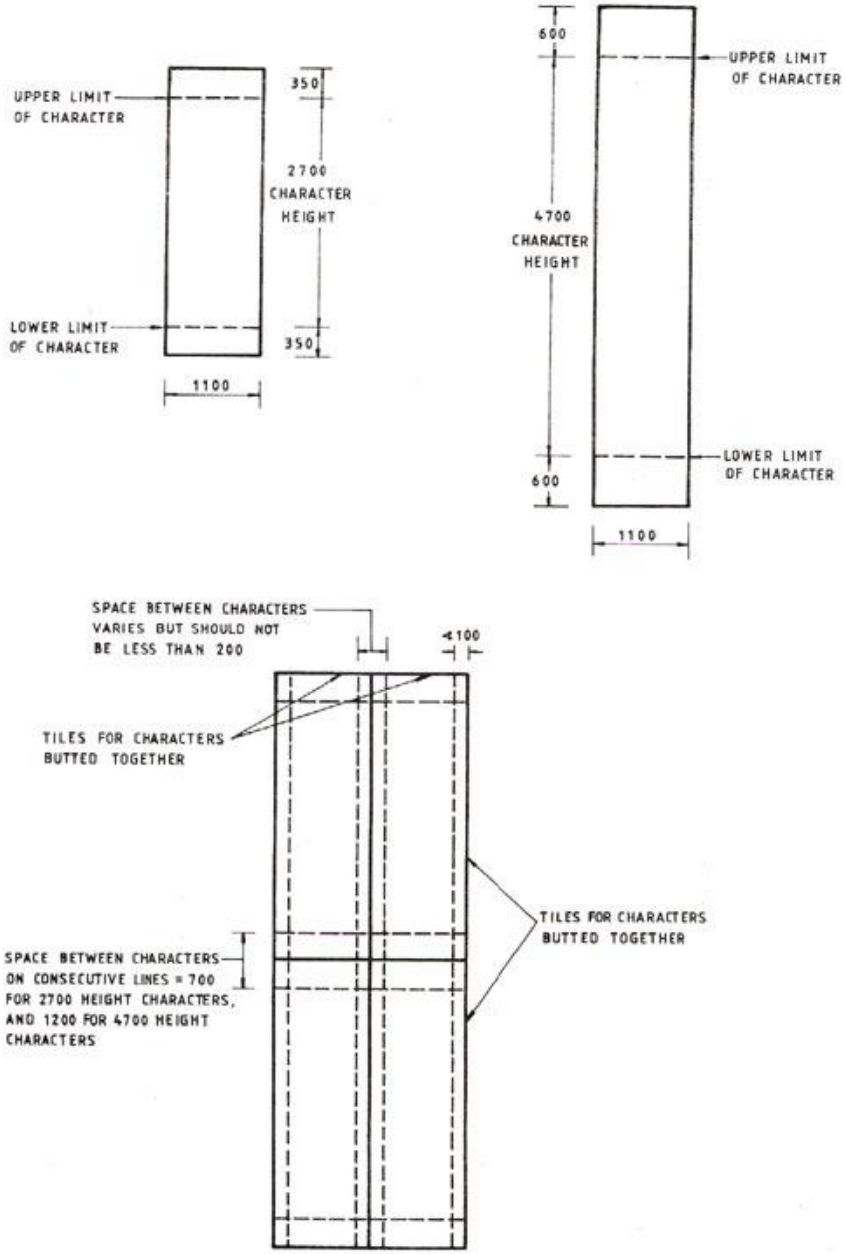
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.4.3 : LETTER SETTING OUT DETAILS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.8.4.4 : CHARACTER DETAILS



ALL DIMENSIONS IN MILLIMETRES

5.8.4.10 The methods for determining non-prescribed letter and character markings may be summarized as follows :-

(i) Decide on the size of alphabet and characters, Table 5.8.3.1.

(ii) Determine the arrangement of the English Letters, on the basis that there should be not more than 5 No. letters in any line, Diagram 5.8.4.5.

(iii) Where it is not possible to have more than 5 No. letters on the line consider the substitution of vowels by apostrophes, para. 5.8.3.8, or consider splitting the name into two lines, para. 5.8.3.10, providing this does not result in more than three lines, para. 5.8.3.11.

(iv) Add up the tile widths for the English Letters, Diagram 5.8.4.1 or 5.8.4.2, to ensure that the message can be arranged within the lane width available, and that the widest letter arrangement allows a space of not less than 100 mm both sides between the letters and the edges of the traffic lanes, Diagram 5.8.4.5.

(v) Determine the arrangement for the Chinese characters on the basis that not more than 3 No. characters should be used on any line, Diagram 5.8.4.5, and there should not be more than 3 No. lines, para. 5.8.3.11.

(vi) Add up the tile widths for the Chinese characters, Diagram 5.8.4.4, to ensure the message can be arranged within the lane width available with a gap of not less than 100 mm between the tile and the edge of the traffic lane, Diagram 5.8.4.5.

(vii) Determine the overall length of the marking by assuming the tiles are butted up to one another vertically, Diagram 5.8.4.5.

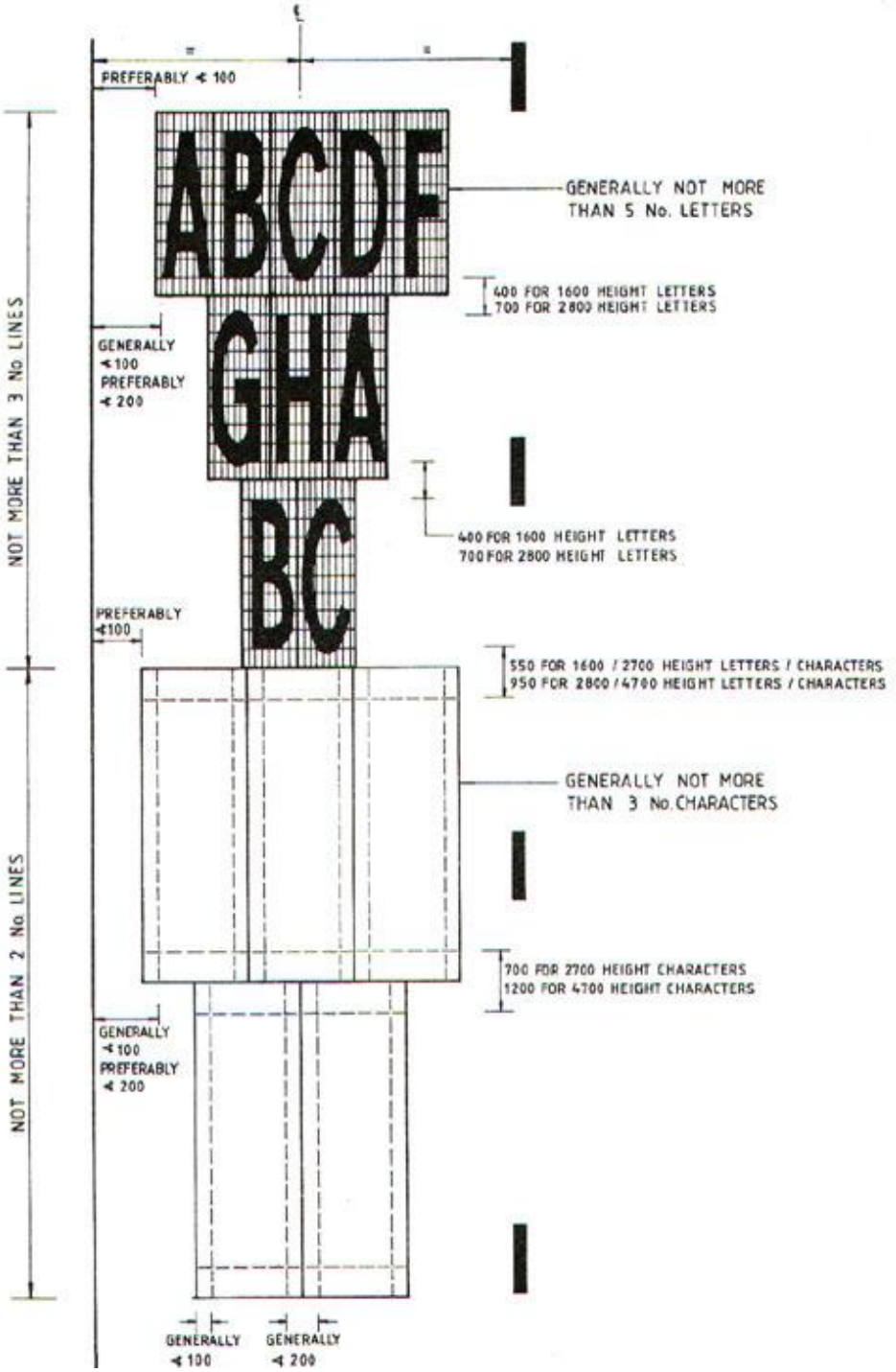
(viii) Depending on the method of applying the markings setting out details can be provided as follows :-

(a) the overall width of the actual English words can be calculated from Diagram 5.8.4.1 or 5.8.4.2, estimating the space between any tile edge and the letter on the basis of 70 mm grid spacing, and that the space between related words on the same line is 350 mm, para. 5.8.4.3.

(b) the overall width and spacing of the character can be estimated by assuming character widths are 900 mm and the space between adjacent characters is 200 mm. When actually applying the marking some overlap of this is acceptable.

(c) the appropriate spacing, of words on different lines, characters on different lines and between words and characters can be obtained from Diagram 5.8.4.5.

DIAGRAM 5.8.4.5 : NON - PRESCRIBED LETTERS AND CHARACTERS SETTING OUT DETAILS



ALL DIMENSIONS IN MILLIMETRES

5.9 Bus Lane Markings

5.9.1 General

5.9.1.1 For details of the criteria for the introduction of bus lanes and their particular uses Chapter 3 of Volume 6 should be consulted.

5.9.1.2 Appropriate traffic signs for use in conjunction with bus lanes are described in Chapter 2 of this Volume, with paragraphs 2.3.2.51 to 2.3.2.57, and 2.3.3.46 to 2.3.3.48 being particularly relevant.

5.9.1.3 Two types of bus lanes exist that is :-

(i) with flow lanes, or

(ii) contra flow lanes.

5.9.1.4 For both types of bus lane, road marking 1006 should be used to indicate to motorists the boundary of a traffic lane reserved for franchised buses and, where indicated on signs, other vehicles. Road marking 1007 should be used to warn of the commencement or further continuation of a bus lane. Road marking 1033 should be used at the commencement of the bus lane.

5.9.2 With flow bus lanes

5.9.2.1 The necessary regulatory powers in respect of road marking 1006 and bus lanes in particular are contained in Regulation 12 of the Road Traffic (Traffic Control) Regulations.

5.9.2.2 Whilst other vehicles, except for certain reasons are by Regulation 12 constrained from crossing the line formed by road marking 1006, buses are not and may cross the line to enter or leave the bus lane, thus enabling buses to overtake other buses if this is necessary.

5.9.2.3 The exemptions given in Regulation 12 when other vehicles may cross the line formed by road marking 1006are :-

(i) to conform with a direction given by :-

(a) a traffic sign or road marking

(b) a police officer or traffic warden in uniform

(ii) to avoid colliding with any vehicle, object, obstruction or person;

(iii) to make a 90° turn across the bus lane to make an exit from or gain entry to any frontage premises adjacent to the bus lane.

5.9.2.4 In addition to the exemptions given in paragraph 5.9.2.3 a vehicle may be driven into a bus lane if a bus lane permit has been issued in accordance with Regulation 50 of the Road Traffic (Registration and Licensing of Vehicles) Regulations.

5.9.2.5 It is relevant to note that by reason of the exemptions referred to in paragraph 5.9.2.3, it is not in the case of roadworks necessary to remove road marking 1006, as a sign can be used to direct traffic into the bus lane if this is appropriate.

5.9.2.6 With regard to cyclists it is relevant to note that the “bus lane” sign, traffic sign 121, applies only to motor vehicles and for this reason cyclists are permitted to use the bus lane.

5.9.2.7 Road marking 1119, “warning arrow”, should be located approximately 15m in advance of the inclined road marking 1006, and again at the start of the inclined line, as shown in Diagram 5.9.2.1, as a warning for other vehicles to keep right, providing that the bus lane operates for at least 10 hours each day. Additionally at least 7 No. warning lines, road marking 1104, should be used in advance of the start of the inclined line. Where the bus lane operates for less than 10 hours each day the arrow markings may be omitted but not the warning lines.

5.9.2.8 At the start of the bus lane the inclined line should be formed from road marking 1006 as shown in Diagram 5.9.2.1 and not road marking 1007. The angle of deflection of the line formed from road marking 1006, should not be greater than 1:10, and normally because of site constraints it will be acceptable if 1:5 can be achieved.

5.9.2.9 “Bus lane” road marking 1033, should be located at the beginning of the parallel line formed by road marking 1006, and further details regarding this are illustrated in Diagram 5.9.2.1.

5.9.2.10 As explained in paragraph 5.9.2.3, Regulation 12 of the Road Traffic (Traffic Control) Regulations does allow vehicles to cross road marking 1006 to enter or exit from any run-in, providing this is done at right angles, or as near as practicable to this, and therefore there is no need to break the line or use road marking 1007 at these locations.

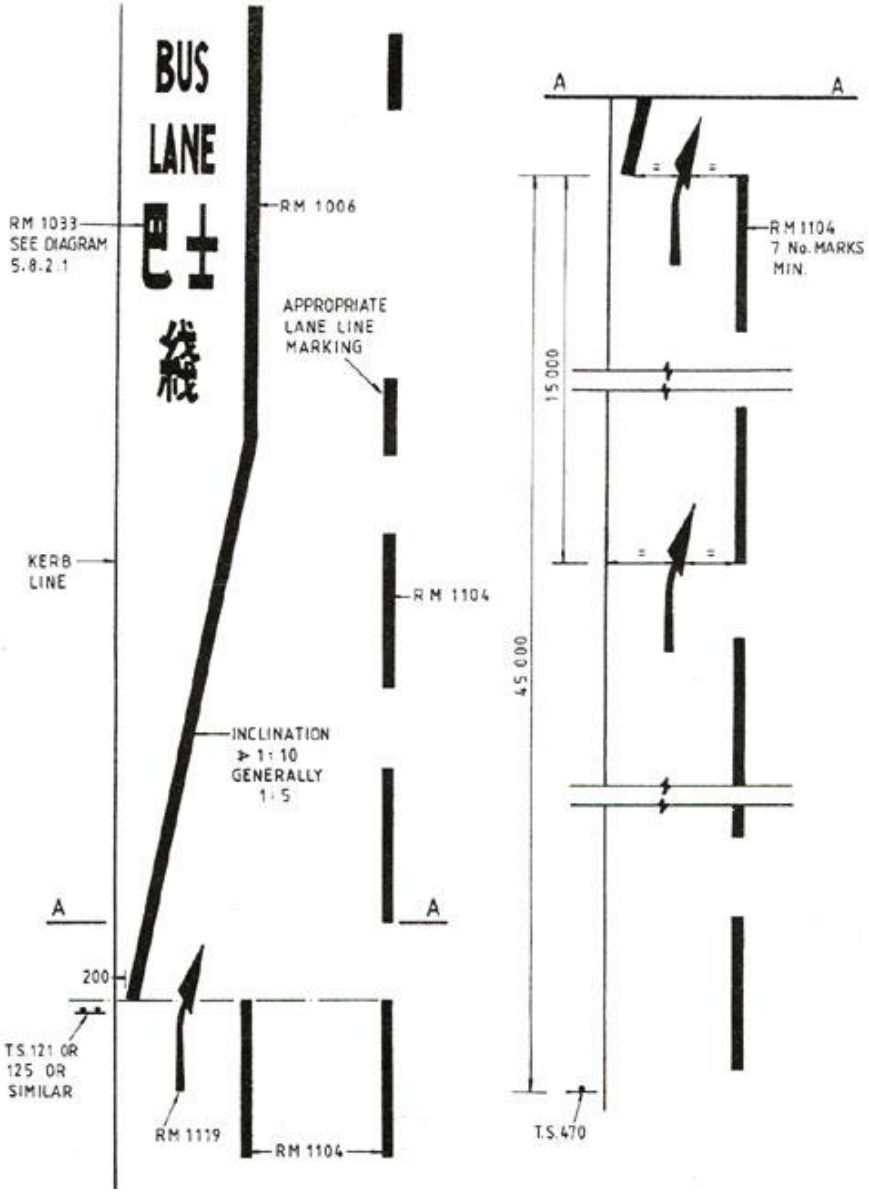
5.9.2.11 In advance of a junction where traffic is allowed to turn left but the bus lane continues after the junction, road marking 1006 should be broken ahead of the junction, so that other vehicles may enter the nearside lane in order to make the left turn. Road marking 1123, “Enter bus lane arrow”, should be used as shown in Diagrams 5.9.2.2 and 5.9.2.3 to indicate that this is permitted.

5.9.2.12 Immediately following road marking 1123, “Enter bus lane arrow”, and in advance of the extension of the minor road kerbline, or the stopline if signal controlled, road marking 1007 should be laid to indicate that the bus lane is still in effect and vehicles may only enter the lane for the purposes of turning left. The length of road marking 1007 including gaps used in this position will depend on the circumstances of the junction but should never be less than 6m. If signal controlled the set back will need to be related to the number of left turning vehicles likely to be queuing, so that any left turning traffic does not obstruct straight ahead vehicles. At an intersection with a minor road having a give way junction normally the minimum 6m length along the main road should be sufficient, as shown in Diagram 5.9.2.2. However if the junction is used frequently by heavy goods vehicles, road marking 1007should extend for at least 18m from the continuation of the kerbline of the minor road.

5.9.2.13 Diagram 5.9.2.3 provides further setting out details in respect of road marking 1123. Normally the 6550mm length should be used but this may be reduced to not less than 5550mm to suit particular circumstances.

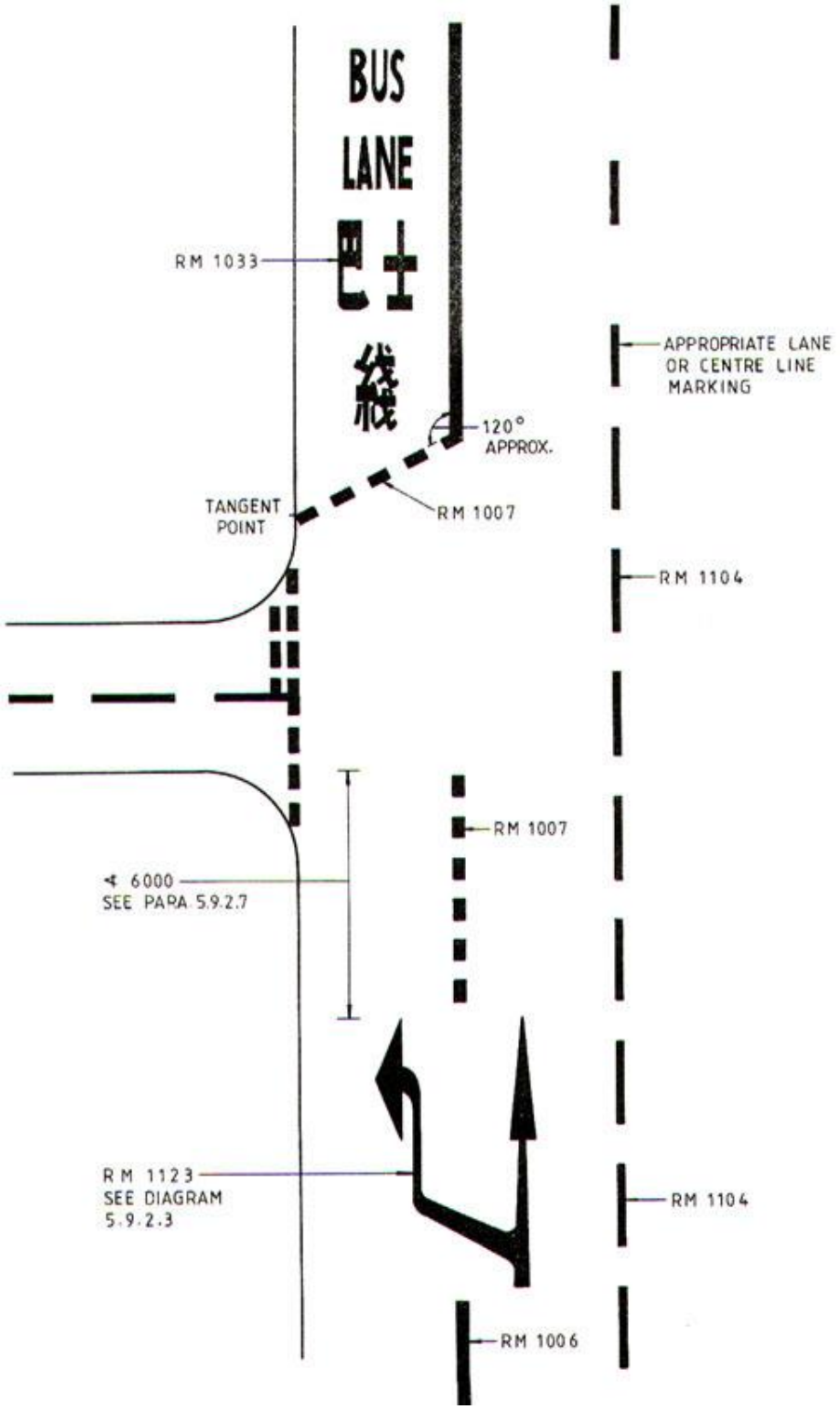
5.9.2.14 Beyond the minor road junction, road marking 1033, “Bus Lane” should be repeated to ensure that it is clear that the bus lane continues, and road marking 1006should be laid parallel to the kerb as shown in Diagram 5.9.2.2.

DIAGRAM 5.9.2.1 : START OF BUS LANE MARKINGS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.9.2.2 : TREATMENT AT INTERSECTION OF MINOR ROAD JUNCTION



ALL DIMENSIONS IN MILLIMETRES

5.9.2.15 As a guide to drivers emerging from the side road, the broken line, road marking 1007, should be inclined, approximately from the tangent point of the kerb radius at angle of 120º to road marking 1006 as shown in Diagram 5.9.2.2. It is not necessary to erect traffic signs 121 or 125 or similar, at the continuation of the bus lane, providing road marking 1033 is adequately maintained.

5.9.2.16 The end of the bus lane should be marked by traffic sign 129 erected opposite the termination of road marking 1006. This should be followed as shown in Diagram 5.9.2.4 by the road marking 1112 indicating that traffic can use the inside lane.

5.9.2.17 Road marking 1122 is similar to road marking 1123, shown in Diagram 5.9.2.3 except that the nearside arrow is a “straight ahead” rather than “turn left”. It can be used in association with road marking 1137 “End of Bus Lane”, as shown in Diagram 5.9.2.4. However the latter lettering occupies a considerable space and therefore it is preferable to omit it unless considered essential that it should be provided.

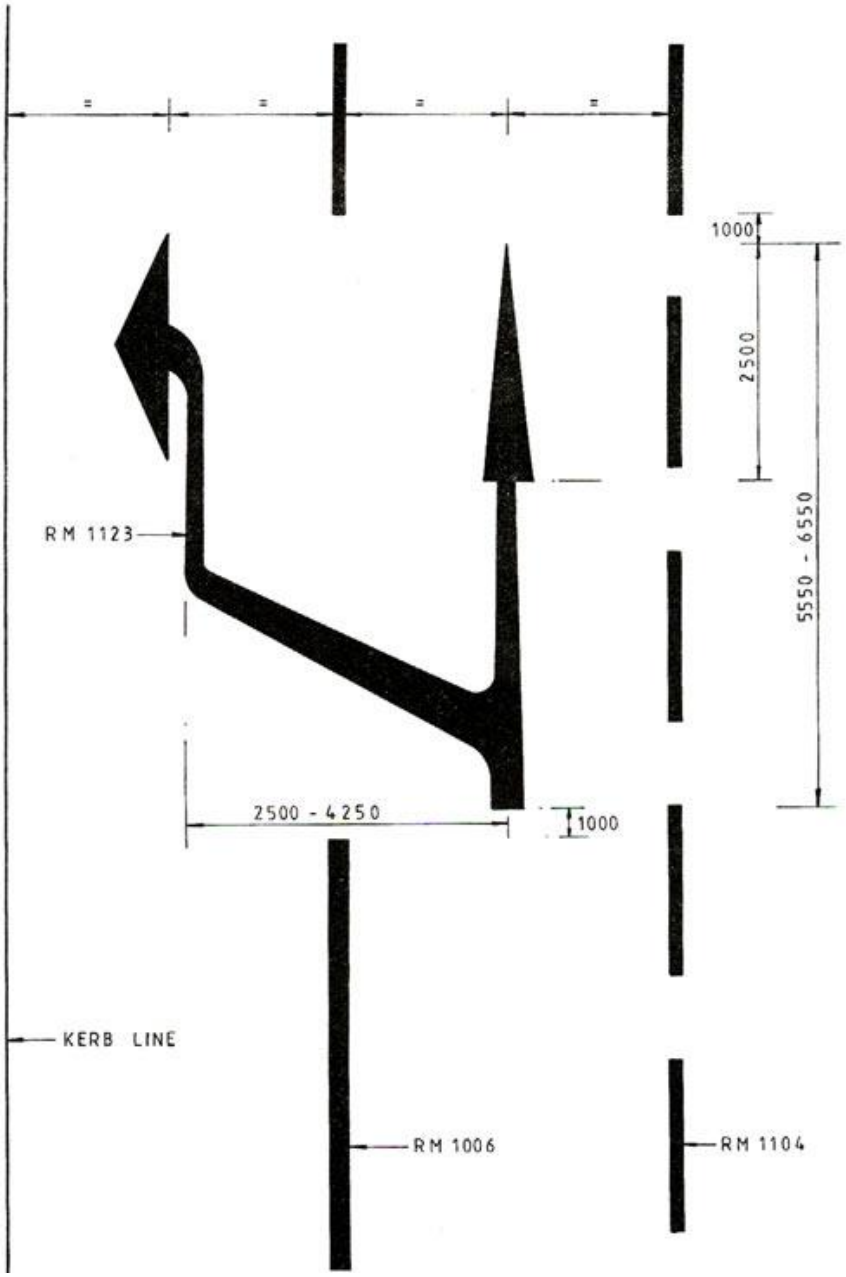
5.9.2.18 Generally it is not appropriate to terminate a with flow bus lane at the actual junction, as it could severely reduce the capacity of the junction, and if left turning traffic is permitted this would necessitate vehicles turning across the path of buses, which could be extremely dangerous. The amount of set back will determined by; the required capacity of the junction, the number of left turning vehicles, so that these do not obstruct straight ahead traffic, and, the length required to provide the necessary lane direction arrows in order that it is clear which direction traffic may turn at the junction. In respect of capacity the distance “x” in metres, in Diagram 5.9.2.4, can be calculated from x metres = 2 x greentime (secs). With regard to lane direction arrows, at a signal controlled junction at least one set of arrows 15m from the stopline as shown in Diagram 5.9.2.5 should be provided. Road marking 1122 should then be set back at least 15m, and desirably 30m from the lane direction arrows also as shown in Diagram 5.9.2.5.

5.9.2.19 It has been found advantageous at some locations where exclusive right turning movements are provided for buses, to have offside with flow bus lanes.

5.9.2.20 Markings for offside with flow bus lanes should be similar to nearside bus lanes except that arrow markings 1122 and 1123 will not be appropriate.

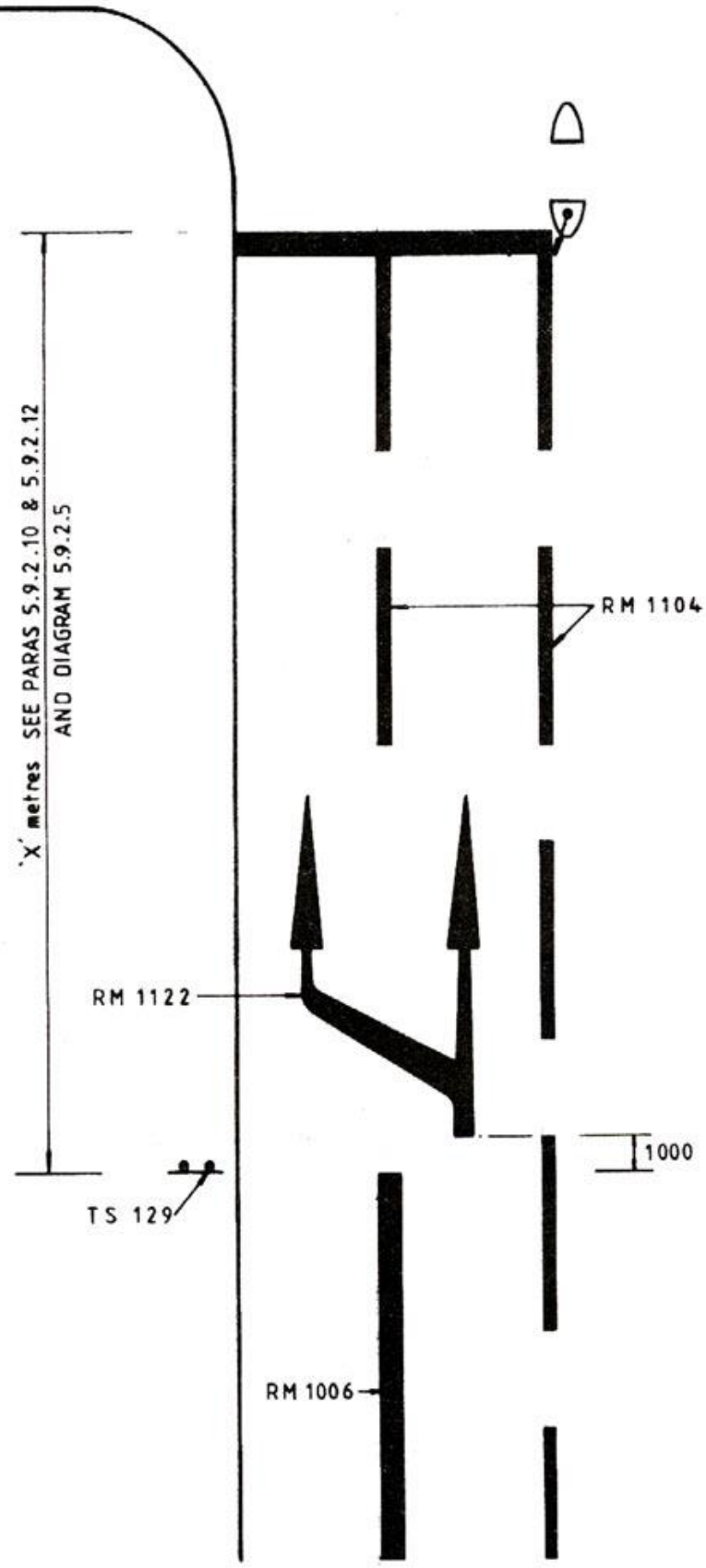
5.9.2.21 An example of an offside bus lane prior to a signal controlled junction is illustrated in Diagram 5.9.2.6.

DIAGRAM 5.9.2.3 : USE OF ROAD MARKING 1123



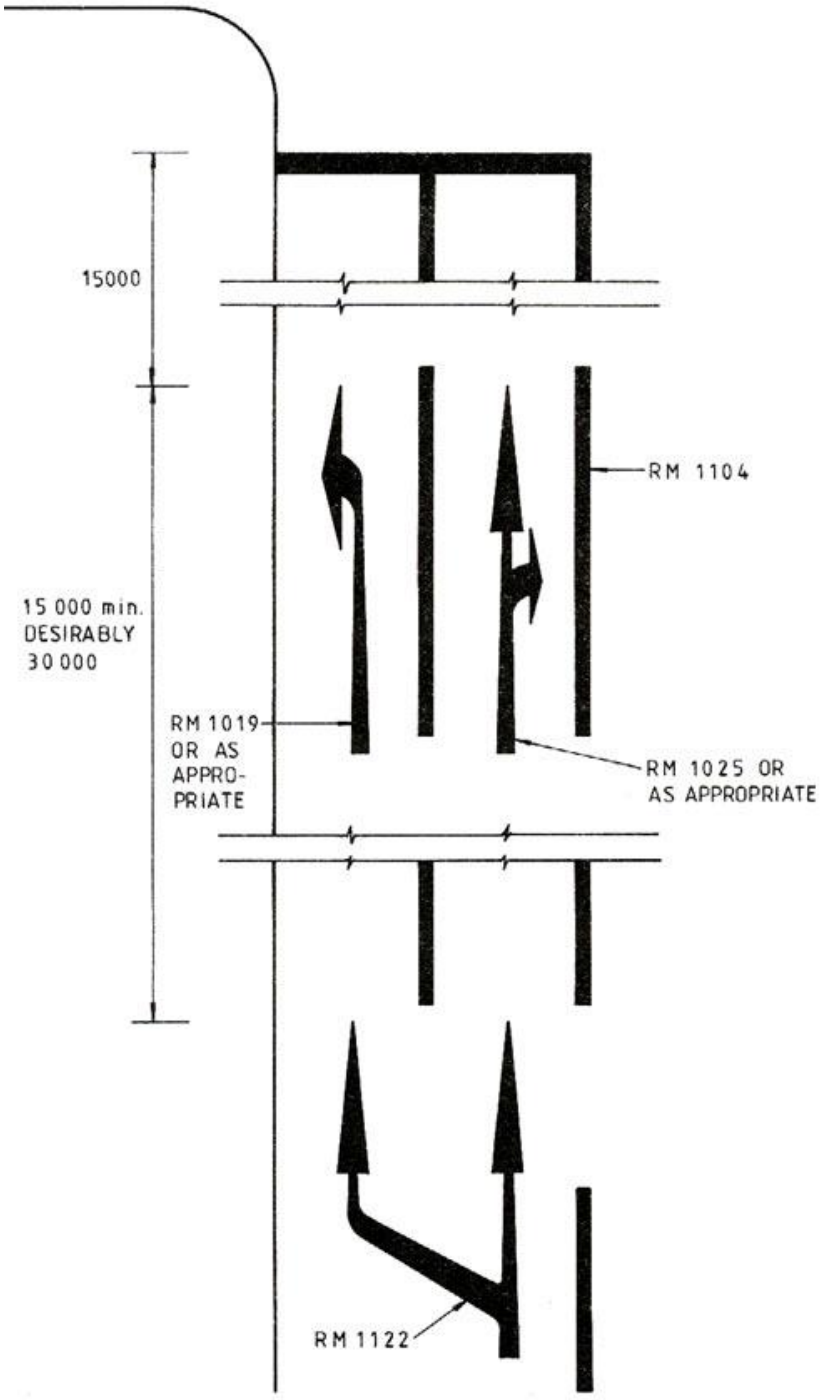
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.9.2.4 : END OF BUS LANE MARKINGS



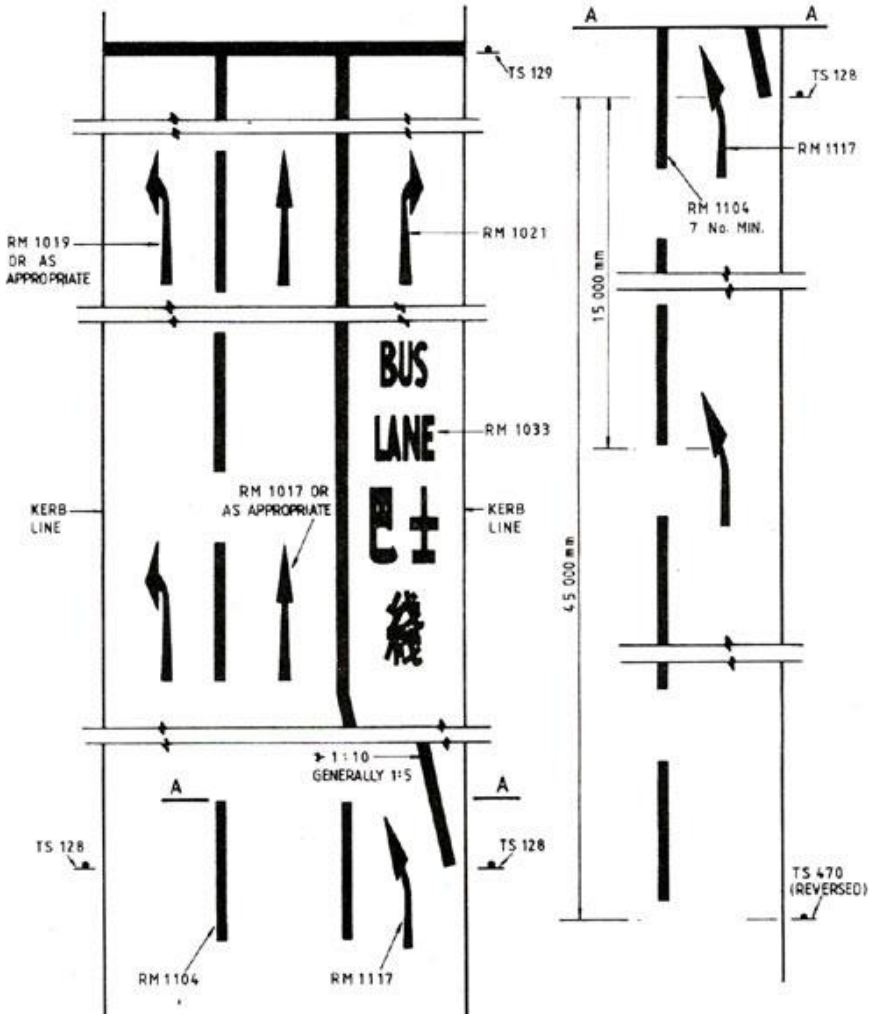
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.9.2.5 : MINIMUM SETBACK OF BUS LANE IN RESPECT OF NECESSARY DIRECTION ARROW MARKINGS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 5.9.2.6 : OFFSIDE BUS LANE



5.9.3 Contra-flow bus lanes

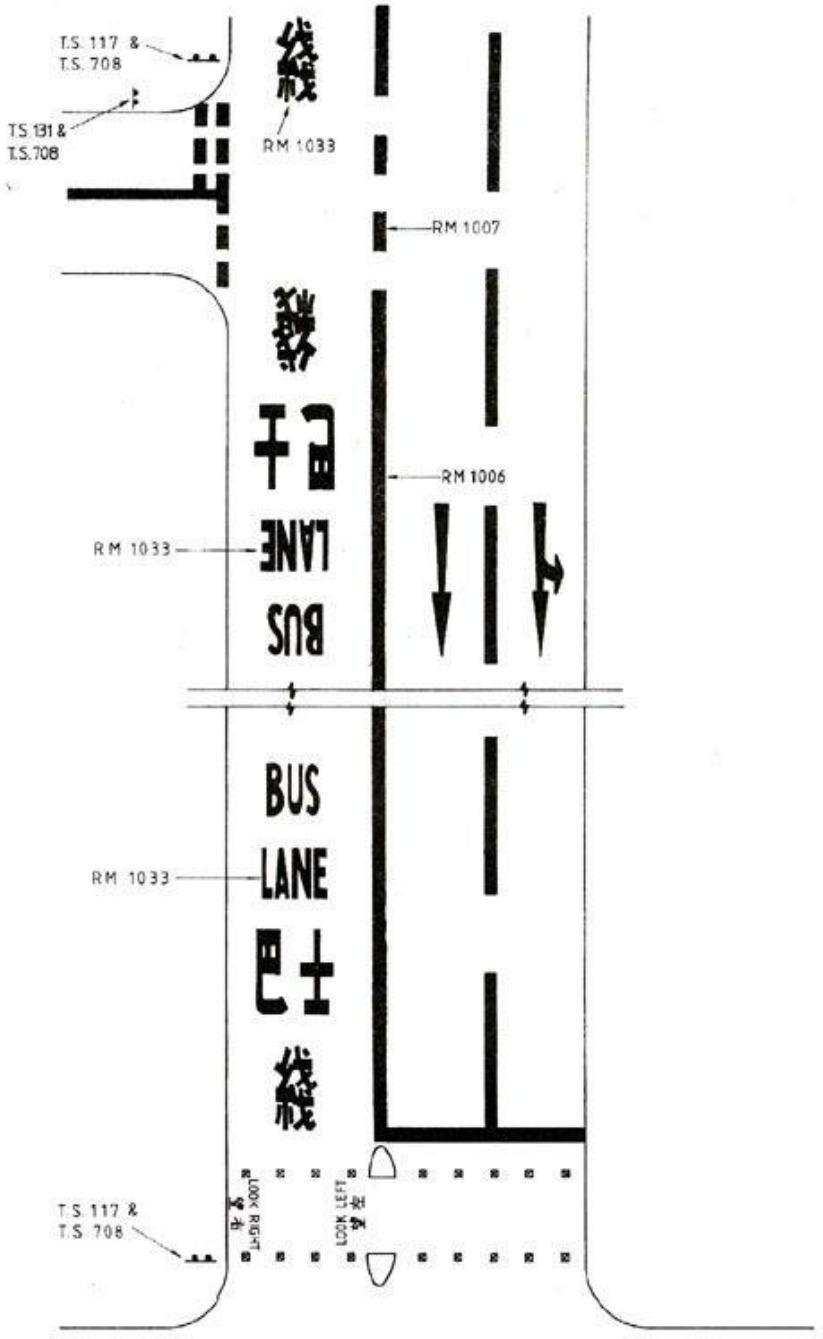
5.9.3.1 For contra-flow bus lanes, the lane must be separated from other traffic lanes by the use of a single white line, road marking 1006 or 1007 as in Diagram 5.9.3.1. The point at which buses enter the contra-flow lane should be marked with road marking 1033 “Bus Lane”.

5.9.3.2 At any intervening junctions road marking 1033, should be laid either side of the junction as shown in Diagram 5.9.3.1.

5.9.3.3 Contra-flow bus lanes can at times be confusing to pedestrians and therefore it advisable that any pedestrian crossing point is marked with road marking 1135, “Look Right” or 1136 “Look Left”, as appropriate on both sides of the contra-flow bus lane.

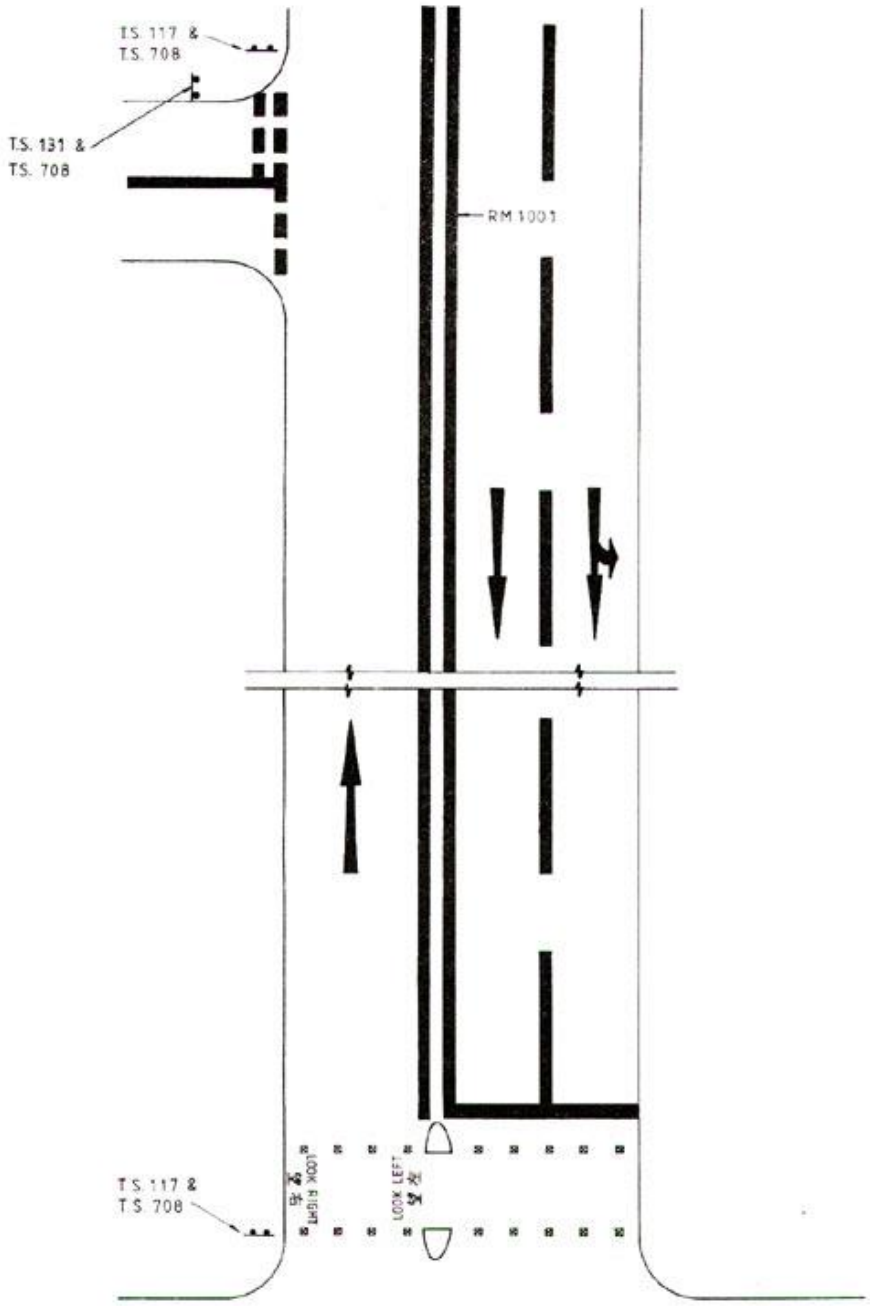
5.9.3.4 Where it is hazardous to allow buses to cross the single white line road marking 1006, and widening the bus lane or providing lay-bys as suggested in Volume 6, Chapter 3 is not practicable, the use of a double white line as shown in Diagram 5.9.3.2 is recommended. The lane would function similar to a contra-flow bus lane but, by definition, would not be a bus lane.

DIAGRAM 5.9.3.1 : CONTRA FLOW BUS LANE



NOTE : ADVANCE DIRECTION SIGN T.S.472 (T.C.233) OR SIMILAR SHOULD PREFERABLY BE ERECTED ON THE SIDE ROAD TO WARN MOTORISTS OF THE CONTRA FLOW BUS LANE ON THE MAIN ROAD.

DIAGRAM 5.9.3.2 : CONTRA FLOW LANE FOR BUSES



Appendix 1

Method of Determining Visibility Distances

The survey of visibility distances should be done when trees and hedges are in full foliage.

Three methods, all of them consisting of setting two observers at the required visibility distance apart and moving them forward at this set distance until a reference mark carried by the first observer disappears, are described :-

Method I

Two men, A and B, are equipped with walkie-talkie apparatus. At the approach to a section of road which is likely to require prohibitory markings, they space, themselves, in the centre of the road, at the appropriate prohibitory distance for the speed previously determined.

B who leads, has a white band (tape is convenient) across his back 1.05 metres above the ground, A carries a sighting stick or rod of the same height.

As the two men approach the hazard keeping at the required distance apart, A dips from time to time and view B's band from the height of his stick. When B's band is just disappearing A calls “halt” and A marks his position as “A1”. They then proceed at the same spacing until B’s band again comes into view, when A marks his position “A2”. Points A1 and A2 then give the beginning and end of the continuous line for the direction of travel used by the team. They then reverse their functions but this time with B marking the positions where A's band disappears and re-appears, which gives the beginning and end of the continuous line for the reverse direction of travel. If the site is one which will be marked by a warning line, only the points were the visibility is first lost needs to be marked. Thus after A has marked A1, the team adjust their spacing to that appropriate for the speed in the opposite direction and when B's band comes into sight again at the new spacing B marks B1. The warning line extends between A1 and B1.

Adequate warning signs should be displayed while the men are carrying out this work, and the survey team should all wear fluorescent coats or jackets.

Method II

This is similar to method I, but adapted to speed up the survey work. Each observer A and B is provided with walkie talkie equipment and a small trolley which incorporates the following features :-

(a) A closed box body supported by “C” springs on a pair of axles with pneumatic tyred wheels.

(b) A hinged lid facing the operator and consisting a framed perspex panel surmonting an instrument board on which at the nearside are mounted plan rollers to hold a strip map which can have the relevant information as to 85th percentile speeds of the approach to each hazard and visibility distances to be used. These rollers should be able to be rotated by handles projecting from the body. On the offside there is a pointer moved by suitable gearing from one of the wheels for distance measurement.

(c) Two mirrors and a target are mounted on an offset bracket which is mounted on the offside of the body and fitted with a clamp. The mirrors are adjustable to enable the rear operator to sight from 1.05 metres on the periscope principle without bending, and the target is also adjustable so that it can be arranged with its centre 1.05 metres above the road. The mirrors are offset in order that the target is visible to the rear operator when the forward operator is pushing his trolley. A rear view mirror to enable the operators to see what is happening behind them is also provided.

Method III

This is a further development of the previous two methods and is the fastest of the three. It uses walkie-talkie equipment and two light vans with warning signs on them. Care must be taken with the choice of the vans to ensure that the bottom of the windscreen is less than 1.05 metres above the road level.

A strip of tape is stuck on the windscreen on the passengers side so that its top edge is 1.05 metres above the road level, and is used for sighting onto a target on the rear of the leading vehicles.

Speedometer cables rotate a fixed number of times per mile travelled and this varies from about 800 to 1,500 for various types of vehicle. If therefore a counter is attached to the speedometer cable, each number on the counter represents a distance travelled of between about 3 feet (0.914m) and 6 feet (1.981m) depending on the vehicle used. There is available a splitter gearbox which when attached near the take-off point for the speedometer drive, divides the drive into two, so that one can go to the ordinary speedometer and the other to a revolution counter mounted near the sighting tape on the passenger's side of the van.

The procedure is similar to Method I in that the vans take up their positions in advance of the hazard, set themselves the required distance apart and then proceed along slowly in first gear with the rear observer calling, with his walkie-talkie apparatus, the revolution counter numbers to the leading observer so that he can adjust his speed to keep the distance separating them constant.

To avoid the trouble of turning the vans round, it is better with this method to survey a fixed length of road in one direction for prohibitory visibility distances and then the same in the reverse direction, and then repeat the outward surveying for “warning” visibility distances.

Appendix 2

Setting out details for Road Marking 1038 "Box Junction"

1. Full box

1.1 To set out the full box marking :-

(i) Draw diagonals A-A and B-B at right angles (or as near as practicable) to each other, as shown in Diagram A2.1.

(ii) Draw boundary lines.

(iii) Draw remaining lines parallel to diagonals at intervals of 2000mm, or 2500mm where the boundary length is greater than 9000mm.

2. Half Box

2.1 As for full box, but as shown in Diagram A.2.1 only half the area is marked.

3. Irregular Box

3.1 At more complicated junctions where boundaries are not rectangular road marking 1038 should be set out as follows :-

(i) Draw transverse lines, Y-Z, N-Z, X-Y and M-N approximately at right angles to flow of traffic.

(ii) Draw X-M by following kerb line.

(iii) Draw diagonal N-Y.

(iv) Extend N-M to O and Y-X to O as shown in Diagram A.2.2.

(v) Draw diagonal O-Z.

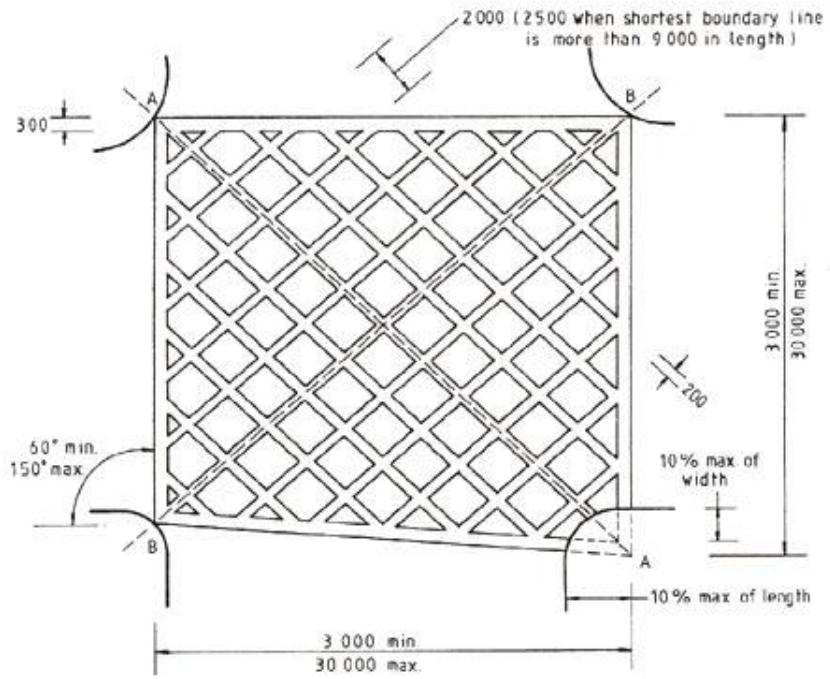
(vi) Complete the box in accordance with 1.1 (iii).

4. Narrow Box

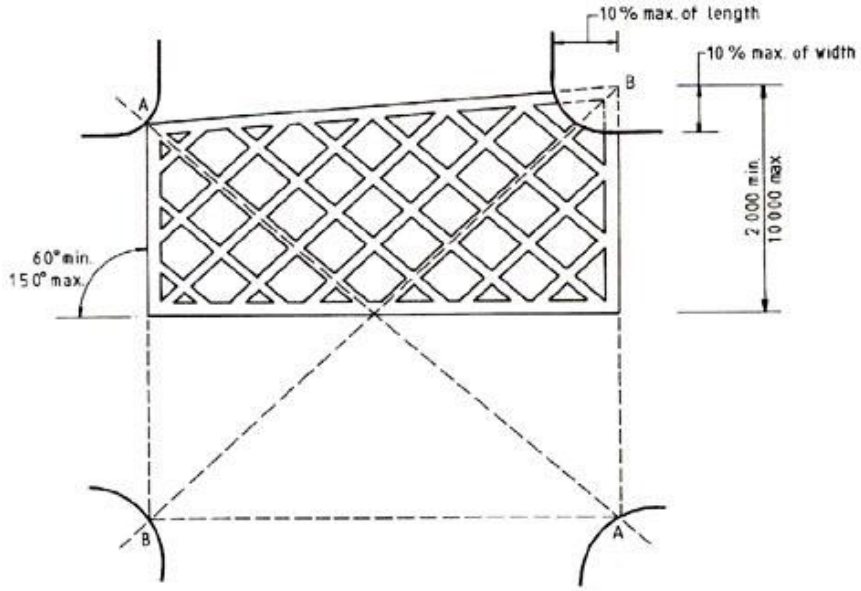
4.1 At certain junctions a full box is required which is much longer than it is wide and for these, as shown in Diagram A.2.2 the construction should be as for a half box.

DIAGRAM A.2.1 : SETTING OUT DETAILS "BOX JUNCTION"

FULL BOX



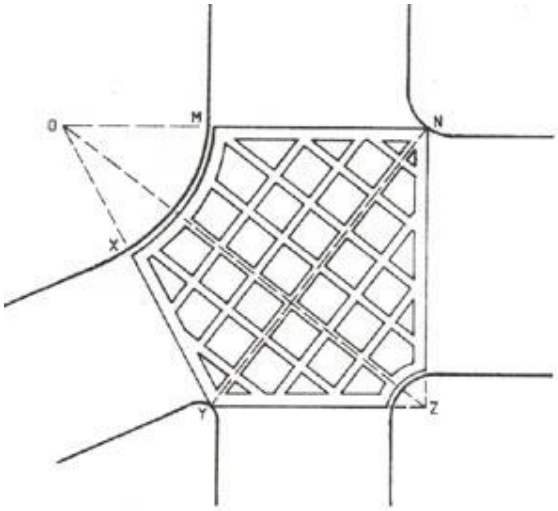
HALF BOX



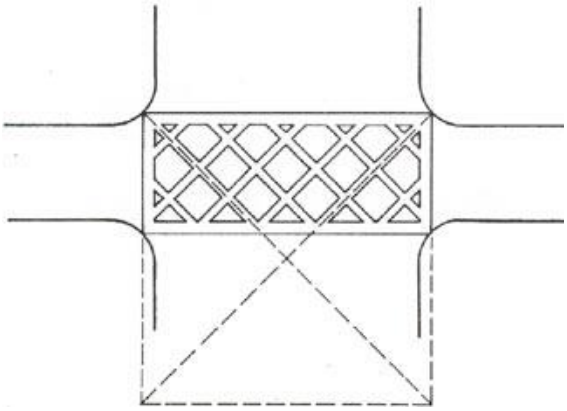
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM A.2.2 : SETTING OUT DETAILS "BOX JUNCTION"

IRREGULAR BOX



NARROW BOX



Appendix 3

Suggested English Abbreviations and Arrangement for Place and Road Names

	Name	Road Marking Arrangement
(i)	Aberdeen	ABER DEEN
(ii)	Aberdeen Main Road	ABER DEEN M'N RD
(iii)	Canal Road East	CANAL ROAD EAST
(iv)	Chai Wan Road	CHAI WAN RD
(v)	Central	CEN TRAL
(vi)	Connaught Road Central	CONN AUGHT RD C
(vii)	Cotton Tree Drive	C'TT'N TREE DRIVE
(viii)	Des Voeus Road Central	DES VOEUX RD C
(ix)	Garden Road	G'RD'N ROAD
(x)	Gloucester Road	GLOUC ESTER ROAD
(xi)	Hennessy Road	HEN ESSY ROAD
(xii)	Morrison Hill Road	M'RR'S'N HILL ROAD
(xiii)	Repulse Bay	R'P'LSE BAY
(xiv)	Repulse Bay Road	R'P'LSE BAY RD
(xv)	Robinson Road	ROBIN SON ROAD
(xiv)	Wellington Street	WELL ING TON ST
(xvi)	Wong Nai Chung Gap Road	WONG NAI CHUNG GAP RD

TPDM Volume 3 Chapter 6 – Cycle Track Signing

6.1 References

1. Road Traffic Ordinance Cap 374
2. Road Traffic (Traffic Control) Regulations
3. Roads, Bicycles and Bikeways, National Association of Australian State Road Authorities
4. Providing for the Cyclist, The Institution of Highway and Transportation
5. U.K. The Traffic Signs (amendment) Regulation 1982
6. U.K. The Traffic Signs Regulations and General Directions 1981
7. Roads and Traffic in Urban Areas, produced by the Institution of Highways and Transportation with the U.K. Department of Transport
8. U.K. Department of Transport, Local Transport Note : 1/78, Ways of helping cyclists in built up areas
9. U.K. Department of Transport, Departmental Advice Note TA 57/87, Roadside Features

6.2 Introduction

6.2.1 General

6.2.1.1 The purpose of this Chapter is to provide guidance on the signing and road marking of facilities provided for cyclists.

6.2.1.2 In the main, facilities described in this Chapter will concern cycle tracks, or similar, where ways are provided exclusively for cycles, and are segregated from other road users, including pedestrians. Nevertheless signing and marking of other facilities are also included.

6.2.1.3 The provision of traffic signs and road markings for cycle tracks and other facilities should be given the same considerations as when providing signs for other road users, but the designer should bear in mind that most cyclists are young people, and unlike motor vehicle drivers, have not undergone any training or testing of road knowledge. The criteria are :-

(i) Only essential traffic signs and road markings should be provided.

(ii) Those traffic signs and road markings used must be unambiguous in respect of the meaning they are intended to convey.

(iii) Traffic signs and road markings used must be legible from an appropriate distance.

(iv) Traffic signs and road markings must be regularly maintained to ensure that their legibility is of the required standard, and that they are not a danger to road users.

(v) Traffic signs and road markings must be appropriately located in respect of the information, warning or prohibition they are intended to impart, and such that cyclists or others have time to react accordingly.

6.2.1.4 Information on traffic signing and road marking of cycle tracks given in this Chapter is generally related to the guidance on the design of cycle tracks given in Section 3.8 of Chapter 3 of Volume 2. However where appropriate further information relating to the design of cycle racks is also provided.

6.2.2 Legislation

6.2.2.1 The Road Traffic (Traffic Control) Regulations provide the main legislation for the majority of the traffic signs and road markings used in association with cycling, which are generally prescribed in the relevant Schedules of these Regulations.

6.2.2.2 Under Regulations 3 and 8 of the Road Traffic (Traffic Control) Regulations, the Commissioner is empowered to use traffic signs and road markings not prescribed in the Schedules. However these non-prescribed traffic signs and markings may only be of the informatory or advisory type, and not regulatory. Additionally where any new non-prescribed traffic signs or road markings, not referred to in this Chapter, are required to be used, the Road Safety and Standards Division of the Transport Department must first be consulted.

6.2.2.3 In respect of parking signs, the First Schedule to the Road Traffic (Parking) Regulations contains the prescribed sign for indicating parking places for cycles.

6.2.2.4 With regard to pedestrian crossings, legislation at the present time does not blanketly prohibit cyclists from riding on pedestrian crossings. Nevertheless, traffic signing and road making arrangements for cycle tracks should generally indicate that cyclists should dismount and push their cycles across pedestrian crossings.

6.2.2.5 Section 54 of the Road Traffic Ordinance prohibits children under the age of eleven from riding a bicycle on a road without adult supervision, and a road in this sense also includes a cycle track. However the Commissioner for Transport may by the erection of suitable signs, see Section 6.3.4, designate areas, including cycle tracks, where children under the age of eleven may ride unsupervised.

6.2.2.6 Traffic light signals apply to cyclists similarly as to drivers of other vehicles if they are cycling on the carriageway. Legislation does not allow purpose type signals for cycle tracks, and therefore if for any reason traffic signals are required, they must conform to those signal types prescribed under Regulation 16 of the Road Traffic (Traffic Control) Regulations. However as these signals, in terms of size, are not really appropriate to be used along cycle tracks, and if used adjacent to carriageways may confuse drivers of motor vehicles, it is recommended that such traffic light signals other than in extenuating circumstance are not used along cycle tracks. Where cyclists are required to use light signal crossings, regulatory signs requiring them to dismount must always be erected, in advance of the crossing.

6.2.2.7 The amendments to the Road Traffic (Traffic Control) Regulations in respect of private roads, now permit owners of private roads to use certain gazetted traffic signs and road markings without reference to the Transport Department, and these do include traffic signs and road markings appropriate for cycle tracks. It is however important that a uniform system of signing and marking for cycle tracks is achieved throughout the Territory and therefore owners of private roads should be encouraged to use traffic signs and road markings for cycle tracks in accordance with this Chapter. If for any reason owners of private roads are not willing to comply with this, consideration should be given to directing them to replace or remove traffic signs or road markings used incorrectly and/or place appropriate traffic signs and road markings in accordance with the powers given under Regulations 15A and 15B of the Road Traffic (Traffic Control) Regulations.

6.2.3 Sign Location, Visibility and Mounting

6.2.3.1 Traffic signs erected in association with cycling facilities but intended for drivers of other vehicles should be located, mounted and have the required visibility distances in accordance with Chapters 2 and 3 of this Volume.

6.2.3.2 Traffic signs applying to cyclist should generally conform to the requirements of Chapters 2 and 3 of this Volum of this Volume, unless otherwise specified in this Chapter. In this latter respect for warning and informatory signs the minimum visibility distances may be reduced to 25m, as shown in Table 6.2.3.1, which also indicates appropriate sign sizes.

6.2.3.3 With regard to the mounting heights of traffic signs applying to cyclists, providing they are not erected over footways, the lower mounting heights of 900mm to 1500mm may be adopted, but where they are erected over footways, a minimum mounting height of 2000mm must be used. Where the smaller 300mm sized signs are used, these can optionally be mounted on bollards used, for example, at the termination of cycle tracks, which generally will result in a much lower mounting height than 900mm, and avoid the use of signs on posts, which often look out of scale with cycle tracks. Any sign mounted directly over cycle tracks should have a minimum vertical clearance of 2.5m.

6.2.3.4 With regard to the location of signs along cycle tracks, it is preferable that the normal convention of having signs mounted on the left hand side as viewed by approaching traffic is adopted. However because of the relative narrowness of cycle tracks, where it may be more convenient to erect the signs on the right hand side, this positioning can be adopted.

6.2.3.5 The horizontal clearance between the outermost art of any traffic sign and the edge of a cycle way or cycle track should desirably be not less than 500mm, but in most cases, this will be unachievable or result in considerable obstruction to the adjacent footway or footpath. Horizontal clearance for traffic signs adjacent to cycle tracks should generally be not less than 200mm, but may be reduced to 100mm in exceptional cases.

6.2.3.6 Traffic signs can represent a formidable hazard to cyclists, and even though they may be able to be located with appropriate clearances, over-use of traffic signs must be avoided. Very often road markings alone can provide the same or a similar indication, and where this is the case, the marking and not the sign should be employed.

Table 6.2.3.1
Appropriate sizes and visibility distances of traffic signs for cyclists

		Sign Size(mm)	Minimum Clear Visibility Distance(m)	Location
(i)	Stop Sign T.S. 101	750	45	At junction, but see Section 6.3.2
(ii)	Give WaySign	600	45	At junction, but see Section 6.3.2
(iii)	Circular Regulatory Sign	300 dia 450) where additional 600) emphasis is required	25	At point where restriction applies
(iv)	Repeater Circular Regulatory Sign	300 dia	25	At intervals as advised in this Chapter
(v)	Other Regulatory Sign	As advised in this Chapter	25	As advised in this Chapter
(vi)	Warning Sign	300, 450 or 600 as advised	25	25m from hazard
(vii)	Informatory Sign	As advised in this Chapter	25	As advised in this Chapter
(viii)	Directional Sign	As advised in this Chapter	45	As advised in this Chapter

6.2.4 Design Vehicles

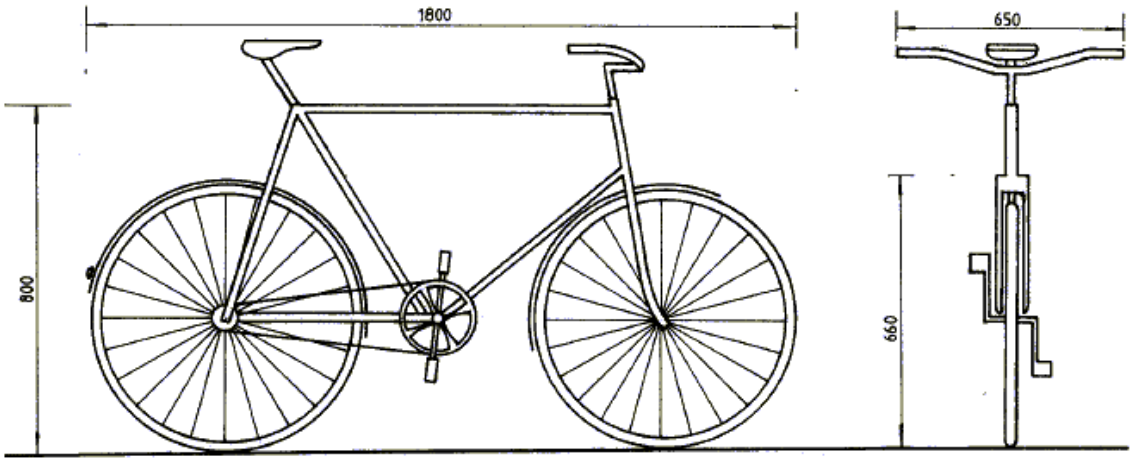
6.2.4.1 There is no legislation governing the size of bicycles in use in the Territory, therefore there is a wide range of sizes available with dimensions being dictated according to the country of manufacture.

6.2.4.2 Although tandem cycles and tricycles are in use in the Territory, they can generally be discounted for the purposes of designing cycle tracks, unless it is likely they will form a large proportion of the traffic on that cycle track.

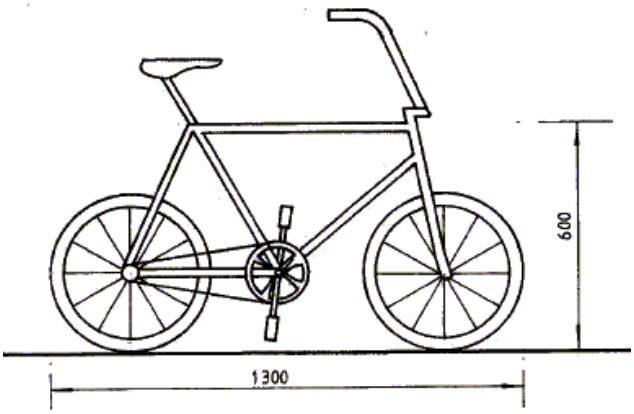
6.2.4.3 Because there are no standard dimensions for bicycles in the Territory, the dimensions of the design cycle to be used for design purposes, in Diagram 6.2.4.1 have been based on various adult cycle dimensions available in the Territory. Details of the smaller BMX type cycles are also included in Diagram 6.2.4.1 for reference purposes.

DIAGRAM 6.2.4.1 : CYCLE DIMENSIONS

(i) DESIGN CYCLE



(ii) BMX TYPE



ALL DIMENSIONS IN MILLIMETRES

6.3 Traffic Signing and Road Markings for Cycle Tracks

6.3.1 General

6.3.1.1 Traffic signs and road markings referred to in this Section are those most commonly used on cycle tracks. However it is possible to use any of the traffic signs or road markings referred to in the Schedules of the Road Traffic (Traffic Control) Regulations to meet a particular requirement, even though they may to be referred to in this Section. It should be noted though in respect of these other prescribed signs, that their size must accord with the dimensions in the Regulations, which may result in signs out of scale with the cycle track. Whilst with warning or informatory signs, some relaxation of prescribed dimensions may be permitted, this will not apply to any regulatory signs or road markings.

6.3.1.2 Cyclists using pedestrian crossings by riding their cycles across them are causing danger to themselves and pedestrians. Therefore at any location where a pedestrian crossing of any type joins or provides a link to a cycle track, physical measures with appropriate traffic signs and road markings as described in this Chapter must be taken to positively discourage cyclists from riding across pedestrian crossings.

6.3.1.3 Where cyclists are required to use pedestrian crossings, sufficient space must be made available at the edge of the carriageway and at any central refuge provided, so that they can wait with their cycles to cross, without unduly obstructing the movements of pedestrians or n the case of a central refuge, having their cycles project into the carriageway. With regard to the latter, the length of the design cycle is 1.8m and therefore the width of the central refuge must allow for this.

6.3.1.4 It should be borne in mind that legislation requires that where a cycle track is provided adjacent to a carriageway. cyclists must use that cycle track and not the carriageway. Therefore if the cycle track is located on one side of a carriageway, ways must be provided for the safe crossing of the carriageway by cyclists.

6.3.1.5 Methods described in this Section are typical, but may not be appropriate for every situation, and therefore at times judgement will need to be exercised as to be exercised as to the traffic signs and markings to be used for particular circumstances. In these cases, regard must be had to the safety not only of cyclists but also other road users who may be affected by the cycle track. It should always be apparent which signs and/or markings apply to the different road users.

6.3.1.6 It should also be taken into account that cycle tracks are often adjacent to or part of pedestrian routes. In spite of any restrictions that may be placed on pedestrians, their movements are often unpredictable and therefore at times it may be more appropriate to consider physical segregation between cyclists and pedestrians rather than rely on traffic signs and/or road markings to achieve this. Whilst obviously more expensive, this practice can prevent accidents occurring. It is perhaps particularly relevant in this respect to remember that a large proportion of cyclists using cycle tracks will be recreational cyclists on hired bikes. These cyclists may not be particularly competent, will not be familiar with the performance of their machines, and may not be entirely aware of the meaning of any traffic signs or road markings. It is essential therefore that traffic signs and road markings used are as self-explanatory as possible, particularly with regard to the context in which they are to be used. They must be properly located and of an appropriate size to be visible from the required distance.

6.3.1.7 Statistics available on cycling accidents, particularly those occurring on cycle tracks, are limited and probably do not reflect the full extent of accidents occurring to cyclists. This unfortunately has led to the false assumption that few accidents occur to cyclists n cycle tracks, which is not correct and quite serious injuries can occur. It is therefore necessary that proper regard is given to this fact when considering the traffic signing and road marking of these facilities.

6.3.2 Start/End of Cycle Track

6.3.2.1 The commencement and termination of a cycle track can occur at a number of different locations, which basically are as follows :-

(i) At a junction with the carriageway of a road.

(ii) At a junction with the carriageway of a road with the cycle track crossing the footway.

(iii) At a junction with a footway.

(iv) At or near a pedestrian crossing.

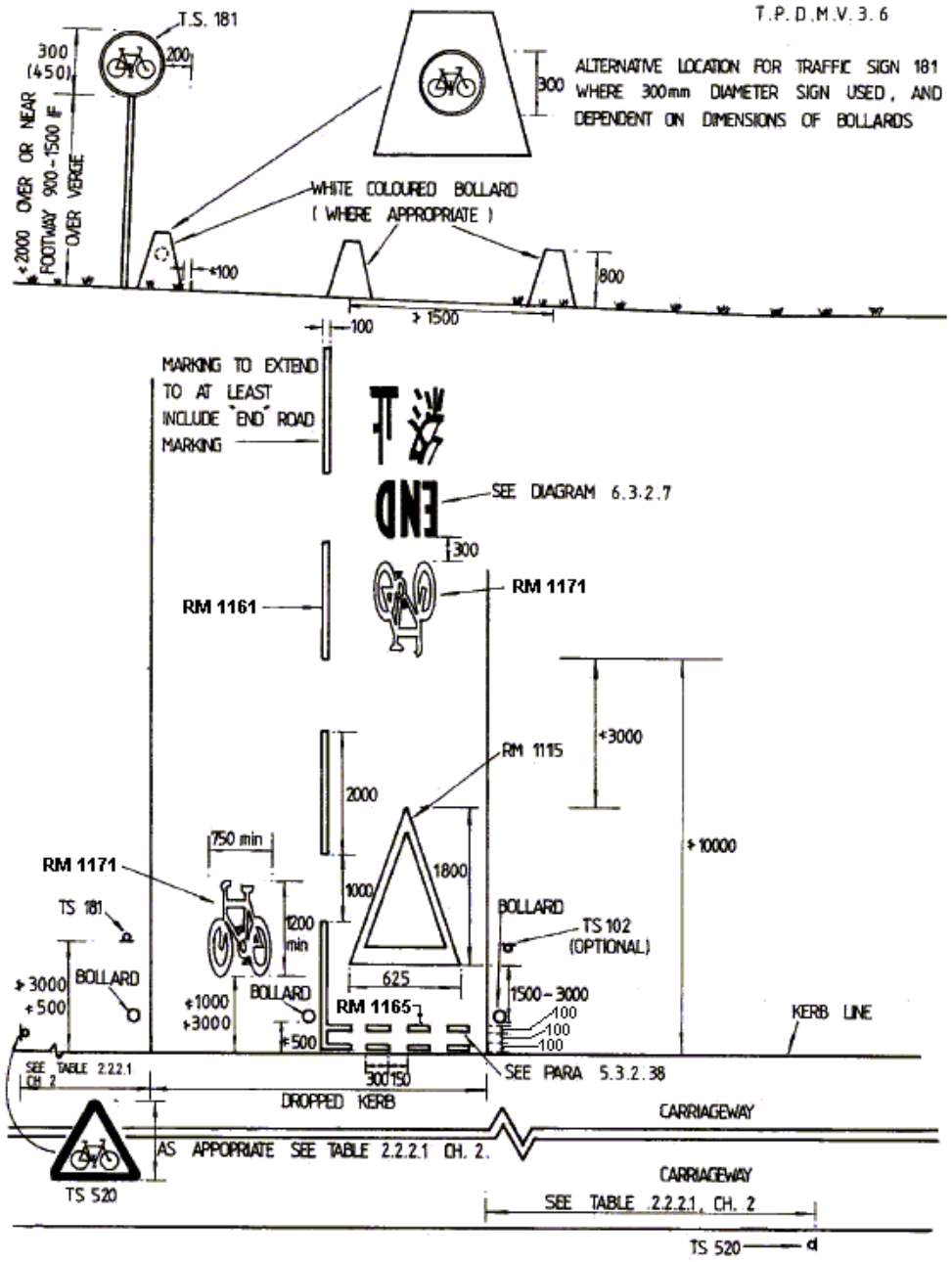
6.3.2.2 In the situation where a cycle track intersects with the carriageway and there is no intervening footway, traffic signs and road markings should be erected and road markings should be erected and placed in accordance with Diagram 6.3.2.1. Additionally as shown on this Diagram, it will also be appropriate to erect bollards across the cycle track to prevent motor vehicle access at this point.

6.3.2.3 For traffic signs applying to cyclists, in most cases a 300mm size (height or diameter) sign will be sufficient, though larger sizes may be used if it is considered that additional emphasis is required. For traffic signs applying to motor vehicles, appropriate sizes in accordance with Table 2.2.2.1 of Chapter 2 of this Volume should be used.

6.3.2.4 As shown in Diagram 6.3.2.1, in the vicinity of the start and finish of the cycle track, the cycle symbol, RM 1120, should be provided, both to advise that it is a cycle track, and also, the correct side of the track cyclists should proceed along. The cycle symbol on the approach to the end of the cycle track should be accompanied by the "End" marking details of which are shown in Diagram 6.3.2.7. Facing cyclists entering the cycle track, and at a point near to the start of the cycle track, as shown in Diagram 6.3.2.1, traffic sign 181, must be erected. In most cases the 300mm diameter sign will be appropriate, but if additional emphasis is required the 450mm or 600mm diameter sign may be used. However the 600mm diameter sign is often out of character with the scale of cycle tracks and may cause difficulties in being able to properly located the sign. It should also be noted that the erection of traffic sign 181 is not only essential in advising cyclists of the cycle track, but also to prevent the use of the cycle track by motor vehicles. In this latter respect, as mentioned above, it will also be desirable to erect bollards across the entrance and exit to physically prevent motor vehicles entering, but care must be taken that these are fully visible to cyclists under all conditions. In the event that motor vehicles are permitted occasional entry consideration may have to be given to the use of removable bollards, but preferably with some means of locking them in place to prevent unauthorized vehicle entry. If bollards are used, and depending on their size and shape, as shown in Diagram 6.3.2.1, it may be possible to fix signs, such as traffic sign 181, to them as alternative to using sign posts.

6.3.2.5 In order to ensure that cyclists keep to their respective side of the cycle track, it is strongly recommended that warning lines, to RM 1104, but to a reduced module of 2m mark, 1m gap, be laid at the start/end of the cycle track, even if this cannot be continued throughout the length of the track. If these markings are not to be used throughout the length of the track, they must at least extend to include the whole of the "End" marking

DIAGRAM 6.3.2.1 : START AND END OF CYCLE TRACK AT A JUNCTION WITH A ROAD



ALL DIMENSIONS IN MILLIMETRES

6.3.2.6 Where, as in Diagram 6.3.2.1, a cycle track connects directly with a carriageway, it is generally advisable to erect traffic sign 520, cyclists ahead, adjacent to the carriageway to warn drivers of other vehicles on both approaches of the presence of cyclists. The location of these signs should be in accordance with Table 2.2.2.1 of Chapter 2 of this Volume.

6.3.2.7 As illustrated in Diagram 6.3.2.1, where a cycle track directly joins a carriageway of a road and there is no intervening footway, the kerb, if there is one, should be "dropped" for the full extent of the cycle track. ON the cycle track side of the kerb, "give way" markings to RM1015, "transverse lines", and RM 1115, "give way" symbol, should be laid across the exit half of the cycle track. For both RM 1015 and RM 1115, the smallest module should be used which are purposely provided for cycle tracks. In the event that there is not a kerbline, then RM 1106, "junction edgeline marking", having the module of a 300mm mark and 150mm gap, should be laid across the entry side of the cycle track, as further illustrated in Diagram 6.3.2.3. It should not be necessary to erect traffic sign 102 " Give Way" at the junction as the give way markings will provide sufficient guidance. However, if it is necessary for the cycle track to terminate at a junction with a dual carriageway road (and this should be avoided if at all possible), then traffic sign 102 must be erected, as also must traffic sign 107, "Turn Left".

6.3.2.8 For locations where visibility is less than the desirable minimum indicated in (i) of Diagram 6.3.2.9, and as described in paragraphs 6.3.2.22 to 6.3.2.26, traffic sign 101, "Stop", RM 1014, "stop lines", and the written "Stop" marking are permitted, as shown in Diagram 6.3.2.7, and the actual size used will be dependent on the width of cycle track available. As it is preferable that the "Stop" marking is contained within the half of the cycle track referring to that direction of traffic, rather than being spread across the full width of the cycle track, this will normally result in the smallest size being used. For the stop lines, RM 1014, a smaller module is available for cycle tracks, having only 100mm width lines. However it should be noted for traffic sign 101, "Stop", the smallest sign prescribed is 750mm in height, and therefore this, and not any smaller version must be used. The use of these traffic signs and road markings is illustrated in Diagram 6.3.2.2, and as indicated in this Diagram the lines should be laid on the cycle track side of the kerbline, which should be "dropped" across the full width of the cycle track. If there is not a kerbline, the lines should be laid at the edge of the carriageway of the main road, with "junction edge markings", RM 1106, being also laid across the entry side of the cycle track. It is however strongly recommended, that the minimum desirable visibility distances, as indicated in Diagram 6.3.2.9, and paragraph 6.3.2.25, are provided, so avoiding the need to use the "Stop" indication.

6.3.2.9 For the majority of cases, there will be a footway located between the cycle track and the carriageway of the main road, and a decision will need to be made as to whether to start /terminate the cycle track at the carriageway or, at the back of the footway. Normally the cycle track will commence/terminate at the rear of the footway, but if pedestrian flows are light, consideration may be given to commencing/terminating the cycle track at the carriageway. The layouts for the alternative situations are illustrated in Diagrams 6.3.2.3 and 6.3.2.4.

6.3.2.10 Where a cycle track starts/terminates at the carriageway and crosses a footway, it is not appropriate to use dropped kerbs across the mouth of the junction, but instead the cycle track should continue to merge with the edge of the carriageway. The main road kerbs should be returned into the cycle track, as shown in Diagram 6.3.2.3, and extend over the full width of the footway, with the kerbs being dropped over the width of the footway, between the back of the footway and the radius tangent point. Care should be taken that the cycle track can be adequately drained over this section, and ponding does not occur over the area where pedestrians cross.

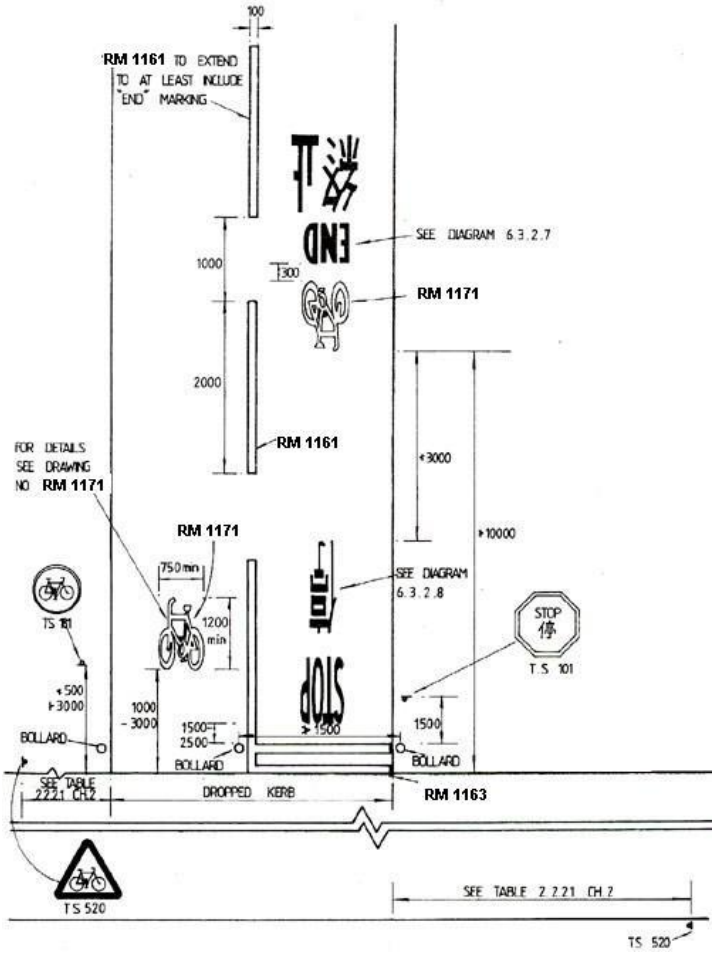
6.3.2.11 To warn pedestrians of a cycle track crossing a footway it may be advisable to erect traffic sign 520, "cycles ahead" at the rear of the footway on both approaches to the cycle track. Whether or not such signs are necessary will depend on how obvious, both in respect of its physical form and use, the cycle track is. However where there is any doubt as to this, the signs should be erected. These signs can be of the 300mm size, and as mentioned above erected at the rear of the footway, or preferably behind the footway if this is possible, facing oncoming pedestrians. It should also be noted that these signs are not a substitute for the same signs to warn motorists of the cycle track but will be additional to these other signs.

6.3.2.12 On the cycle track, in advance of where it crosses the footway it may be appropriate at times to erect traffic sign 460, to warn cyclists of pedestrians crossing the track ahead. This sign however is not shown on Diagram 6.3.2.3 as it should not generally be necessary, providing the intervisibility between cyclists and pedestrians is at least the desirable minimum as shown in Diagram 6.3.2.9, and as described in paragraph 6.3.2.25.

6.3.2.13 On the occasions that it is necessary to terminate the cycle track at the back of the footway, the layout should be as in Diagram 6.3.2.4. It is not appropriate to use traffic sign 227, indicating that cyclists should dismount and push their cycles, at these locations, as this sign should only be used when there can be a defined zone with traffic sign 228 marking the end of that zone. However traffic sign 460, pedestrians ahead, should be erected in advance of the termination of the track as shown in Diagram 6.3.2.4 as a warning to cyclists.

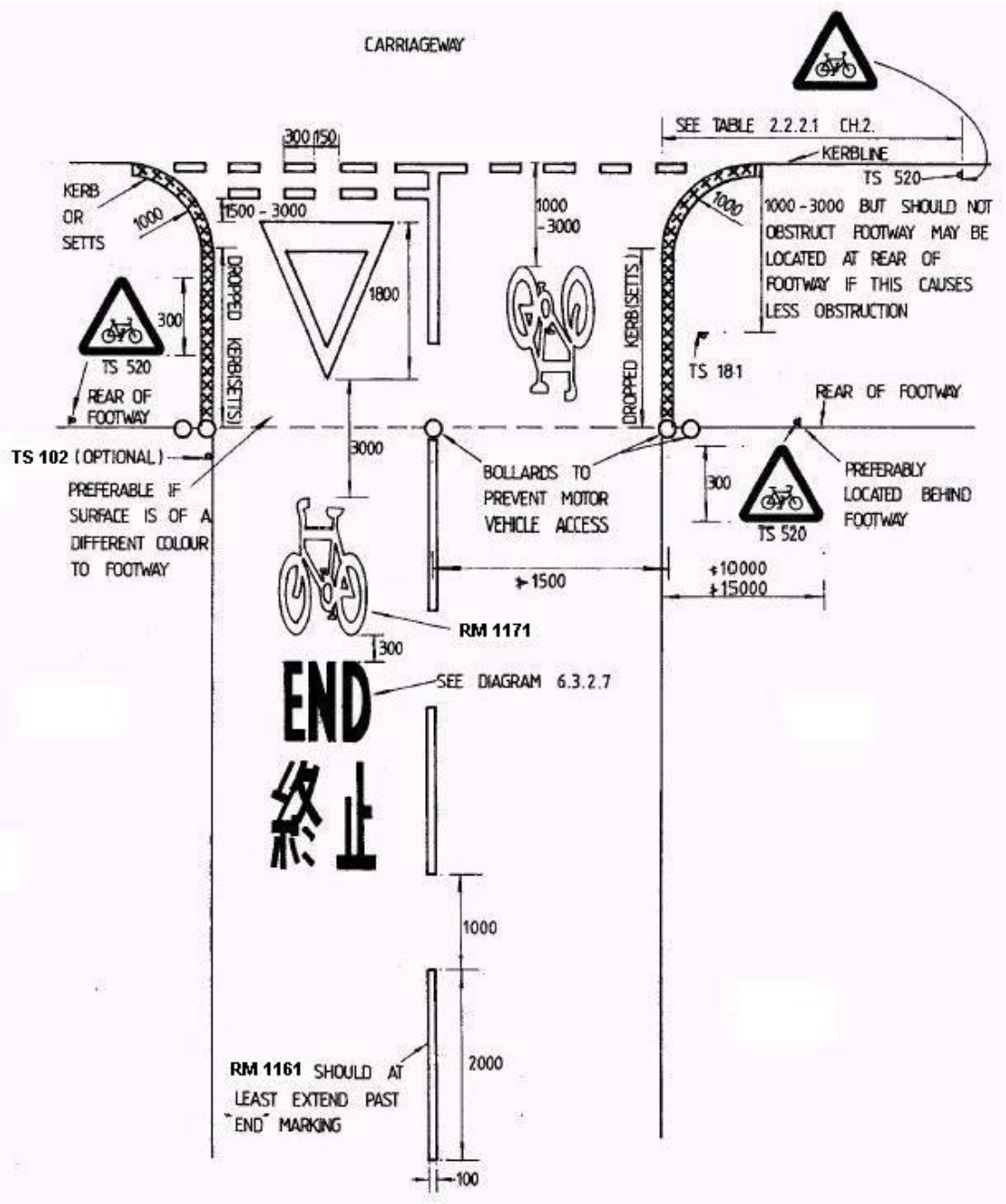
6.3.2.14 To discourage cyclists cycling across the footway, following the termination of a cycle track at the rear of the footway, bollards should be erected across the cycle track. the spacing of the bollards at these locations will be closer than, for example, those shown in Diagrams 6.3.2.1 and 6.3.2.2, as the bollards in these latter cases are to prevent access by motor vehicles, whilst for Diagram 6.3.2.4 they are to encourage cyclists to dismount. The gap between the bollards should be sufficient for a cycle to be pushed through and it is suggested that 750mm is sufficient for this purpose. However where wider gaps are required they should not be greater than 1100mm as even this width would only partially discourage cyclists from riding through the gap. The bollards should extend across the whole width of the cycle track, and may need, depending on the adjacent land arrangements, to extend beyond this, to prevent cyclists riding around the bollards. Where bollards are used, it is essential that cyclists can see them sufficiently in advance, and (iii) in Diagram 6.3.2.9 provides advice on the visibility requirements, which is further described in paragraph 6.3.2.25. The bollards will also need to be conspicuous both in day and night time conditions, and therefore it is recommended that they are painted white.

DIAGRAM 6.3.2.2 : CYCLE TRACK "STOP" JUNCTION



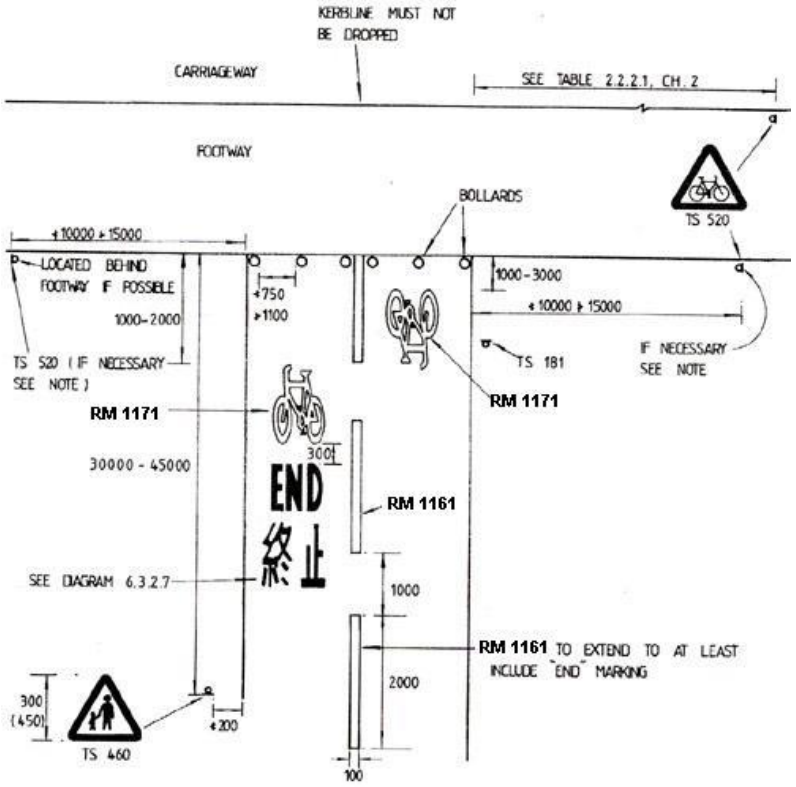
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DIAGRAM 6.3.2.3 : START / END AT FOOTWAY CROSSING



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 6.3.2.4 : TERMINATION OF CYCLE TRACK AT BACK OF FOOTWAY



ALL DIMENSIONS IN MILLIMETRES
NOTE :
(i) IT MAY BE APPROPRIATE TO WARN PEDESTRIANS OF THE CYCLE INDENT TRACK BY ERECTING THE TS 520 IN ADVANCE OF THIS. HOWEVER THIS SHOULD GENERALLY NOT BE NECESSARY UNLESS THE EXIT IS CONCEALED.

6.3.2.15 Whilst legally cyclists should not ride across footways, even with bollards to discourage this action when the cycle track is terminated at the rear of the footway there are always some cyclists who will do this. It is therefore essential that adequate visibility splays are available in accordance with Diagram 6.3.2.9, so that pedestrians can see cyclists and be seen by them. It may also be appropriate to erect traffic sign 520, "cyclists ahead", on both sides of the cycle track, at the rear of the footway, as a warning to pedestrians of the presence of cyclists ahead. Where such signs are erected it is preferable that they should be erected behind the footway.

6.3.2.16 It is often the case that there is a combined cycle track/footpath arrangement, with the footpath being separated from the cycle track by kerbs or some other physical means. For these situations the appropriate signing and marking, where the cycle track starts/terminates at the rear of the footway, should be in accordance with Diagram 6.3.2.5. The main difference in the signing is the use of traffic signs 179, or 180, "footway/cycleway", as opposed to traffic sign 181, "cycles only". Traffic sign 179 is used when the footpath is to the right of the cycle track, as viewed at the start of the cycle track, and traffic sign 180, when the footpath is to the left of the cycle track, as viewed at the start.

6.3.2.17 Where only a continuous white line is used to separate a cycle track from a footpath, it may be appropriate to mark a pedestrian symbol on the footpath adjacent to its commencement, and as shown in Diagram 6.3.2.5. This is not obligatory but can help to ensure that pedestrians and cyclists keep to their respective parts of the cycle track/footpath, particularly if the surfacing for both the cycle track and the footpath is similar.

6.3.2.18 where bollards are placed across a cycle track they should also be extended across any adjacent footpath. However the spacing of the bollards across the footpath must allow access by wheel chairs and push carts. Therefore as indicated in Diagram 6.3.2.5 a gap of at least 1000mm between bollards across the footpath will need to be provided.

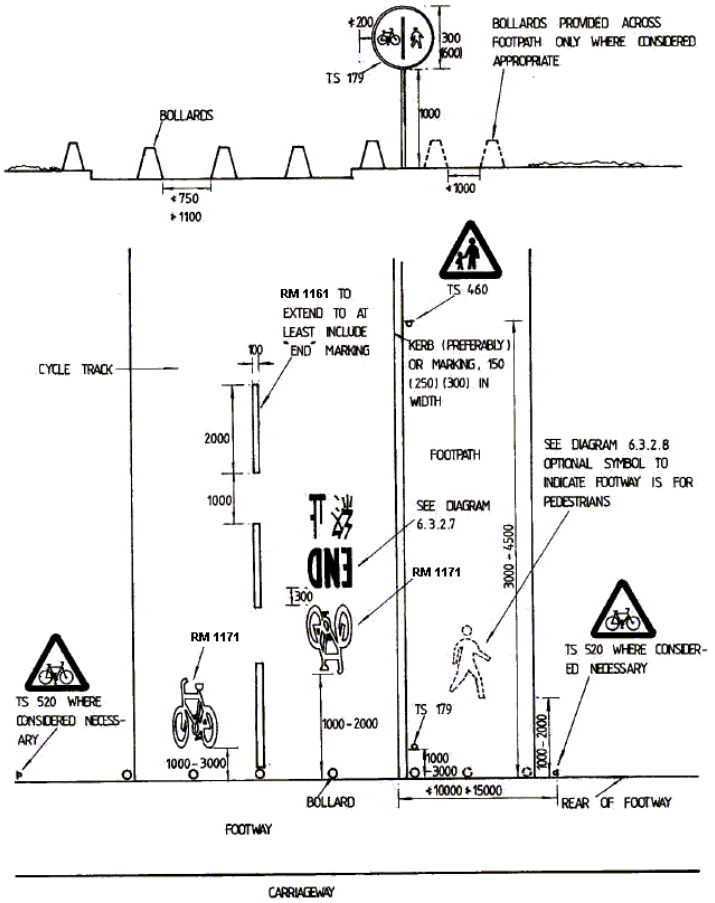
6.3.2.19 Diagram 6.3.2.6 indicates the signing and marking requirements when the cycle track extends across a footway, and has an adjacent footpath. It should be noted that the footpath is taken as starting/terminating at the back of the footway, therefore traffic sign 180, "footway/cycleway", should be erected on the footpath, and not on the footway.

6.3.2.20 Diagram 6.3.2.7, provides details of the "End" and "Stop" markings used on cycle tracks. The "End" marking should always be used in conjunction with the cycle symbol, being positioned some 300mm beneath the latter. It is stressed, however, that the "End" marking is not a regulatory marking. The "Stop" marking, as previously mentioned, must always be accompanied by the stop lines, RM 1014, and the "Stop" sign, traffic sign 101.

6.3.2.21 Diagram 6.3.2.8 provides details of the "pedestrian" symbol marking, which may be used to emphasise that the footpath adjacent to a cycle track, is for pedestrians and not cyclists.

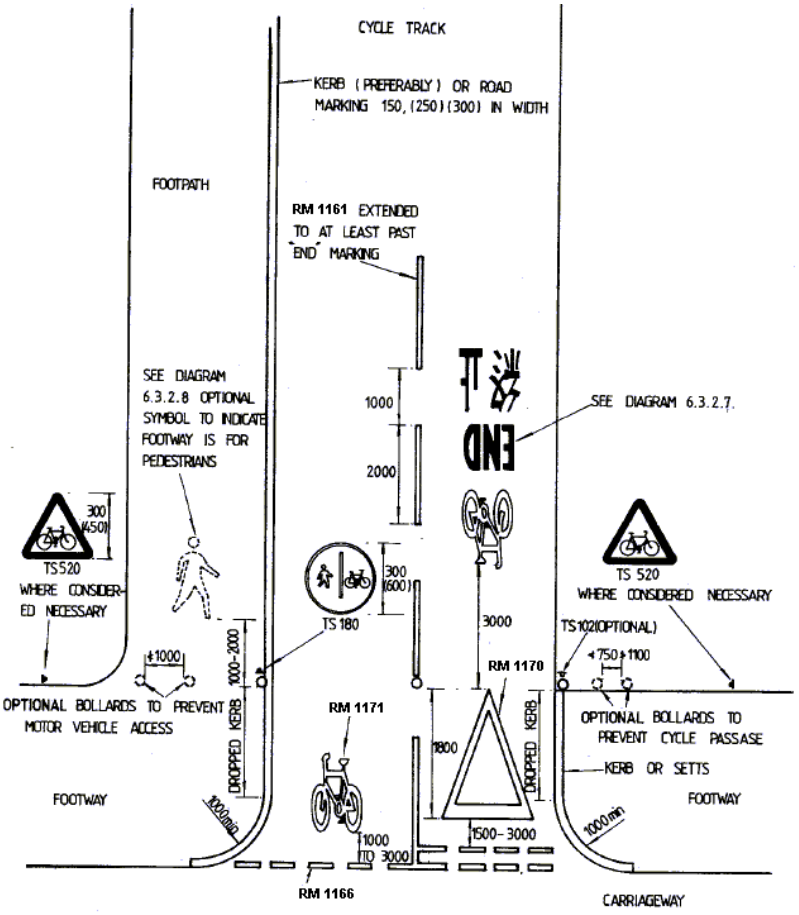
6.3.2.22 It is essential that at the termination of a cycle track visibility splays are provided enabling cyclists to see other road users and other road users to see cyclists, at an appropriate distance that one or both have sufficient time to take the necessary actions.

DIAGRAM 6.3.2.5 : TERMINATION / COMMENCEMENT OF CYCLE TRACK / FOOTPATH AT BACK OF FOOTWAY



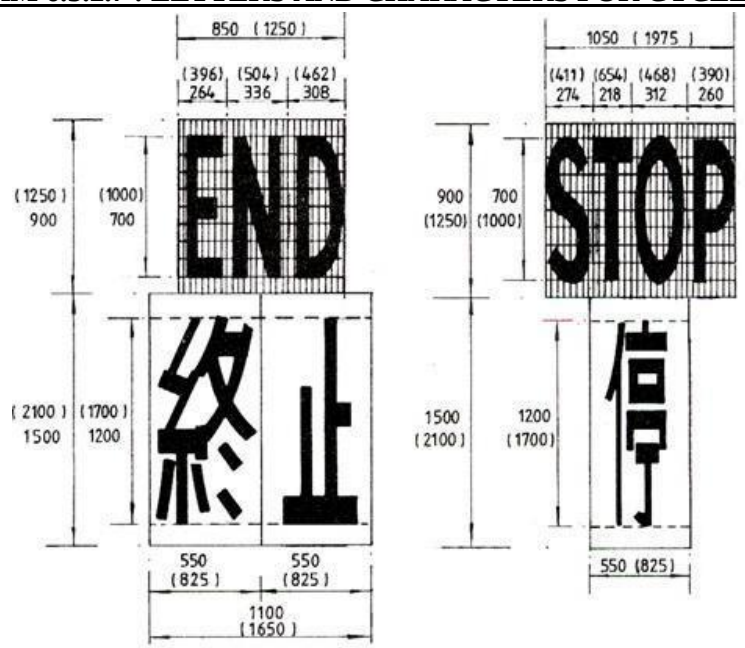
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DIAGRAM 6.3.2.6 : TERMINATION / COMMENCEMENT OF CYCLE TRACK / FOOTPATH WITH CARRIAGEWAY



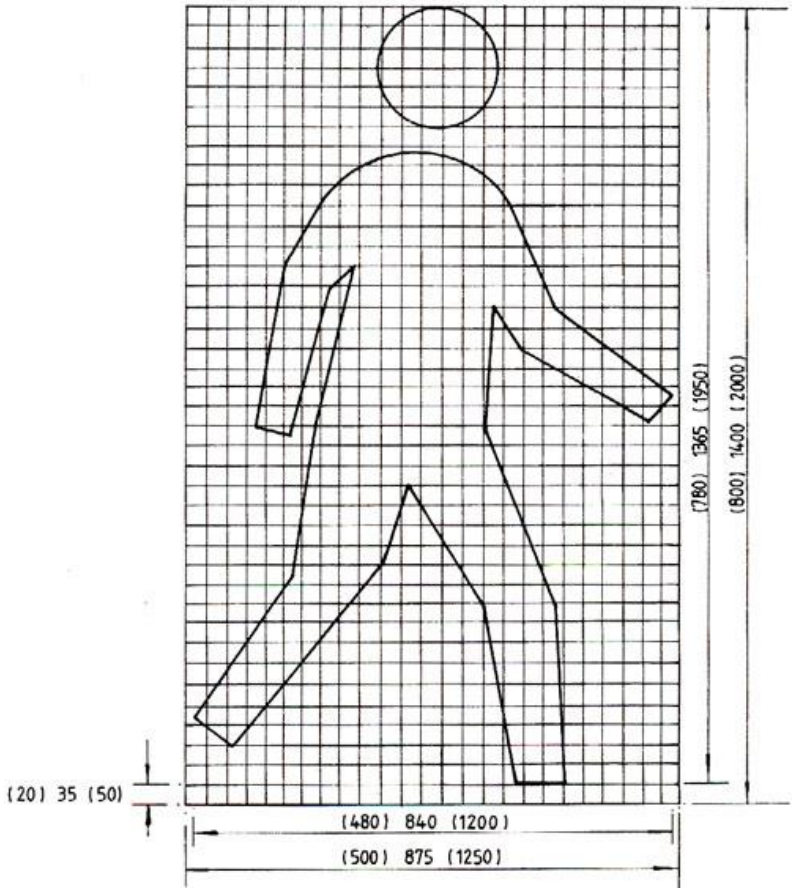
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DIAGRAM 6.3.2.7 : LETTERS AND CHARACTERS FOR CYCLE TRACKS



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 6.3.2.8 : PEDESTRIAN ROAD MARKING SYMBOL



ALL DIMENSIONS IN MILLIMETRES

6.3.2.23 The eye and object height along cycle tracks over which visibility splays should be measured should be taken as 1.5m and 0.5m, respectively above the cycle track of footway surface. Diagram 6.3.2.9 illustrates the visibility splay requirements for the three basic situations of a cycle track termination described above. Undoubtedly some variation of these situations will arise but it is essential that as far as possible the sight line requirements of Diagram 6.3.2.9 are adhered to.

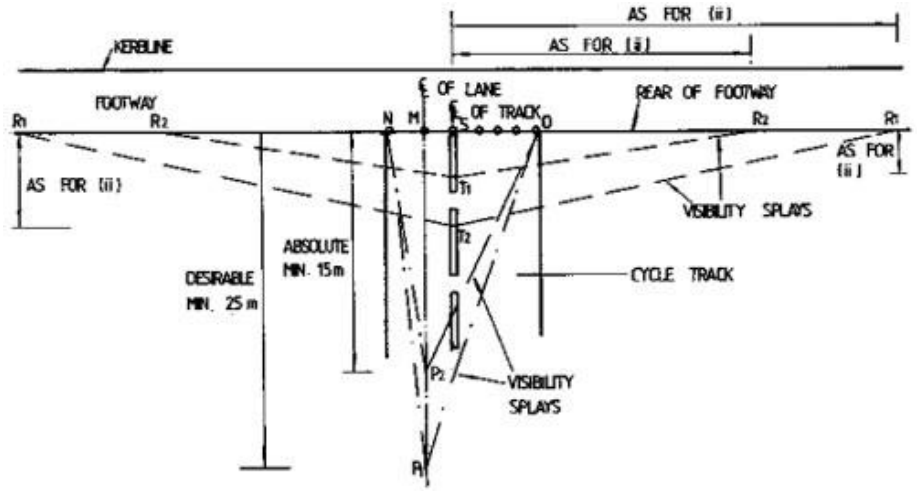
6.3.2.24 The visibility requirements to the right when a cycle terminates at the junction with a road are shown in (i) in Diagram 6.3.2.9. As far as possible for this situation the desirable visibility splay, A, B_3, C should be provided, with AC having a length of 70m. However as indicated in the Diagram, at more difficult locations, AB_2may be used, and if necessary AC may be reduced to 50m, but the latter should be avoided if at all possible. Only in very exceptional circumstances should AB_1be used, that is when there is no alternative location for the cycle track, and the visibility cannot be improved at the junction. For these latter situations the give way lines must be replaced by the "Stop" sign and markings.

6.3.2.25 Where a cycle track crosses a footway, visibility splays will be required both, at the junction with the carriageway of the road, which should be as in (i) in Diagram 6.3.2.9, and, at the inter-section of the cycle track with the footway, as shown in (ii) in Diagram 6.3.2.9. Whilst the visibility splay at the road junction is normally only required to the right, at the back of the footway it is required both to the left and the right. As for other visibility splays the aim should be to provide the desirable minimum or greater wherever possible, and only employ the absolute minimum values for difficult sites. However where the absolute minimum values are used it is advisable to erect traffic sign 520 on the footway approaches to the cycle track, as a warning for pedestrians.

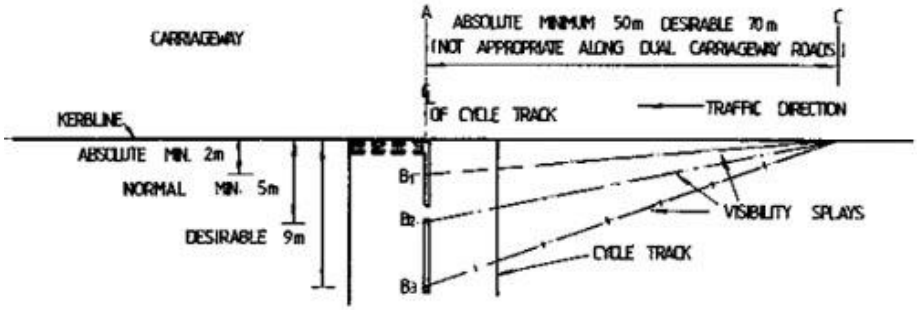
6.3.2.26 For the situation that a cycle track terminates at the rear of a footway, it is necessary that as well as intervisibility between pedestrians and cyclists being provided, as in (ii) in Diagram 6.3.2.9, cyclists can also see from an appropriate distance the end of the cycle track. For the latter the visibility splay described by NP_1O should be provided, or at difficult sites NP_2O, where MP_1 and MP_2 are measured along the center line of the exit lane of the cycle track.

6.3.2.27 On a number of occasions it will be necessary for cyclists to use pedestrian crossings to reach cycle tracks on the other side of a road. Although, as mentioned previously, at present there is no specific prohibition against the riding of cycles when using these crossings, measures must be taken to prevent or discourage this.

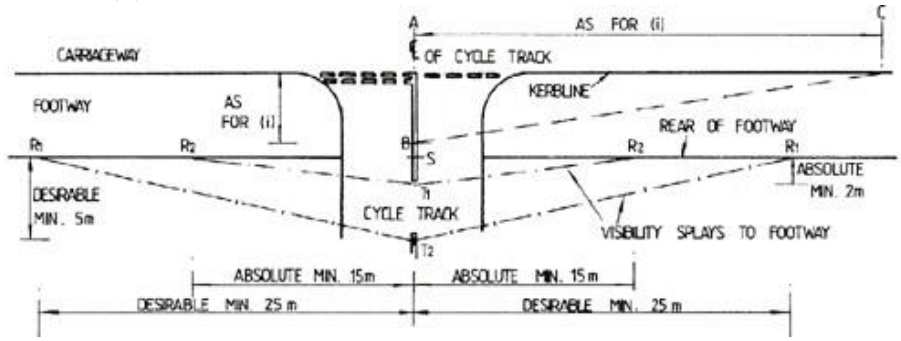
DIAGRAM 6.3.2.9 : CYCLE TRACK VISIBILITY SPLAYS AT JUNCTIONS



(i) AT CYCLE TRACK / ROAD JUNCTION



(ii) CYCLE TRACK CROSSING FOOTWAY JUNCTION



NOTE : VISIBILITY SPLAYS SHOULD BE MEASURED ASSUMING AN EYE HEIGHT OF 1.5m AND AN OBJECT HEIGHT OF 0.5m ABOVE THE SURFACE OF THE FOOTWAY OR CYCLE TRACK

6.3.2.28 In the situation that a pedestrian crossing occurs mid-block or similar, and the cycle track is adjacent to the carriageway, Diagram 6.3.2.10 indicates the type of signing and marking to be adopted. The object of this method is to have all cyclists dismount whether or not they intend to use the crossing, by terminating the cycle track on both approaches to the crossing. Which also provides a safer area for pedestrians to cross the cycle track to reach the edge of the crossing. The termination is effected by using traffic sign 227 at the ends of the cycle track to indicate that cyclists must dismount and push their cycles either to reach the continuation of the cycle track, or the crossing. It will also be necessary to have bollards or similar to provide further encouragement for cyclists to dismount and, to clearly indicate the termination of the cycle track. These bollards should be extended across both sides of the cycle track and the footway, though across the footway the spacing should be sufficient to allow a wheel chair or similar to pass. The continuation of the cycle track should be indicated by traffic sign 179 indicating the cycle track/footway arrangement, and traffic sign 228, indicating the end of the restriction requiring cyclist to push their cycles. The cycle symbol, RM 1120, and the "End" marking should also be used to indicate the start/end of the respective portions of the cycle track.

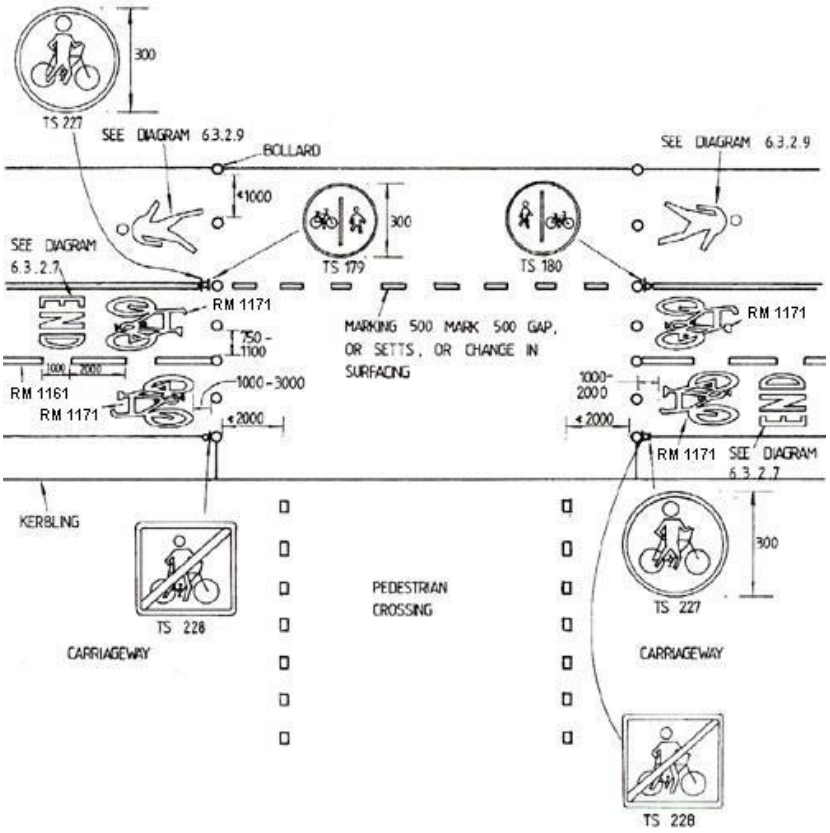
6.3.2.29 where the cycle track is at the rear of the footway it is not necessary to have the cyclists who are continuing along the cycle track dismount, though cyclists whishing to use the crossing will have to. However as this will not entail terminating the cycle track the arrangement for this situation is not described in this Section but advice on this is included in Section 6.3.3.

6.3.2.30 It may be necessary on occasions to start/terminate a cycle track at or near a pedestrian crossing. For this arrangement the traffic sign 225, "Cyclists dismount use pedestrian crossing", as shown in Diagram 6.3.2.11, should generally be used, in preference to traffic sign 227. However in the event that the cycle track continues on the other side of the road, consideration may be given to creating a zone, which includes the crossing area, by using traffic signs 227, and 228, where cyclists must dismount and push their cycles. In this situation care will need to be taken that there are sufficient indications as to the boundaries of the zone, but at the same time that this does not result in a forest of signs arising.

6.3.2.31 Diagram 6.3.2.12 illustrates the arrangement where a pedestrian crossing is extended widthways to include the area in front of the cycle track so that cyclists are encouraged not to mix with pedestrians. However this does assume, a layout which is probably not very common, in that on one side of the road the cycle track is adjacent to the carriageway whilst on the other side of the road it is the footway that is adjacent to the carriageway. If this does not occur, and it is accepted that this will more often be the case, the arrangement shown in Diagram 6.3.2.11 should be adopted, where cyclists are not directed to any particular part of the pedestrian crossing, and will therefore occupy that part which they consider to be the most appropriate.

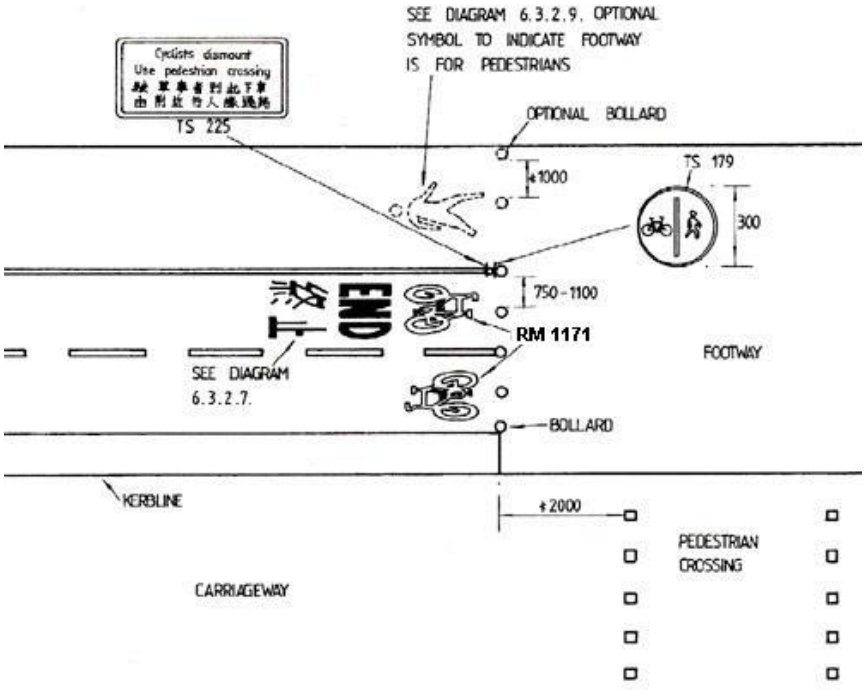
6.3.2.32 A further problem in respect of the layout in Diagram 6.3.2.12, is that it can necessitate very small radii being adopted, in order to direct cyclists to the crossing. Local widening may therefore be needed to ensure that there is sufficient turning space for cyclists and, also, it may be appropriate to erect an additional traffic sign 225, in advance of that shown in Diagram 6.3.2.12, so that cyclists are encouraged to dismount before the bend, particularly where the latter has a radii less than 5m.

DIAGRAM 6.3.2.10 : DUAL START / TERMINATION OF CYCLE TRAC IN THE VICINITY OF PEDESTRIAN CROSSING



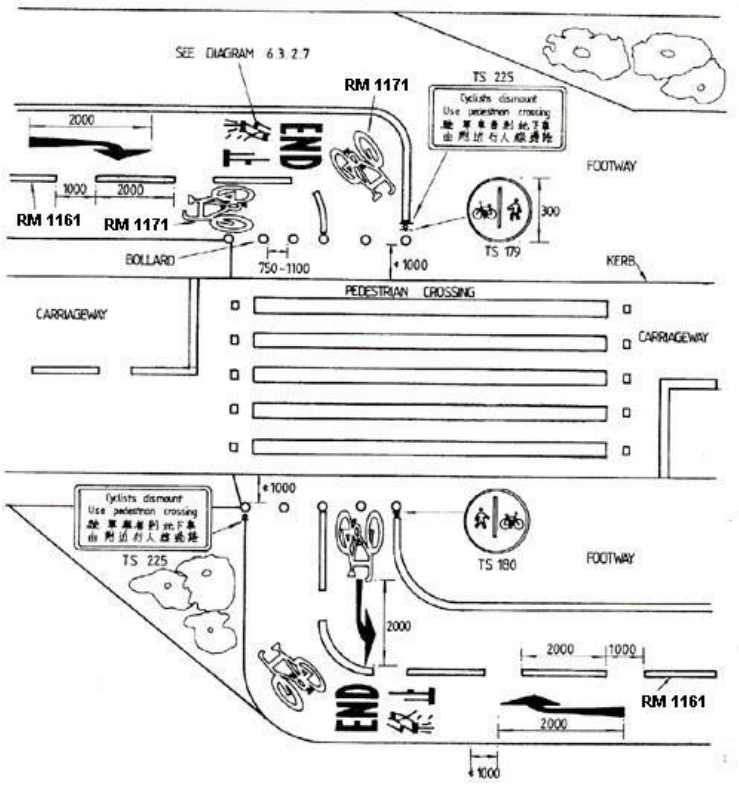
ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 6.3.2.11 : START / TERMINATION OF A CYCLE TRACK NEAR A PEDESTRIAN CROSSING



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 6.3.2.12 : START / TERMINATION OF CYCLE TRACKS AT A PEDESTRIAN CROSSING



ALL DIMENSIONS IN MILLIMETRES

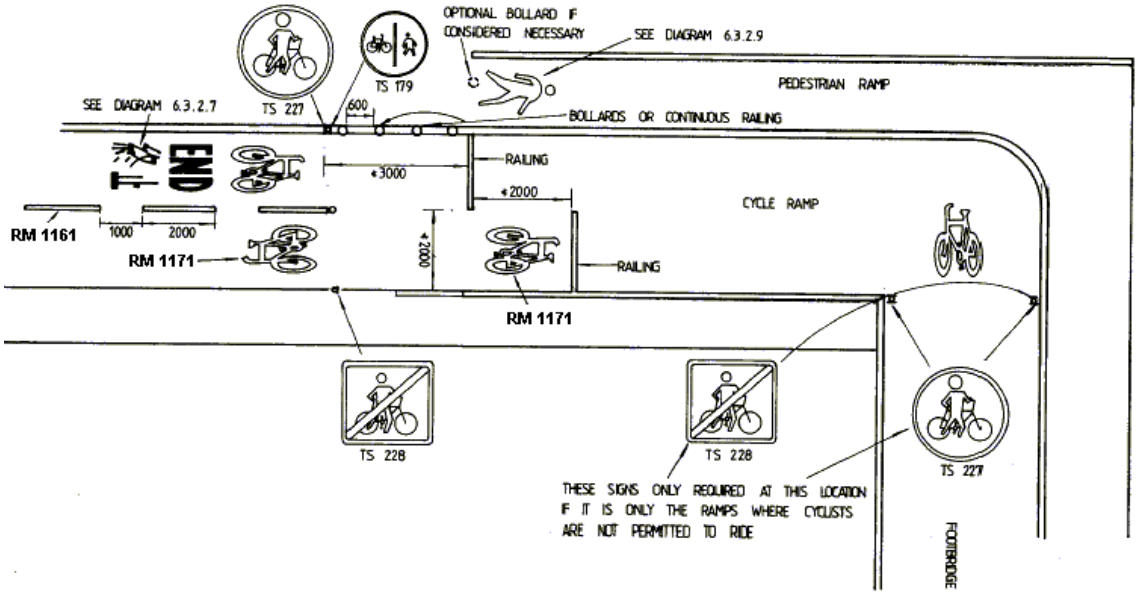
6.3.2.33 Where an arrangement as illustrated in Diagram 6.3.2.12 is adopted, as shown in the Diagram, bollards should still be used across the cycle track, to ensure cyclists do dismount. However these should not be closer than 1000mm to the kerb edge.

6.3.2.34 In certain situations a cycle track may be continued across a combined cycle/footbridge as indicated in Diagram 6.3.2.13. However because of the steepness of the ramps, and even though cyclists can be segregated from pedestrians, it is generally preferable that cyclists are made to dismount and at least push their cycles up and down the ramps, if not across the whole of the bridge. Diagram 6.3.2.13 indicates appropriate signing when it is only on the ramps that cyclists are required to dismount. However where the whole bridge is involved, the only difference will be that traffic signs 227 and 228 would not be required on the bridge part of the ramps.

6.3.2.35 Where a cycle/footbridge, or subway, does form a continuation of a cycle track, as shown in Diagram 6.3.2.13, a staggered railing arrangement at the foot of the ramp should be used to encourage cyclists to dismount, rather than bollards. It may also be appropriate to have a similar railing arrangement at top of the ramps, as a further deterrent. On the cycle track approach to these railings, to discourage cyclists from riding on the footway to avoid the railings, a length of bollards, or preferably railing, should be used to physically separate the cyclists from pedestrians. The length of railing will depend on the particular circumstances, but it should not normally be less than 3000mm, which is also the length of the cycle track immediately in front of the railings required to be left free of any obstructions. The requirement for cyclists to dismount, is indicated by traffic sign 227, and the end of this area by traffic sign 228. It will however also be necessary to erect traffic sign 179, as shown in Diagram 6.3.2.13, to indicate the start of the cycleway/footway system for cyclists approaching from the bridge ramp direction.

6.3.2.36 Where a cycle track continues past a cycle/pedestrian bridge as well as continuing over the bridge it should not generally be necessary to terminate the cycle track, and suitable arrangements for these situations are described in Section 6.3.3.

DIAGRAM 6.3.2.13 : START / TERMINATION OF CYCLE TRACK AT CYCLE FOOTBRIDGE



NOTES :
(i) ASSUMES CYCLISTS MUST PUSH CYCLES OVER BRIDGE
(ii) ASSUMES CYCLISTS CAN BE SEGREGATED FROM PEDESTRIANS
(iii) ALL DIMENSIONS IN MILLIMETRES

6.3.3 Signing and Marking along Cycle Tracks

6.3.3.1 Away from the start/end of a cycle track, it should not be necessary to erect traffic signs 179, 180 or 181 as repeater signs, other than perhaps where cycle track intersect as described later in this Section. However where there is a continuous combined cycle track/footway of footpath in excess of 300m, it generally will be appropriate to place, at 100m intervals, or thereabouts road marking 1120, "cycle symbol", and, the pedestrian symbol road marking, in Diagram 6.3.2.8, to indicate the respective cycle track lanes and the footway. For relatively narrow cycle tracks, where it is not divided into separate lanes for each direction, a single cycle symbol to road marking 1120 may be placed parallel to traffic, however where the cycle track is divided into lanes a symbol for each lane should be provided.

6.3.3.2 It is strongly recommended that cycle tracks are divided into lanes by the use of the warning line marking indicated in Diagram 6.3.3.1, and as shown in this Diagram where space is limited the width of the line may be reduced to 50mm, but it is preferable that it is kept to 100mm, and always must be on the approach to any junction. Additionally if the centre line of the cycle track is not marked throughout the track, at least 7 No. marks must be laid on all the approaches to any junction, as indicated in Diagram 6.3.3.1. Where centre line markings are provided in excess of 500m, pairs of opposite directional arrow markings (RM 1017) should be placed at 200m intervals.

6.3.3.3 Where two cycle tracks intersect, markings must be used to indicate which cycle track has priority over the other. It should seldom be necessary in this situation to use traffic sign 102 "Give Way" to also indicate the priority and in fact should be avoided, as it will only increase the maintenance requirements. The use of the "Stop" signs and markings should only be necessary in very extenuating circumstances, as it should be ensured that adequate visibility is provided in accordance with Section 6.3.2, where all cycle tracks intersect. Basic markings where cycle tracks intersect are shown in Diagram 6.3.3.2.

6.3.3.4 At a junction of two or more cycle tracks it may be appropriate to erect Directional Signs to indicate to cyclists the various destinations to be reached. Advice on the design and location of Cyclist Directional Signs is given in Section 6.4.

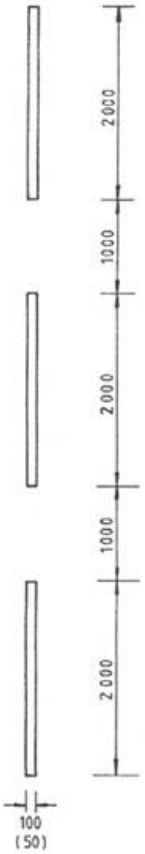
6.3.3.5 It will often be the situation that adjacent to cycle tracks there will be a footway, or footpath, on one or both sides and account will need to be taken of this fact when such combined cycle track/footways intersect, as shown in Diagrams 6.3.3.3 and 6.3.3.4.

6.3.3.6 Diagram 6.3.3.3 illustrates appropriate traffic signs and markings for a cycle track 'T' junction arrangement, assuming the footpaths are on the sides indicated. Where footpaths are differently located in relation to the cycle track, then traffic signs, road markings, and location of pedestrian crossing points will need to be amended accordingly. With regard to this, if for example, pedestrians were required to cross the stem of the 'T', then a footpath arrangement as shown in Diagram 6.3.3.4, with splays being provided on both sides would be necessary.

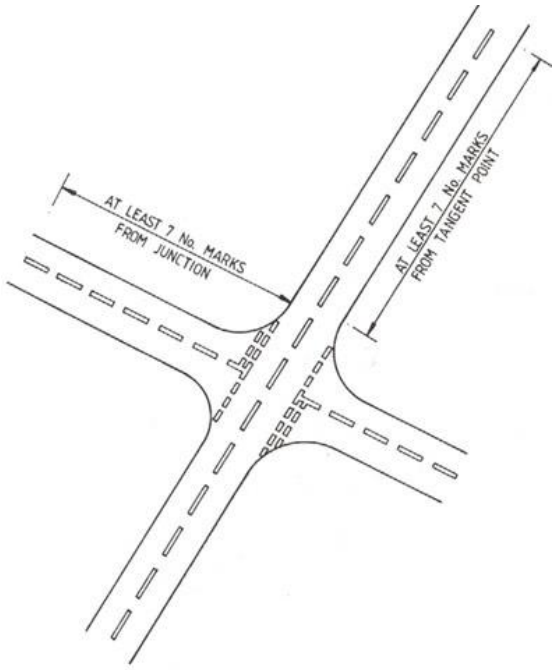
6.3.3.7 Diagram 6.3.3.3 indicates a number of traffic signs that may be erected, both regulatory and warning. However apart from the regulatory traffic sign 179, indicating the cycle track/footway arrangement which must be erected as indicated, the other signs need only be installed if conditions indicate, e.g. restricted sight lines, or that cyclists are likely to approach a junction relatively fast, that they are necessary to improve the safety of both pedestrians and cyclists. In most cases they should not be required.

DIAGRAM 6.3.3.1 : CYCLE TRACK WARNING / CENTRE LINE MARKING

(i) WARNING / CENTRE LINE DIMENSIONS



(ii) USE AT JUNCTIONS

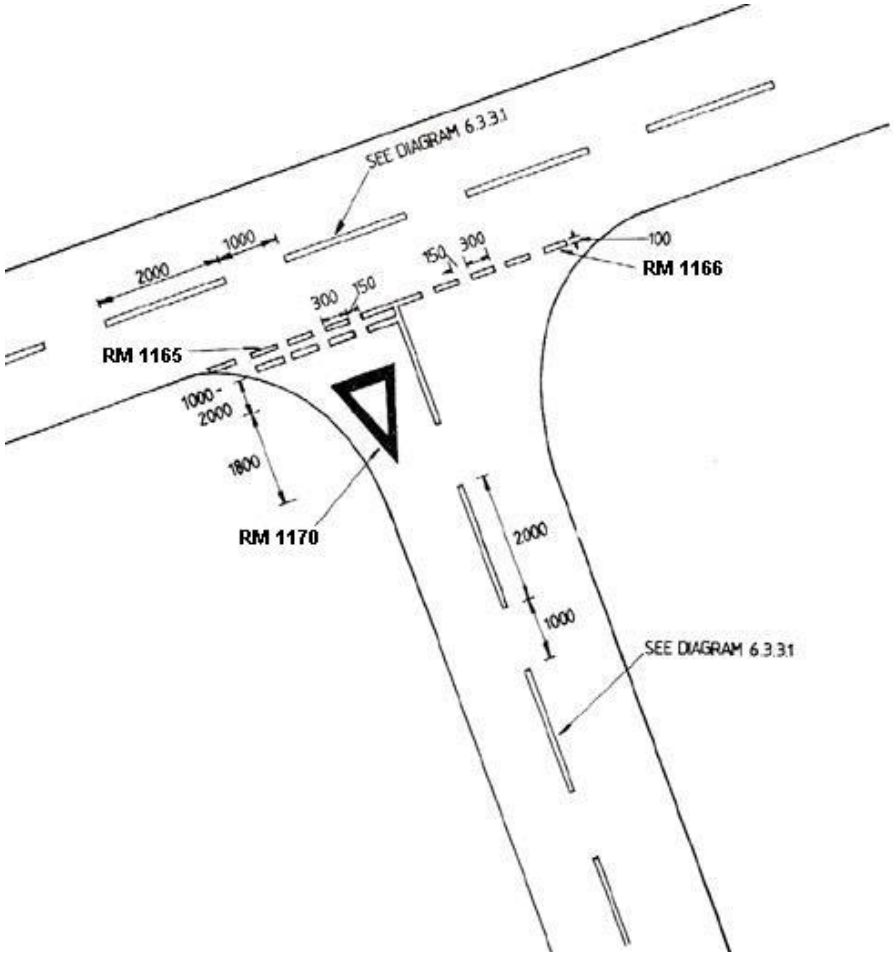


ALL DIMENSIONS IN MILLIMETRESNOTES :

(i) MARKS MAY BE REDUCED TO 50mm WIDTH OTHER THAN ON THE APPROACH TO OR THROUGH A JUNCTION.

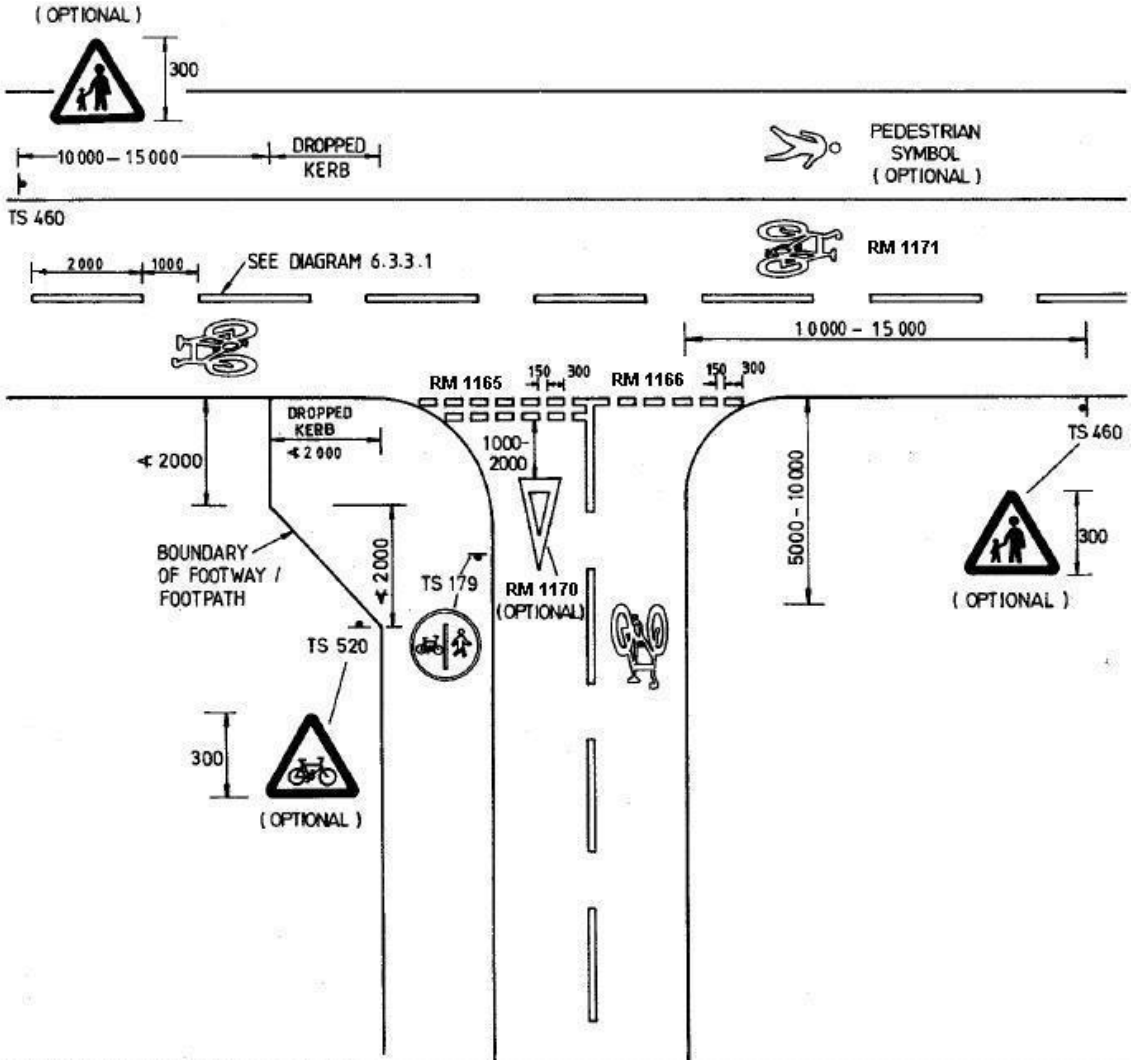
(ii) WHERE THE CENTRE LINE IS NOT MARKED THROUGHOUT A CYCLE TRACK AT LEAST 7 No. MARKS MUST BE LAID ON ALL THE APPROACHES TO A JUNCTION AND CONTINUED THROUGH THE JUNCTION ON THE CYCLE TRACK THAT HAS PRIORITY.

DIAGRAM 6.3.3.2 : BASIC CYCLE TRACK JUNCTION MARKINGS



ALL DIMENSIONS IN MILLIMETRESNOTE :
(i) RM 1115, GIVE WAY SYMBOL, ONLY NECESSARY WHERE ADDITIONAL EMPHASIS OF THE JUNCTION IS REQUIRED TO BE GIVED.

DIAGRAM 6.3.3.3 : CYCLE TRACK / FOOTWAY "T" JUNCTION TRAFFIC SIGNS AND ROAD MARKINGS



ALL DIMENSIONS IN MILLIMETRESNOTE :

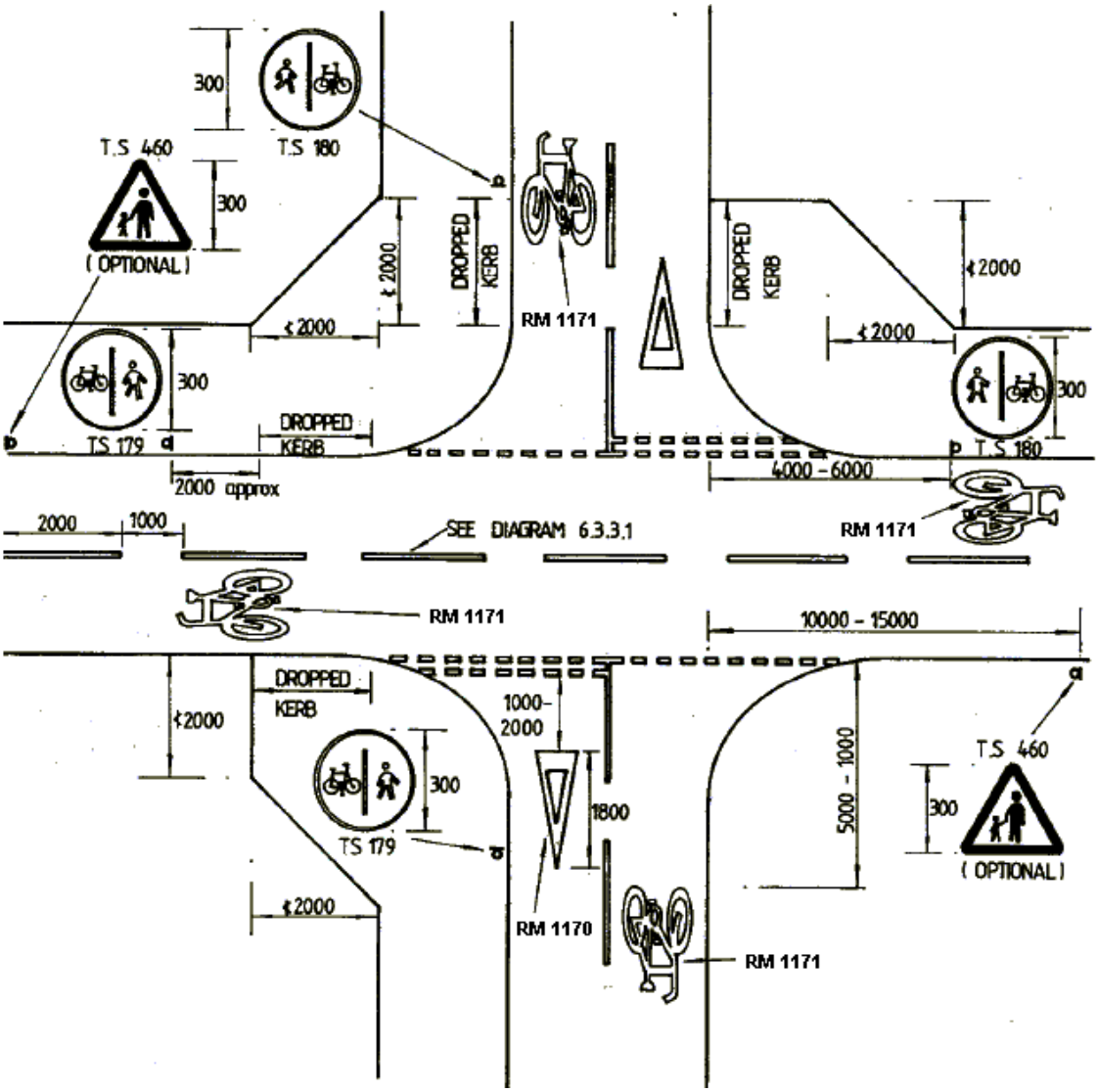
(i) THE PROVISION OF TRAFFIC SIGNS 460 AND 520 WILL DEPEND ON THE PARTICULAR CIRCUMSTANCES OF THE JUNCTION AND WHETHER SUCH WARNINGS ARE NECESSARY.

(ii) THE PEDESTRIAN SYMBOL WILL GENERALLY ONLY BE NECESSARY IF THE FOOTWAY / CYCLE TRACK IS DELINEATED BY A MARKING AND NOT A KERB OR SIMILAR.

(iii) SECTION 6.4 PROVIDES ADVICE ON DIRECTIONAL SIGNS FOR CYCLE TRACKS.

(iv) RM 1115 MAY BE OMITTED IF CYCLE FLOWS ARE LOW THROUGH THE JUNCTION.

DIAGRAM 6.3.3.4 : CYCLE TRACK / FOOTWAY FOUR-WAY JUNCTION



ALL DIMENSIONS IN MILLIMETRES

6.3.3.8 With regard to road markings it is advisable to place most of the markings shown on Diagram 6.3.3.3, in order to regulate properly the movements of cyclists, and provide an indication to pedestrians of the presence of cyclists. The only exceptions to this is in respect of the "give way symbol", road marking 1115, and the pedestrian symbol. The "give way symbol", need only be used where high cycle flows, particularly along the main route, are being experienced, or cyclists are likely to approach the junction relatively fast. The pedestrian symbol is optional, and its use will be determined on the basis of whether it is necessary to clearly indicate the footway set aside for pedestrians, or not. Where a continuous line, and not a kerb or similar, form the division between the cycle track and the footway, the provision of the pedestrian symbol is generally necessary, to discourage cyclists from riding onto the footway area.

6.3.3.9 In the case of a four-way cycle track junction the traffic signs and markings should generally be in accordance with Diagram 6.3.3.4.

6.3.3.10 As in the case of a "T" junction, the warning signs shown on Diagram 6,3,3,4 are only necessary if circumstances suggest that these should be used. However in the case of the road markings, it is recommended for four-way junctions that the "give way symbol", road marking 1115 is always used as shown in Diagram 6.3.3.4.

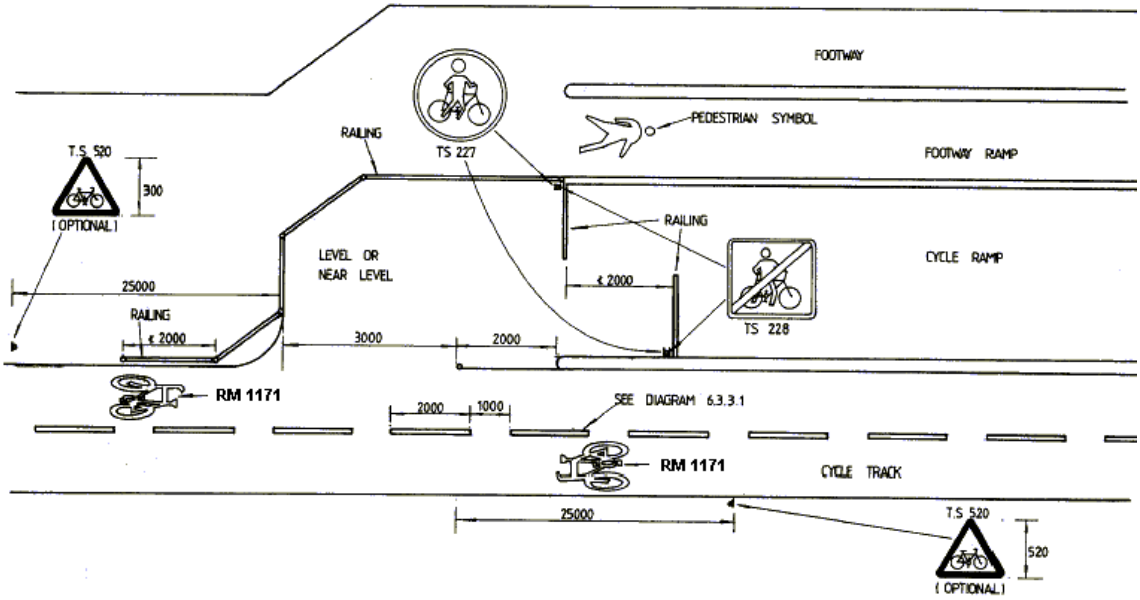
6.3.3.11 Diagram 6.3.3.5 illustrates an arrangement where a cycle track is adjacent to and continues past, a footbridge, or subway, but which may also be used by cyclists. It is not necessary to terminate the cycle track where it adjoins the footbridge, but an area should be created where cyclists can dismount to push their cycles over the bridge. Traffic sign 227, should be used as shown to indicate that cyclists must dismount.

6.3.3.12 As illustrated in Diagram 6.3.3.5, it is preferable where cyclists are sharing the use of a subway or footbridge that they are segregated from pedestrians, by the using of railings. Staggered railings should also be provided to encourage cyclists to dismount, as also shown in Diagram 6.3.3.5.

6.3.3.13 Diagram 6.3.3.5 does show the use of traffic sign 520, "cyclists ahead", to warn cyclists on the cycle track, of other cyclists emerging from the footbridge or subway. However the use of this sign should be considered optional and is only necessary if the sight line of cyclists on the cycle track is restricted to cyclists emerging from the subway or footbridge.

6.3.3.14 Diagram 6.3.3.6 shows the arrangement when the cycle track is at the rear of the footway, but cyclists may make use of an adjacent pedestrian crossing to cross the carriageway of the road. For these situations, cyclists must dismount from their cycles in order to push them across the footway and the crossing, and therefore traffic sign 225 must be erected as shown to indicate this. Bollards along the edge of the rear of the footway should also be provided to further encourage cyclists to dismount. Whilst it is not necessary to indicate the termination of the cycle track for this arrangement, it is advisable to erect traffic signs 179and 180, either side of the opening as shown in Diagram 6.3.3.6 to indicate the respective cycle track and footway.

DIAGRAM 6.3.3.5 : SUBWAY / BRIDGE ADJOINING TO A CYCLE TRACK

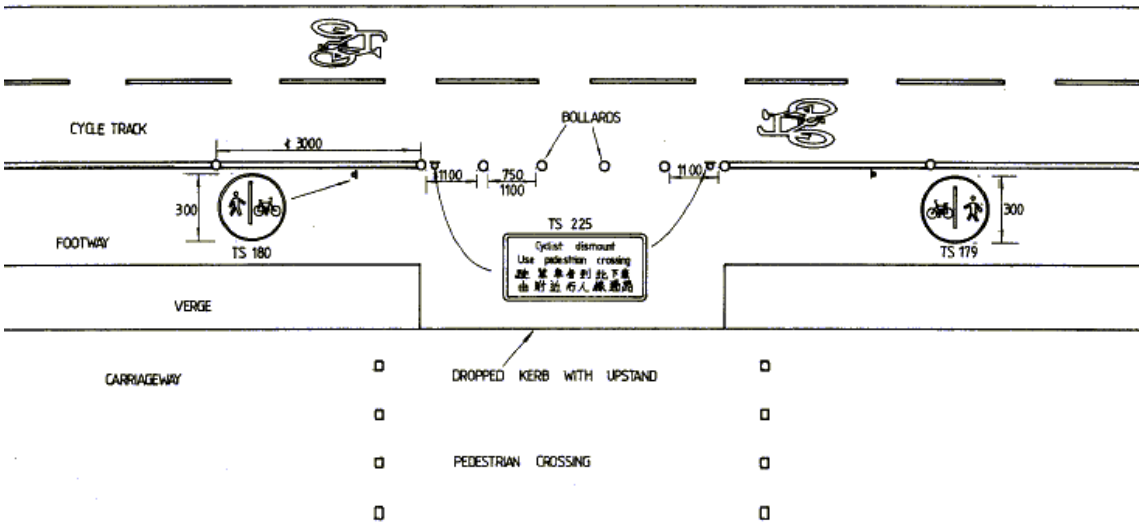


ALL DIMENSIONS IN MILLIMETRES

6.3.3.15 In the United Kingdom, the use of cycle crossings, that is signal controlled crossing enabling cyclists to ride across a carriageway of a road whilst other traffic is stopped, have been installed in association with cycle tracks. The form these have taken are as shown in Diagram 6.3.3.7. It must be stressed that the two aspect cycle signals shown in the Diagram are not prescribed in the Road Traffic (Traffic Control) Regulations, and therefore cannot be used at the present time in the Territory. However, as cycles are vehicles, if it was thought desirable, normal three aspect signals could be used in place of the two aspect signals. In the U.K. these signalised crossings for cyclists are used in parallel with pedestrian light signal crossings, adjacent but separated from each other. Whether such an arrangement would function satisfactorily in the Territory would need further investigation, but is included for reference.

6.3.3.16 The U.K. also permits the provision of parallel cycle crossings, separate from pedestrian crossings, across dual carriageway roads with provision in the central reserve for cyclists to wait until they are able to cross, as directed by the lights, or safe to cross through suitable gaps at uncontrolled crossing points. Because of the traffic characteristics of dual carriageways in the Territory, cautionary of uncontrolled cycle crossings should not be provided across these roads.

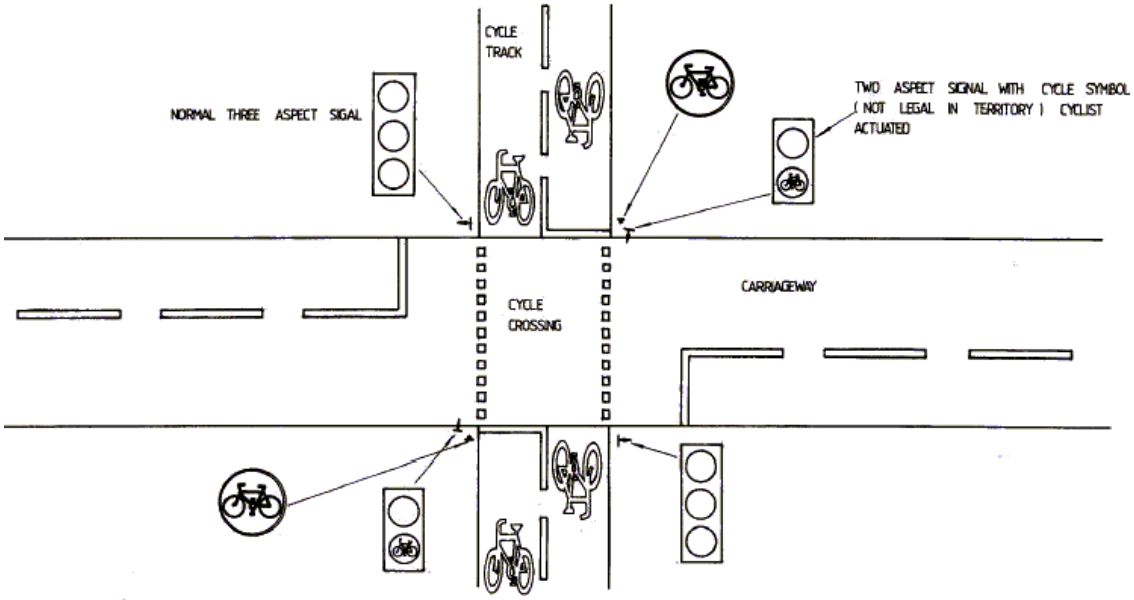
DIAGRAMS 6.3.3.6 : CYCLE TRACK ADJOINING PEDESTRIAN CROSSING



ALL DIMENSIONS IN MILLIMETRES

DIAGRAM 6.3.3.7 : CYCLE SIGNAL CROSSING USED IN OTHER COUNTRIES

(FOR INFORMATION ONLY)



6.3.4 Children's Cycling Areas

6.3.4.1 Section 54 of the Road Traffic Ordinance, Cap 374, specifically prohibits children under the age of 11 years, from riding a cycle on a road unless supervised by an adult. Under the definition of "road" in the Road Traffic Ordinance, this would include cycle tracks.

6.3.4.2 Although the requirements of Section 54 do as stated above apply to cycle tracks generally, the same Section does permit the Commissioner to designate by the erection of signs, areas where children may ride their cycles unaccompanied by adults, and such areas may be designated along cycle tracks. However it is stressed, and as later mentioned in this Section, not all cycle tracks may be suitable as children's cycling areas.

6.3.4.3 The start of the area where children under 11 years may cycle unaccompanied, (children's cycling area), should be indicated by traffic signs 179, or 180, or 181 as appropriate, accompanied by the supplementary plate, traffic sign 829, as illustrated in (i) in Diagram 6.3.4.1.

6.3.4.4 The end of the children's cycling area should be indicated by traffic signs 179, or 180, or 181 as appropriate, together with the supplementary plates, traffic signs 829 and 767, "End", as illustrated in (ii) in Diagram 6.3.4.1.

6.3.4.5 Although various sign sizes are permitted for all the signs involved, unless greater emphasis is considered necessary the smallest sign sizes for both the main sign and the supplementary plates should normally be used.

6.3.4.6 The arrangement shown in (ii) in Diagram 6.3.4.1 only indicates the end of the children's cycling area, and not, unless this coincides, the end of the cycle track. To avoid confusion arising it will be appropriate where the end of the cycle track does not coincide with the end of the children's cycling area to place the cycle symbol, road marking 1120, just beyond the "End" sign arrangement as indicated in Diagram 6.3.4.2. Similarly where the children's cycling area starts away from the start of the cycle track, the cycle symbol, road marking 1120, should be placed just beyond the sign arrangements indicating the start, to remind children as to the correct side of the track to ride along. Appropriate signing and marking for various children's cycling area arrangements are shown in Diagram 6.3.4.2. However these signs and markings illustrated may also need to be supplemented by other signs and markings and Section 6.3.2 should be consulted with regard to this.

6.3.4.7 As mentioned above, not every cycle track will be suitable as a children's cycling area and in this respect it is recommended that the following should be taken into account when determining the suitability or otherwise of a children's cycling area being designated along a particular cycle track, or part of it :-

(i) Cycle hirers if not located within the children's cycling area should not be more than 50m from it.

(ii) Children's cycling areas must not start or terminate at the edge of the carriageway of a road.

(iii) Children's cycling areas should always terminate adjacent to a footway so that children can use this if necessary to push their cycles along on leaving the cycling area, whether or not they are accompanied by adults.

(iv) Any pedestrian crossing near the termination of a children's cycling area, should be either, a footbridge, subway or, pedestrian light signal crossing. Children's cycling areas should not be terminated near a cautionary crossing.

(v) It is preferable not to designate a children's cycling area along a cycle track across which general motor vehicle access is permitted.

(vi) Children's cycling areas along cycle tracks should be at least 100m long.

(vii) The designation of children's cycling areas along popular cycle tracks where flows are likely to be in excess of 600 cycles per hour (both directions), should be avoided. Adults should be encouraged to accompany children along such cycle tracks.

(viii) Children's cycling areas should not be designated along cycle tracks which have gradients exceeding 3%.

(ix) Children's cycling areas should not be designated along cycle tracks which have a poor or uneven riding surface, or are otherwise not adequately maintained.

(x) Children's cycling areas should not be designated along cycle tracks which include locations where pedestrians are likely to cross in large numbers, e.g. exceeding 500 per hour.

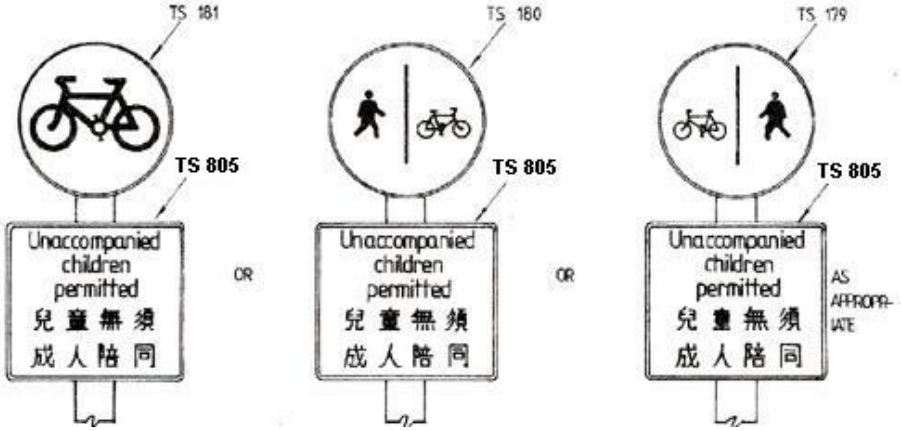
6.3.4.8 A children's cycling area which is not part of a cycle track system, being land set aside for the purpose of enabling children to ride unaccompanied by adults, will need to have traffic sign 181 and 829 erected at all entrances, and traffic signs 181, 829 and 767 erected at all exits.

6.3.4.9 The location of specific areas, away from cycle tracks, where children may cycle unaccompanied will need to be considered differently from those created along cycle tracks. However those criteria mentioned in paragraph 6.3.4.8 may still be applicable, and should be taken into account as far as possible when determining suitable locations. It will also be necessary to examine that there is a safe route, particularly if they are likely to be bringing their own cycles, for children to reach the children's cycling area.

6.3.4.10 It is also recommended that specific areas for children to cycle in should adopt a formal layout, with appropriate traffic signs and road markings being used to direct the cyclists.

DIAGRAM 6.3.4.1: SIGNS TO INDICATE CHILDREN'S CYCLING AREA

(i) START OF CHILDREN'S CYCLING AREA



(ii) END OF CHILDREN'S CYCLING AREA

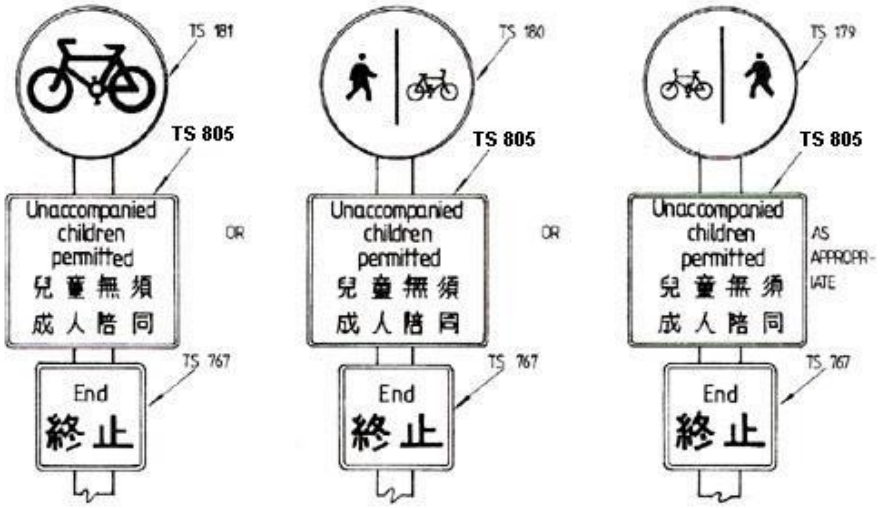
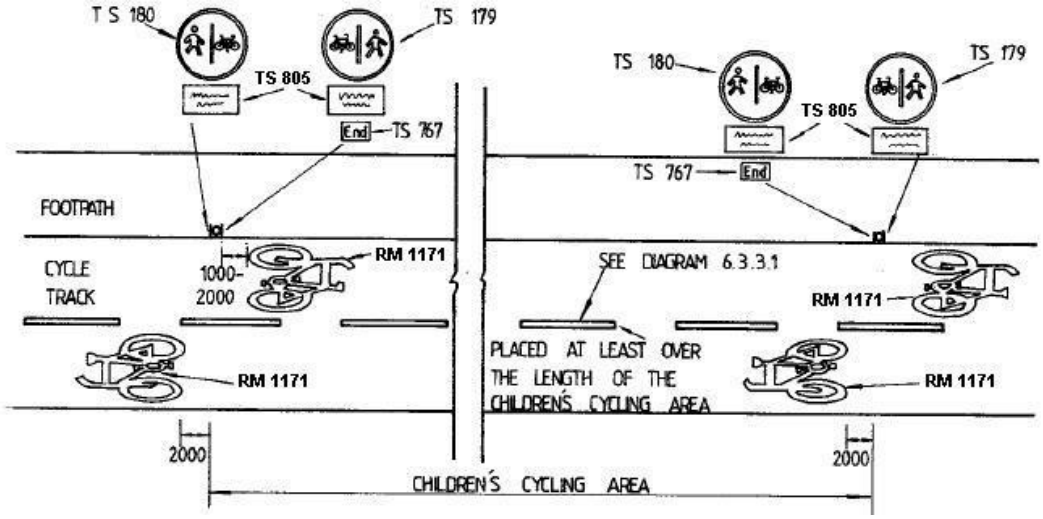
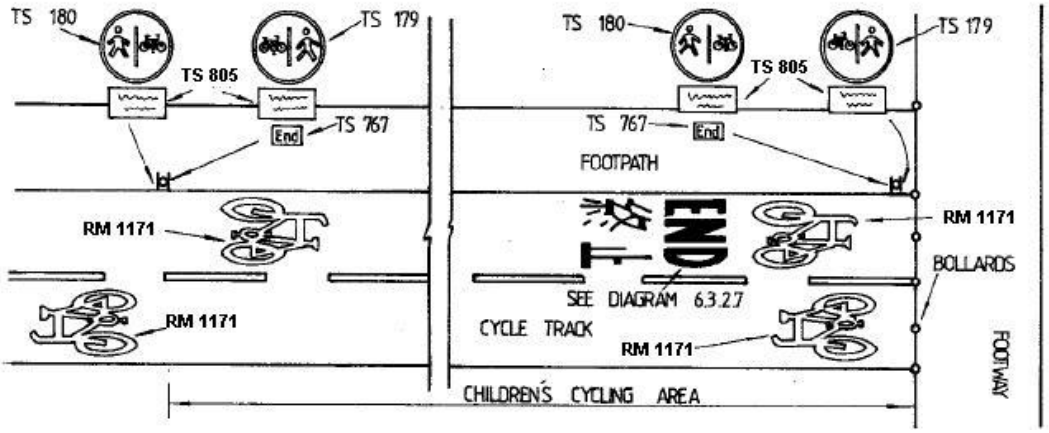


DIAGRAM 6.3.4.2 : SIGNING OF CHILDREN'S CYCLING AREAS ALONG CYCLE TRACKS

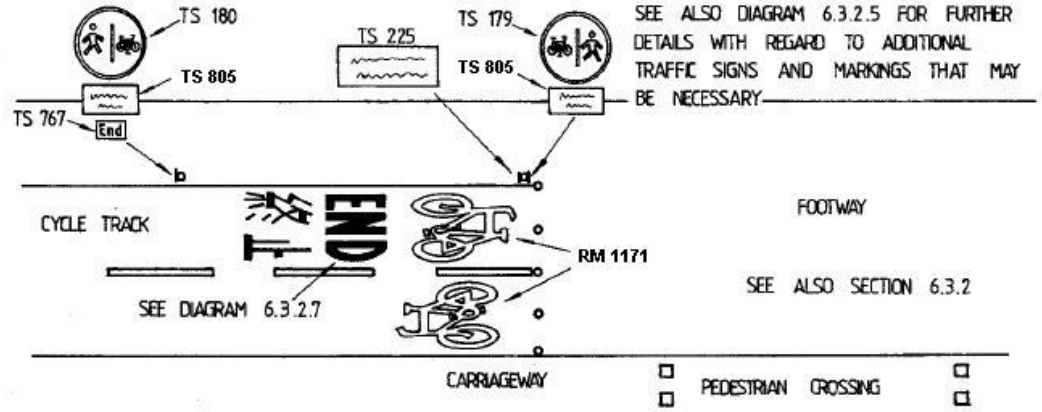
(i) LOCATED WITHIN A CYCLE TRACK



(ii) START / TERMINATION AT A FOOTWAY JUNCTION



(iii) START / TERMINATION NEAR PEDESTRIAN CROSSING



ALL DIMENSIONS IN MILLIMETRES

6.4 Directional Signs for Cyclists

6.4.1 General

6.4.1.1 Unless otherwise stated in this Section, the design of directional signs for cyclists should conform to the design standards in Chapter 3 of this Volume, with particular reference to Section 3.5.

6.4.1.2 Normally "x" heights of 37.5mm and 50mm will be appropriate for cyclist directional signs, but a smaller "x" height of 25mm may be used where the larger "x" heights would result in the sign being too large to locate properly. Only in exceptional circumstance should an "x" height of 20mm be used

6.4.1.3 The provision of directional signs for cyclists will need to be determined by the particular circumstances prevailing, but in general they should only be used where confusion may arise as to routes to be taken to reach particular destinations. For cycle tracks running parallel to a carriageway the use of special cyclist directional signs should not normally be necessary as the directional signs erected along the carriageway for motorists should generally be sufficient.

6.4.2 Types of Cycle Directional Signs

6.4.2.1 Where cycle directional signs are required, they will normally be of the flag type as illustrated in (i) in Diagram 6.4.2.1. However on occasions it may be appropriate to use rectangular type signs, as shown in (ii) in Diagram 6.4.2.1or rectangular type signs in the form of stack signs.

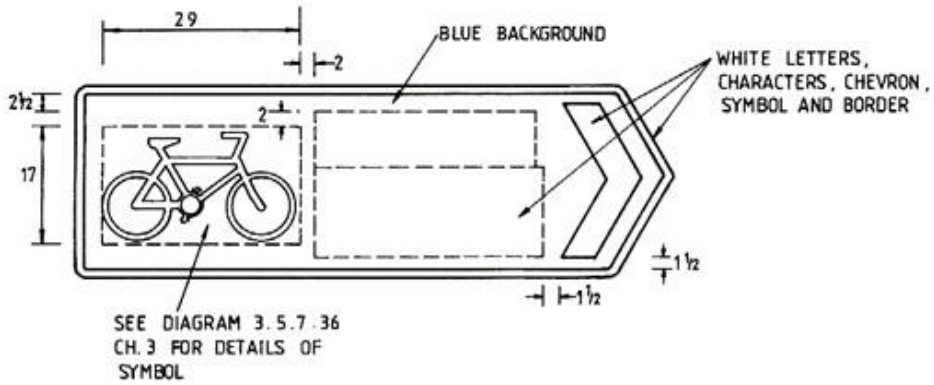
6.4.2.2 Map type signs may also be used where appropriate, but generally these will only be of use along the main carriageway of a road, to provide indications to both motorists and cyclists.

6.4.2.3 Further information on the design of cycle directional signs is given in Chapter 3 of this Volume, and specifically in paragraphs 3.5.7.43 to 3.5.7.45 of Section 3.5.7 of that Chapter.

DIAGRAM 6.4.2.1 : CYCLE DIRECTIONAL SIGNS

ALL DIMENSIONS IN STROKE WIDTHS

(i) FLAG TYPE SIGN



NOTES :

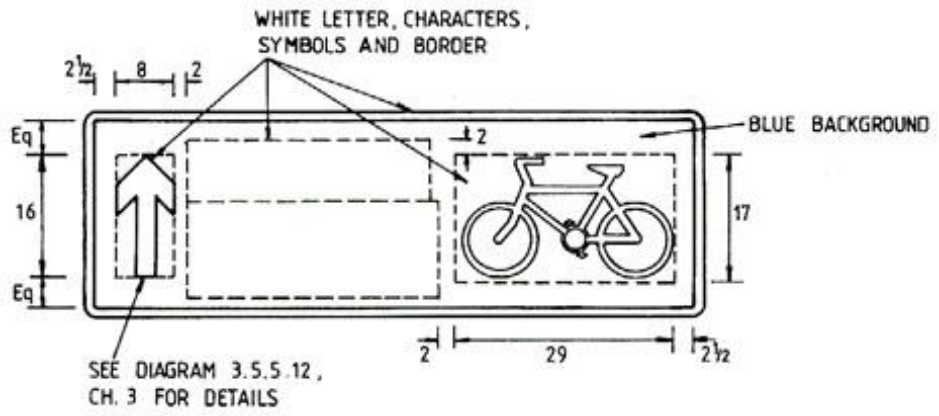
(i) LETTERS AND CHARACTERS SHOULD BE LOCATED NEAREST TO CHEVRON.

(ii) CYCLE SYMBOL SHOULD BE REVERSED IF SIGN POINTS TO THE LEFT.

(iii) SEE ALSO PARAGRAPHS 3.5.7.43 TO 3.5.7.45 OF CHAPTER 3 OF THIS VOLUME.

(iv) SEE DIAGRAM 3.5.5.10 OF CHAPTER 3FOR DETAILS OF FLAG TYPE SIGN.

(ii) RECTANGULAR SIGN



NOTES :
(i) LETTERS AND CHARACTERS SHOULD BE LOCATED NEAREST TO ARROW.
(ii) WHERE ARROW IS ON THE RIGHT OF THE SIGN, CYCLE SYMBOL SHOULD BE REVERSED.
(iii) SEE ALSO PARAGRAPHS 3.5.7.43 TO 3.5.7.45 OF CHAPTER 3 OF THIS VOLUME.

6.4.3 Location of Directional Signs for Cyclists

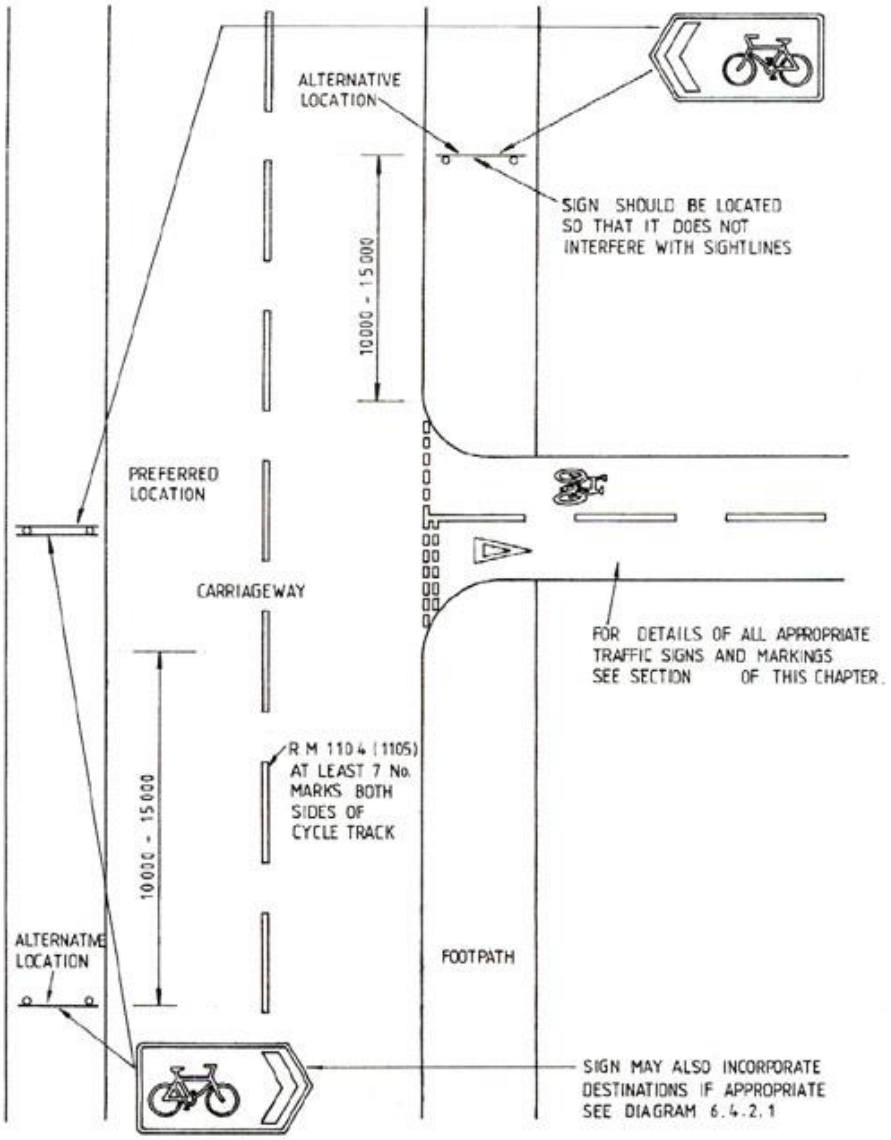
6.4.3.1 The presence of the start of a cycle track will normally be evident by the fact of the erection of traffic signs 179, 180 or 181, as appropriate. However where the cycle track follows a route away from the carriageway of the road, it may be appropriate to erect a Direction Sign or Signs, to both indicate the cycle track and, if this is not apparent, the destination that can be reached by the track, as shown in Diagram 6.4.3.1. Advance Direction Signs should not be necessary.

6.4.3.2 Where there is a network of cycle tracks away from normal roads it may be appropriate where different cycle track routes intersect to erect direction signs at these junctions indicating the destination of the particular routes.

6.4.3.3 Diagram 6.4.3.2 illustrates possible signing arrangements for both three and four way junctions using stack type signs and flag type signs.

6.4.3.4 It may be appropriate to incorporate in the directional signs the direction to cycle parking areas, and information regarding this is included in Section 6.5.

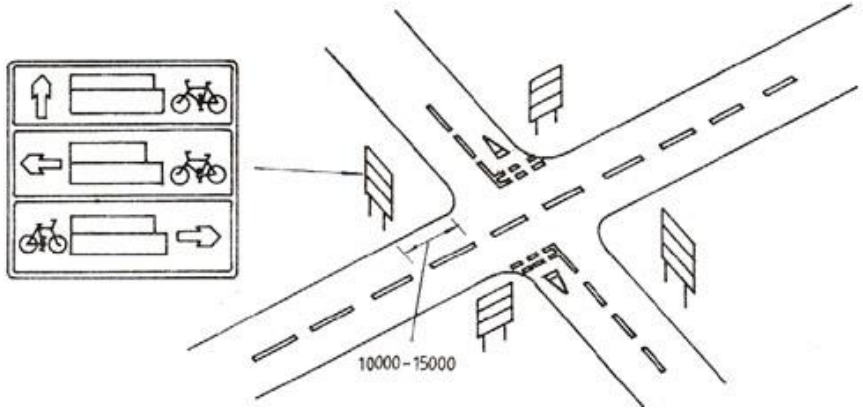
DIAGRAM 6.4.3.1 : LOCATION OF DIRECTION SIGNS NEAR START OF CYCLE TRACK



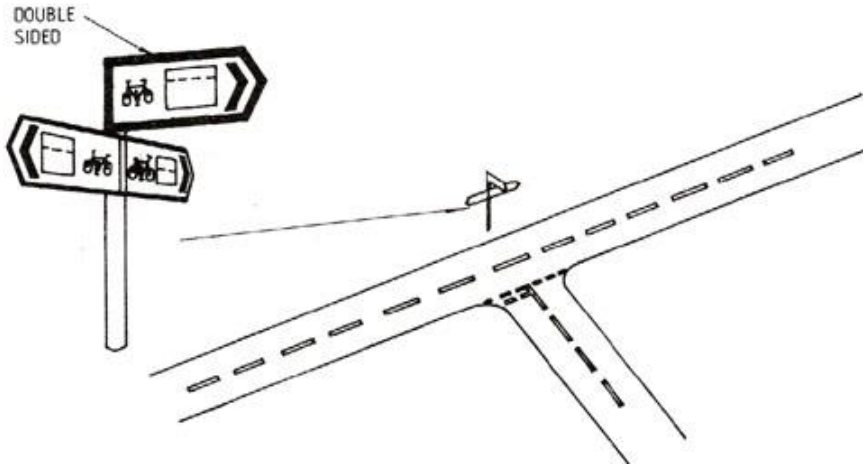
ALL DIMENSION IN MILLIMETRES

DIAGRAM 6.4.3.2 : CYCLE DIRECTIONAL SIGNS AT JUNCTIONS

(i) FOUR-WAY JUNCTION



(ii) "T" - JUNCTION



ALL DIMENSION IN MILLIMETRES

NOTE :

(i)IF DIRECTIONAL SIGNS ARE ERECTED AT JUNCTIONS OF CYCLE TRACKS DESTINATIONS MUST BE INCLUDED IN THE SIGNS

6.5 Cycle Parking

6.5.1 General

6.5.1.1 The provision of formal areas where cycles can be parked whilst their riders carry out other activities is very dependent on local circumstances. It is not possible to provide any exact guidelines, as to the number of parked cycles that should be accommodated at any particular type of location or use, and it will be necessary to exercise judgement as to the likely demand.

6.5.1.2 The Road Traffic (Parking) Regulations provide legislation for the control of cycle parking on roads which include cycle tracks, and under this legislation it is in fact an offence to park a cycle on a road other than at a designated parking space, on any road that has a system of road lighting with lamps not more than 200m apart. It is also an offence to park a cycle on a footway, pedestrian way, central reserve, verge, hard shoulder or traffic island, under these same regulations. However unlike the Fixed Penalty (Traffic Contraventions) Ordinance, which controls the parking of motor vehicles, the Road Traffic (Parking) Regulations, provides a defence, in respect of other vehicles, in that if it can be proved that no danger or obstruction was caused, no offence is committed if a cycle is parked on a footway etc.

6.5.1.3 In view of the defence provided under the Road Traffic (Parking) Regulations, and the fact that along the majority of roads in the Territory, cycle use is extremely limited, specially designated cycle parking facilities should not normally be required.

6.5.1.4 In those urban areas and new towns where cycle traffic forms a significant flow and particularly in those areas where a cycle track network has been installed, consideration should be given to the provision of cycle parking facilities at suitable locations.

6.5.1.5 It is extremely difficult to predict, as mentioned above, to what degree facilities for cycle parking should be provided, and the numbers to be catered for, and generally this will have to be determined on the basis of site observation. The disadvantage of this approach is that land that may be appropriate for cycle parking has already been allocated for some other function. It is necessary therefore in the planning of any cycle track network to try to assess where there may be a demand for cycle parking facilities, and ensure that in the event that the demand does arise, there is a sufficient area that can be converted to a cycle parking area.

6.5.1.6 It is important that parking facilities are provided where they are needed, and not where some land happens to be available. If the cycle parking is not convenient, it will not be used, and problems will arise of cycles being parked where they may cause inconvenience or obstruction to other road users.

6.5.1.7 Locations where parking facilities are to be provided, apart from being convenient, should generally be open and in full public view, in order to deter theft. It is extremely doubtful that many cyclists would be willing to pay for the sue of such facilities, and therefore for short term parking, charges are not recommended. In the case of long term parking, such as for commuters at railway stations, charges may be appropriate, but it would be necessary to ensure that the cycles parked at these locations are secure with little chance of the cycle being stolen. Otherwise cyclist will choose to chain their cycles to convenient railings or similar, as they will see little advantage in paying to use facilities which are not secure. Additionally in the case of the later facilities, open sites are not a requirement and in fact some type of enclosure around the parking facility would be preferable, with entrance and exit confined to one point.

6.5.1.8 With regard to what is a "convenient" location for parking facilities, evidence from abroad suggest that the facility should not be more than 30m metres away from the general destination in the case of short term parking, that is for periods up to 2 0 minutes, and not more than 70 metres away, for long term parking of more than two hours. It is suggested that unless information is available which suggests otherwise, these distances be used as, at least, initial guidelines of the location of cycle parking facilities in the Territory.

6.5.1.9 With regard to the number of cycles to be accommodated in any parking facility, evidence again from abroad suggests that for short term parking, a small number at frequent intervals, is preferable to a large number some distance away from the intended destination. In this respect for short term parking, it is suggested that any one parking area should be able to accommodate between three and twelve cycles. For long term parking, the size of the facility will depend on the likely demand. This can be assessed by counting the number of cycles parked around the destination. However it should be borne in mind if parking fees are to be charged, that cyclists will more than likely continue to park where they have previously done so, rather than pay, unless positive means are taken to discourage them from continuing to park at the former locations.

6.5.2 Parking Facilities for Cycles

6.5.2.1 Parking places for cycles must be provided with suitable fixed stands and/or racks, to support the cycle and enable the cycle to be chained to it. A number of proprietary cycle parking stands are available. If they are proposed to be used on public road, prior consultation and agreement with Transport Department and Highways Department are necessary. In general, those stands or racks which support a cycle by gripping one or both wheels are not satisfactory as they are prone to damage the cycle should it be knocked over.

6.5.2.2 For designated cycle parking place on public road, the following standard cycle parking facilities could be considered :

(i) Inverted-U Parking Stand

(ii) Angled Parking Stand

(iii) 1-up 1-down Parking Rack

(iv) Spiral Parking Rack

(v) Double Deck Parking System

6.5.2.3 Reference should be made to the Highways Department Standard Drawings for the detailed information of cycle parking facilities.

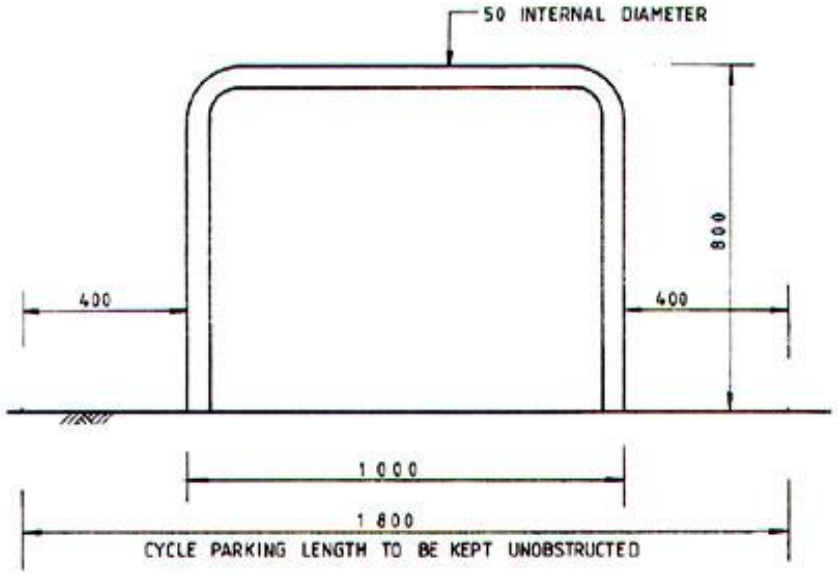
6.5.3 Inverted-U Parking Stand

6.5.3.1 Inverted-U parking stand is the stand similar to the amenity railing used in the Territory to prevent parking on footways. The dimensions for this stand are illustrated in Diagram 6.5.3.1. It should be suitable for all sizes of cycles.

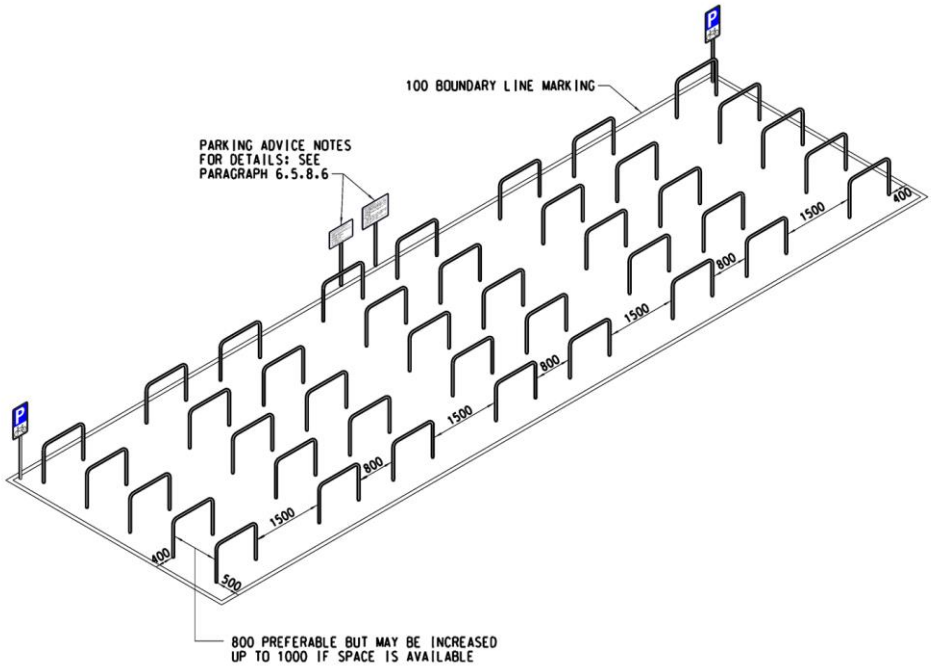
DIAGRAM 6.5.3.1 : INVERTED-U PARKING STAND

ALL DIMENSIONS IN MILLIMETRES

(i) DIMENSIONS



(ii) TYPICAL PARKING LAYOUT

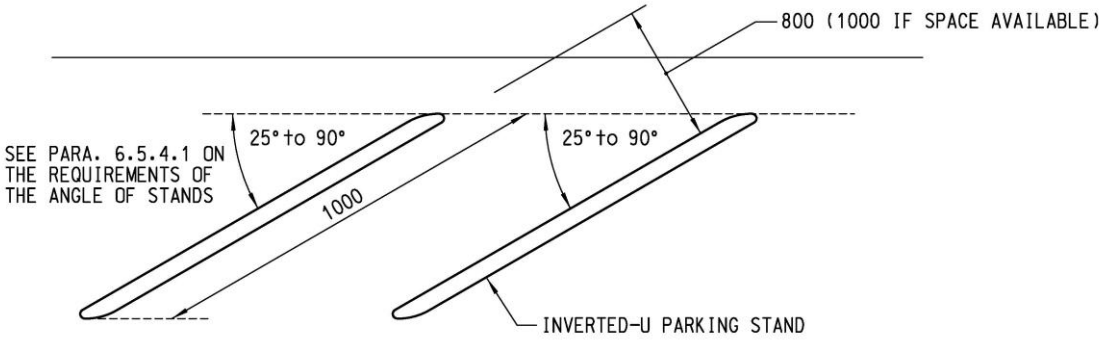


6.5.4 Angled Parking Stand

6.5.4.1 Due to site constraints and the need to maintain adequate width of footway for the pedestrians, angled parking could be considered. In general, the inverted-U parking stand being the simplest form of cycle parking stand easily used by the public and constructed, should be used for angled parking. Considering the maneuvering space required for cyclists to park or retrieve their bicycles, it is recommended that angled parking facility should be provided at angles between 45° to 90°; while considerations may be given on provision at 25° to 45°, depending on the width of footway and the pedestrian flow demand. Provision of angled parking facility at any angles less than 25° is not recommended.

DIAGRAM 6.5.4.1 : TYPICAL ARRANGEMENT OF ANGLED PARKING

ALL DIMENSIONS IN MILLIMETRES



6.5.5 1-Up-1-Down Parking Rack

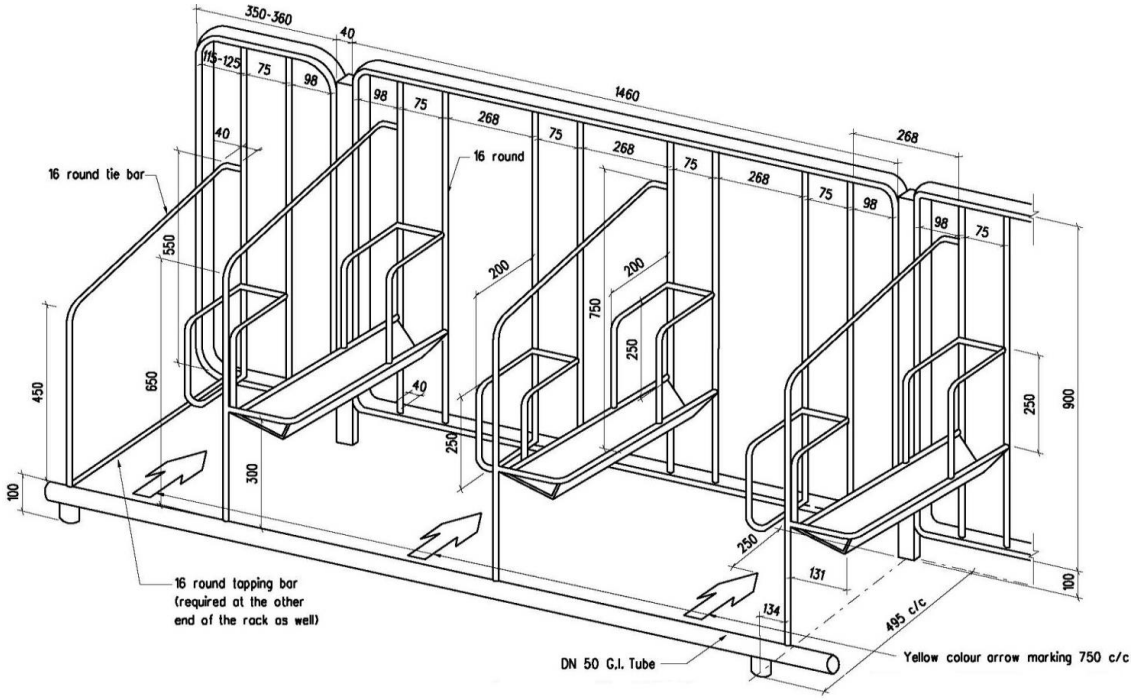
6.5.5.1 1-up-1-down parking rack enables staggered parking arrangement by which bicycle front wheels are parked up-and-down alternately to provide more parking spaces within a limited parking length. It is applicable at parking sites where the length of site is constrained but sufficient parking length is available.

6.5.5.2 The typical details and typical parking arrangement of the 1-up-1-down parking facility are illustrated in Diagram 6.5.5.1 and Diagram 6.5.5.2 respectively. The parking facility consists of alternate “up” and “down” parking racks. For the “up” parking rack, cyclists have to lift the front wheel of their bicycles to place them into the bracket. The handles of parked bicycles at “up” racks will then be at a higher level than those at “down” racks. As bicycles are parked with handles at different levels alternately, the horizontal spacing between parking racks can be shortened to about 268mm for provisioning of more parking spaces. Transport Department and Highways Department should be consulted if there is any alternative design of 1-up-1-down parking racks proposed.

DIAGRAM 6.5.5.1 : 1-UP-1-DOWN PARKING RACKS

ALL DIMENSIONS IN MILLIMETRES

(i) TYPICAL PARKING RACK LAYOUT



(ii) DIMENSIONS OF YELLOW ARROW MARKING

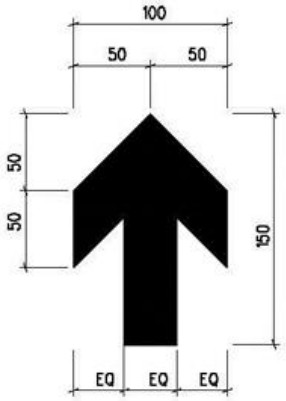
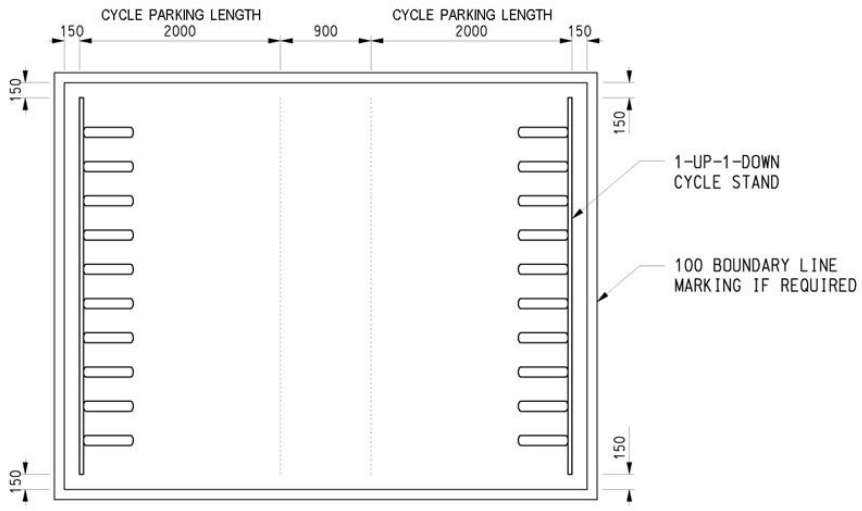


DIAGRAM 6.5.5.2 : TYPICAL PARKING ARRANGEMENT OF 1-UP-1-DOWN CYCLING RACKS

ALL DIMENSIONS IN MILLIMETRES



6.5.5.3 Parking site should be of rectangular shape as the 1-up-1-down parking is a type of grid parking which occupies less space between the racks compared with Inverted-U parking stand. Due to the reduced space between the racks, it can also prevent other non-bicycle objects placing between the racks. However, the design of 1-up-1down parking racks only allow locking of the front wheel of the bicycle, therefore it should be less secure comparing to other types of cycle parking racks. Also, it is noted that it may require some effort for users to place their bicycles on the upper racks, and hence, the bicycles on the upper racks may not be properly parked sometimes so that some space at the lower rack may be occupied.

6.5.5.4 Provision of 1-up-1-down parking racks should be considered where there is spatial constraint and high demand for parking spaces. Also, sufficient space between the 1-up-1-down parking racks and existing buildings or street furniture should be provided to facilitate street cleaning. The designer should consult relevant departments on the layout of the parking racks if necessary.

6.5.6 Spiral Parking Rack

6.5.6.1 The spiral parking rack can be used as a single or double sided rack. It only requires two anchorages at the two ends of rack while the traditional cycle stands requires individual anchorage for each end. For doubled side rack, each coil can accommodate two bicycles on two sides which increase the capacities of the parking place.

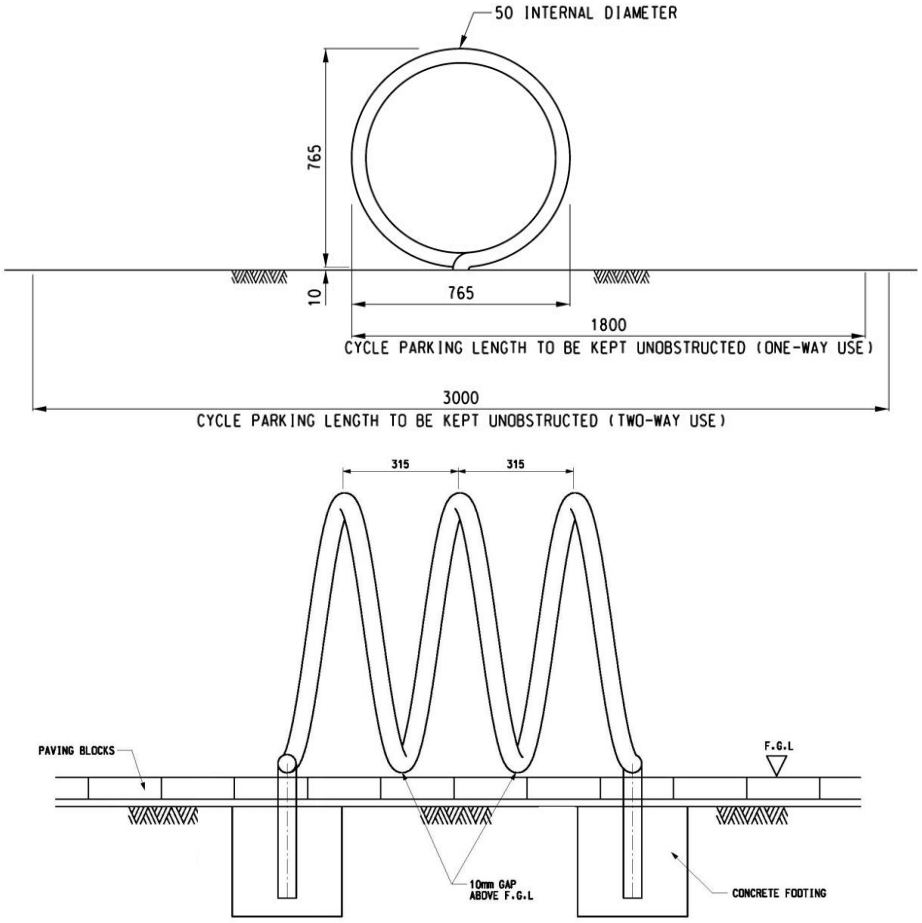
6.5.6.2 The dimensions of the rack and positioning of bicycles in coils are shown in Diagram 6.5.6.1 and Diagram 6.5.6.2 respectively. The typical numbers of coils per rack range from two to five and should be based on the layout and configuration of parking place.

6.5.6.3 The end of the bicycle instead of the front part should be locked on the coil as shown in Diagram 6.5.6.1. The correct position of bicycle in coil and typical parking arrangement for spiral parking racks are shown in Diagram 6.5.6.2 and Diagram 6.5.6.3. In Diagram 6.5.6.3, the spacing between two spiral racks should be at least 4000mm center-to-center spacing with a view to providing 1000mm clear pedestrian access with bicycles parked on both sides.

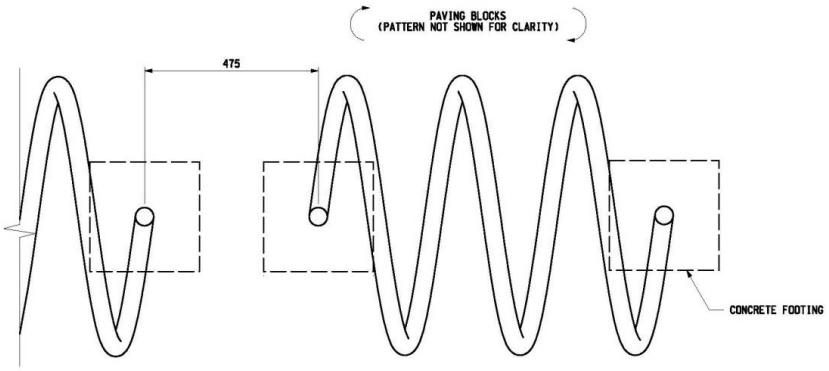
6.5.6.4 User's instructions board for the system should be considered to be provided at suitable locations. An example of user's instruction board is illustrated at Appendix, of which the format, dimensions and colours of instruction board, fonts and sizes of Chinese and English characters should be maintained for consistency.

DIAGRAM 6.5.6.1 : TYPICAL DIMENSION OF THE SPIRAL PARKING RACK

ALL DIMENSIONS IN MILLIMETRES



ELEVATION OF RACK



PLAN OF RACK

DIAGRAM 6.5.6.2 : POSITIONING OF BICYCLES IN COILS

ALL DIMENSIONS IN MILLIMETRES

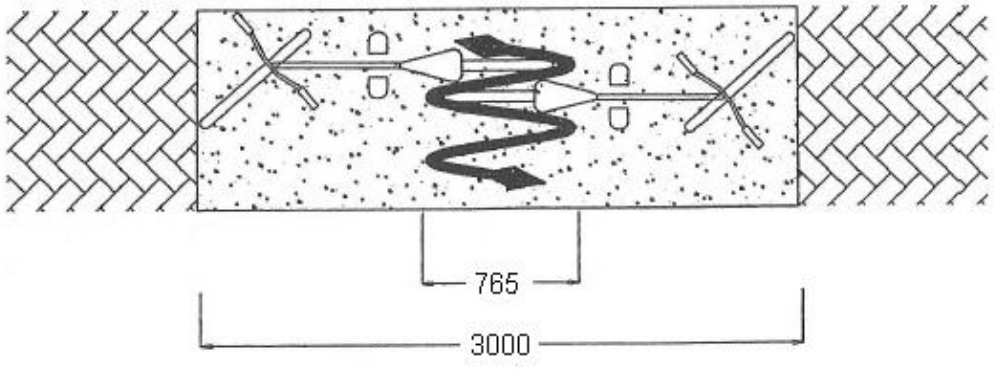
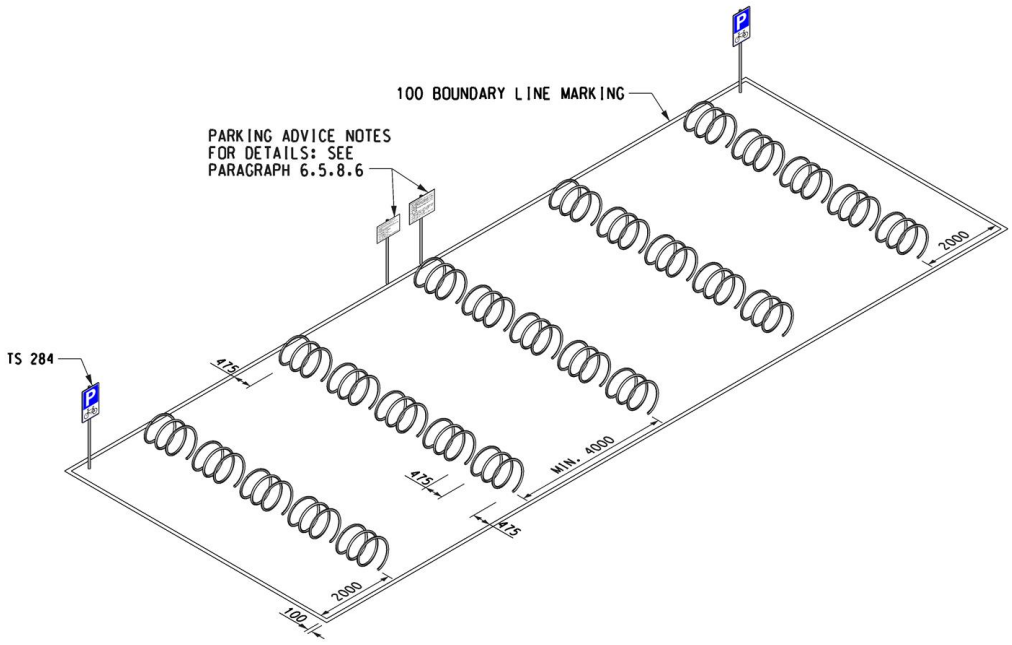


DIAGRAM 6.5.6.3 : TYPICAL PARKING ARRANGEMENT OF SPIRAL PARKING RACKS

ALL DIMENSIONS IN MILLIMETRES



6.5.7 Double deck parking system

6.5.7.1 Double deck parking system is used to increase parking capacity without requiring additional ground space so it is suitable for spatially limited location. It also poses less potential damage on the parked bicycles since the rack grips both wheels and the bicycle frame is locked by the rail.

6.5.7.2 The double deck parking system is less suitable for non-rectangular parking layout and headroom limited location. Furthermore, parking at upper level requires more strength so a relatively lower usage is expected for the upper deck.

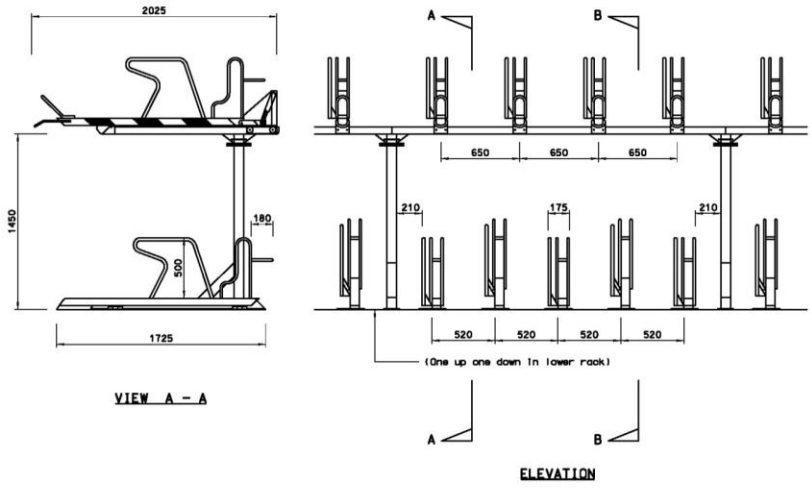
6.5.7.3 The system should be installed at locations with high parking demand and without headroom constraint. To extend the bearing life, the system should be operated away from shorelines and preferred in covered environment. Installation near the shoreline will increase the maintenance cost and reduce the bearing life of the system so it should be fully justified such as there are no other options to meet the local parking need. As the installation and maintenance cost of this system is much higher, detailed evaluation by comparing the use of other standard parking facilities should be conducted to ensure its provision is fully justified.

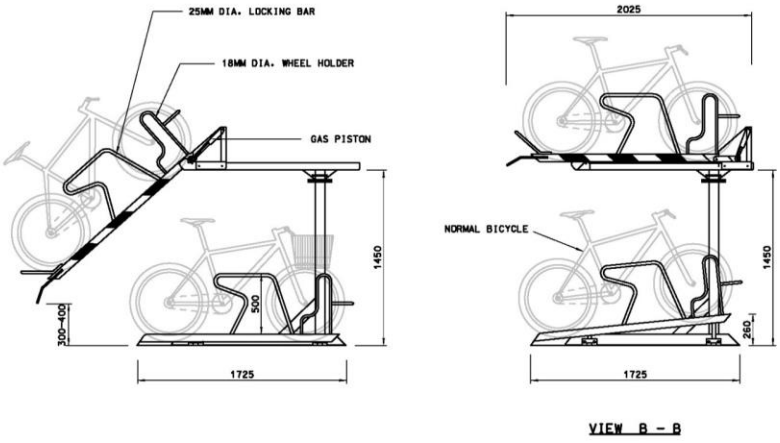
6.5.7.4 The typical dimensions and arrangements of the double deck parking system are illustrated in Diagram 6.5.7.1(a). All upper racks should be at the same level with at least 1450mm above the ground. The lower rack should be in one up one down design to accommodate more bicycles. The locking bar provided should be 500mm high. The design of the locking bar does not necessarily follow the one shown in Diagram 6.5.7.1 (a), The Diagram 6.5.7.1(b) shows another design of locking bar which the locking and unlocking of the inverted-U shape bar can be controlled by a hinge. The upper rack should be equipped with gas piston for slowing down the drop of the upper rack and assisting the lifting operation.

DIAGRAM 6.5.7.1 : TYPICAL DIMENSIONS AND ARRANGEMENT OF DOUBLE DECK PARKING SYSTEM

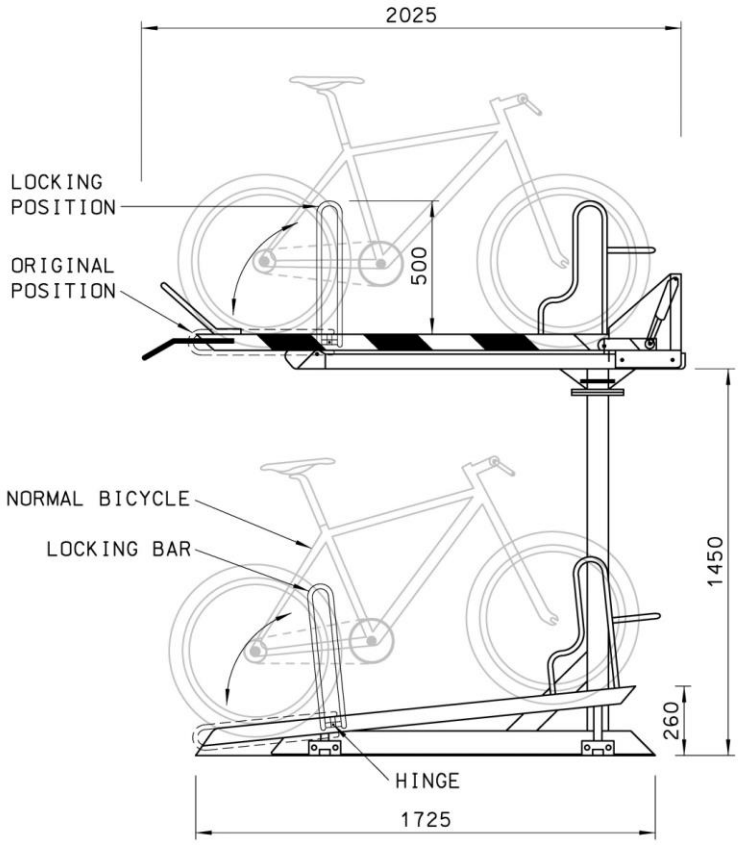
ALL DIMENSIONS IN MILLIMETRES

(a)





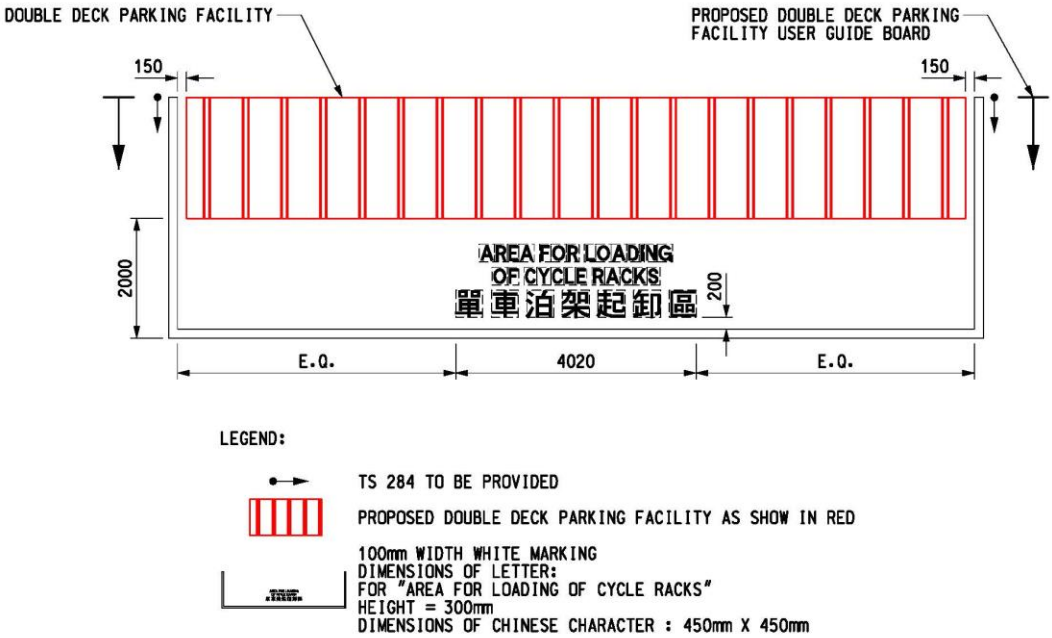
(b)



6.5.7.5 When designing the double deck parking system, an additional area adjacent to the system for loading and unloading of bicycles during operation should be considered. The traffic sign TS284 and 100mm width white line marking indicating the designated parking place as illustrated in Diagram 6.5.7.2 should be provided.

DIAGRAM 6.5.7.2 : LOADING AND UNLOADING FOR DOUBLE DECK PARKING SYSTEM

ALL DIMENSIONS IN MILLIMETRES



6.5.7.6 User's instructions board for the system should be provided near the parking system at a suitable location where it should be prominent and not obstructing other road users. A sample of user's instruction board is at Appendix.

6.5.8 Signing and Markings for Parking Facilities

6.5.8.1 In order to comply with the legal requirements, a designated parking place for cyclists should be indicated by the erection of traffic sign 284 and the parking place should be delineated by a 100mm white line marking. While Diagram 6.5.3.1 shows two signs, using a single centrally positioned sign is acceptable, though in this case the sign should be double-sided.

6.5.8.2 It is not imperative to arrange the parking stands in rows as indicated in Diagram 6.5.3.1, Diagram 6.5.6.3 and Diagram 6.5.7.1, and the arrangements should be that which are most suitable for the site in question, and could, for example where only a few stands are provided, be arranged linearly. However it is recommended that the dimensions shown in the Diagrams are generally adhered to.

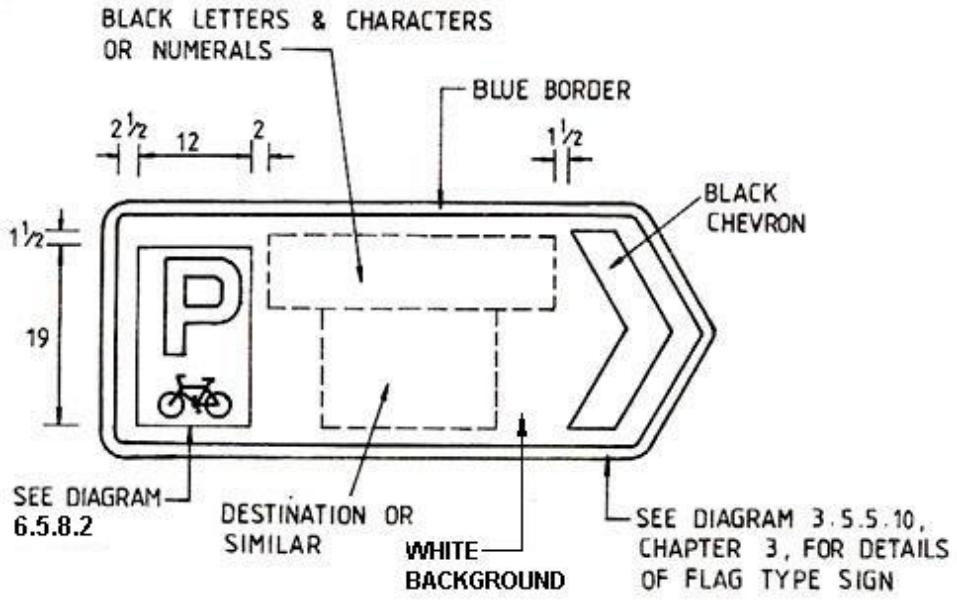
6.5.8.3 It may be appropriate to indicate the direction to particular cycle parking facilities by the use of directional signs of the type shown in Diagram 6.5.8.1. However on most occasions the location of cycle parking facilities will be obvious and directional signs should therefore not generally be required.

6.5.8.4 Where it is considered necessary to indicate the direction to a parking facility as shown in (i) in Diagram 6.5.8.1, this information can also be incorporated into directional signs for destination as shown in (i) or (iii) in Diagram 6.5.8.1, so avoiding the use of additional signs.

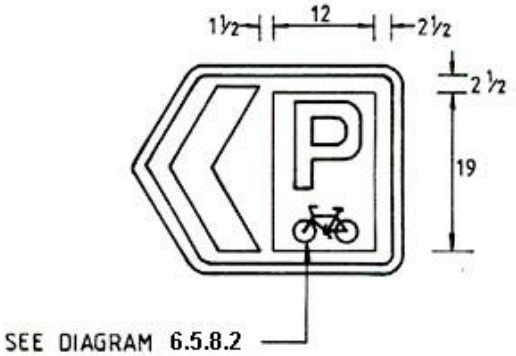
DIAGRAM 6.5.8.1 : CYCLE PARKING DIRECTIONAL SIGNS

DIMENSIONS IN STROKE WIDTHS

(i) DIRECTION SIGN WITH INFORMATION REGARDING DESTINATION OR SIMILAR



(ii) LOCAL DIRECTION SIGN



(iii) RECTANGULAR DIRECTION SIGN

(MAY ALSO BE USED WITHOUT WRITTEN INFORMATION AS A LOCAL DIRECTION SIGN)

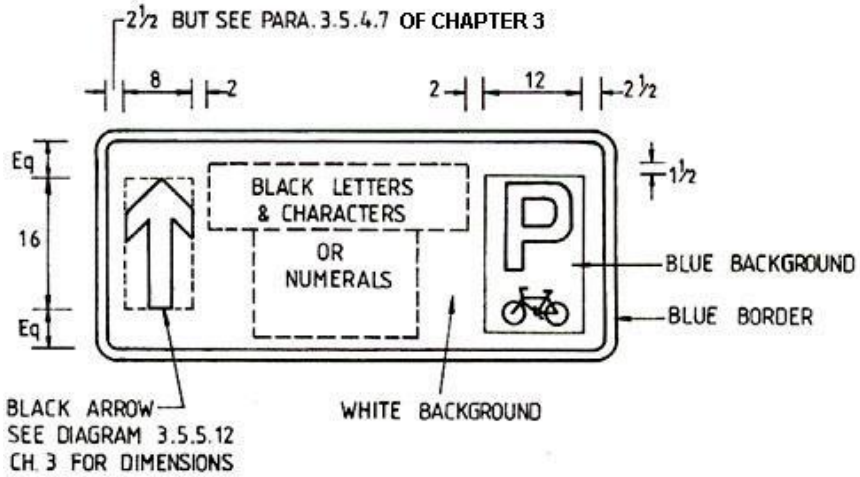
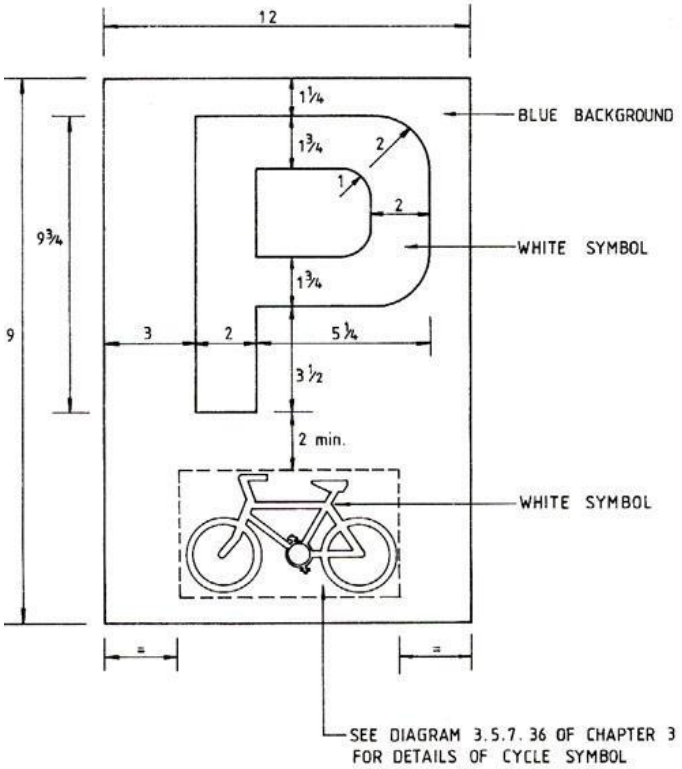


DIAGRAM 6.5.8.2 : CYCLE PARKING SYMBOL FOR DIRECTIONAL SIGNS



DIMENSIONS IN STROKE WIDTHS

6.5.8.5 Where there is a complete cycle track network joining several major destinations, it can be helpful, particularly where the system will be used by recreational cyclists, to erect at strategic locations, route maps indicating the extent of the cycle track system, on District Board/Country Park notice boards. Such maps should be simple in content, and the boards should be located away from the cycle track, so that cyclists stopping to look at the map do not obstruct other cyclists using the cycle track.

6.5.8.6 According to Cap. 374C Road Traffic (Parking) Regulations, any person who parks a vehicle in a parking place for a continuous period of more than 24 hours commits an offence. To remind cyclists, advice notices: “Parking Advice for Cycle Parking Place” and “General Advice to Public for Cycle Parking Place” shown as Diagram 6.5.8.3 and Diagram 6.5.8.4 respectively should be displayed at every cycle parking place managed by the Transport Department. The notice of parking advice for cycle parking place (Diagram 6.5.8.3) should be mounted below every TS 284 with a minimum gap of 150mm. For the notice of general advice to public (Diagram 6.5.8.4), at least one such notice should be erected at a location where is reasonably readable to the users of the parking facilities and the exact number should be determined based on local conditions which sufficient reminder is provided to the public.

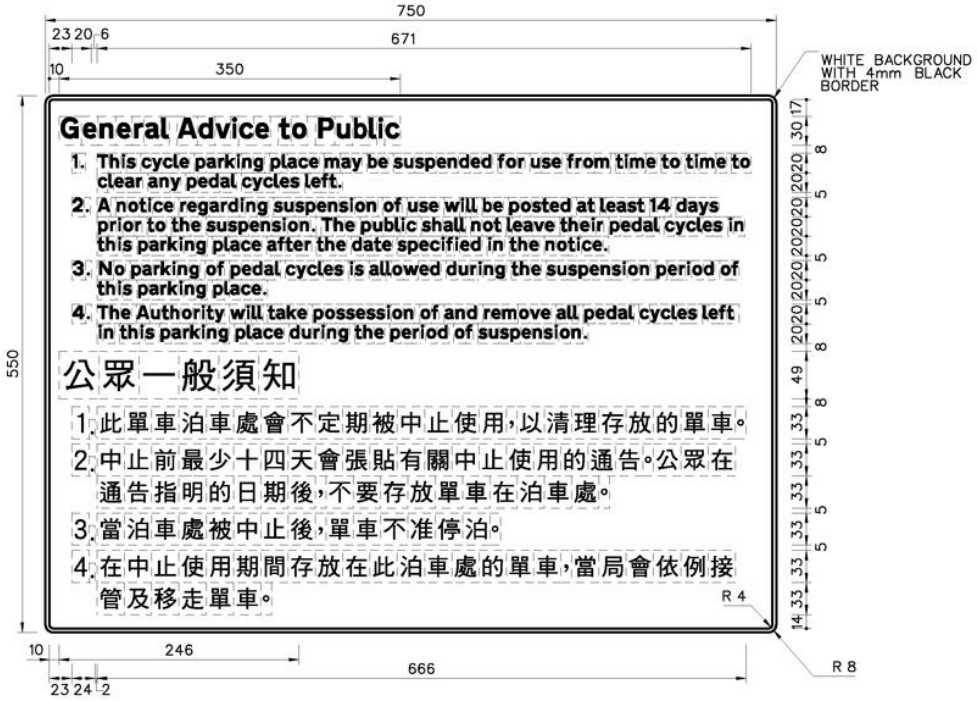
DIAGRAM 6.5.8.3 : PARKING ADVICE FOR CYCLE PARKING PLACE

ALL DIMENSIONS IN MILLIMETRES



DIAGRAM 6.5.8.4 : GENERAL ADVICE TO PUBLIC FOR CYCLE PARKING PLACE

ALL DIMENSIONS IN MILLIMETRES



6.6 Other Cyclist Facilities

6.6.1 Bus Only Lanes

6.6.1.1 Regulation 12 of the Road Traffic (Traffic Control) Regulations does not specifically exclude cyclists from using bus only lanes, and therefore such facilities may be utilized by cyclists.

6.6.1.2 However with-flow bus lanes are often relatively narrow and are not suitable for use by both buses and cyclists, and therefore, cyclists should not be encouraged to use such facilities where the bus lane is less than 3.5m wide.

6.6.1.3 In the case of contra-flow bus lanes again it is advisable that cyclists in any large numbers are not encouraged to use these lanes unless they are at least 3.5m wide. Additionally care should be taken that the junctions can cater for the safe movement of cyclists.

6.6.1.4 TS 137 can where necessary be erected to prohibit cyclists from using bus only lanes, but it should be ensured that a desirable alternative route for cyclists is available.

6.6.2 Bus Only Streets

6.6.2.1 Where bus only streets are indicated by traffic sign 117, all motor vehicles prohibited, together with the supplementary plate, "Except Franchised Buses", traffic sign 708, cyclists may use these streets.

6.6.2.2 Whether or not it is desirable to encourage cyclists to use bus only streets will depend upon the numbers involved, and whether the junctions are suitable for cyclists.

6.6.2.3 In most cases bus only streets will be located in busy urban areas where traffic on the adjoining streets is heavy and the resultant environment will generally discourage cycling activity. The use of bus only streets by cyclists under these circumstances may therefore be tolerated.

6.6.3 Pedestrian Streets

6.6.3.1 Generally cyclists should not be permitted to use pedestrian or pedestrianised streets.

6.6.3.2 Where partial pedestrianisation, that is where vehicles are permitted at certain times, then cyclists can also be permitted, but it is preferable that they be confined to a defined cycle path and not allowed to cycle freely in any part of the street.

6.6.3.3 If it is agreed that cyclists are to be permitted to use a fully pedestrianised street, then as mentioned in paragraph 6.6.3.2 above, defined cycle paths using the markings described in the previous sections should be created. It is also preferable that the cycle path through these streets is of a contrasting colour or texture, and/or there are kerbs to define the extent of the cycle path.

6.6.3.4 Because there will generally be footway areas on both sides of the cycle path it will be necessary to erect both traffic sign 179 and traffic sign 180 on their respective sides of the cycle path.

6.6.3.5 Although it will generally not be appropriate to allow cycles to be ridden through pedestrian streets, pushing the cycles can be tolerated. In this respect therefore a cycling restricted zone should be created by the erection of traffic signs 227 and 228, cycling restricted, and end of cycling restriction, respectively, at both ends and both sides of the streets.

6.6.4 Cycle Lanes

6.6.4.1 In other countries, notably the U.K., cycle lanes have been created, utilising part of the carriageway, separating cyclists from other traffic by means of a lane marking and/or refuges.

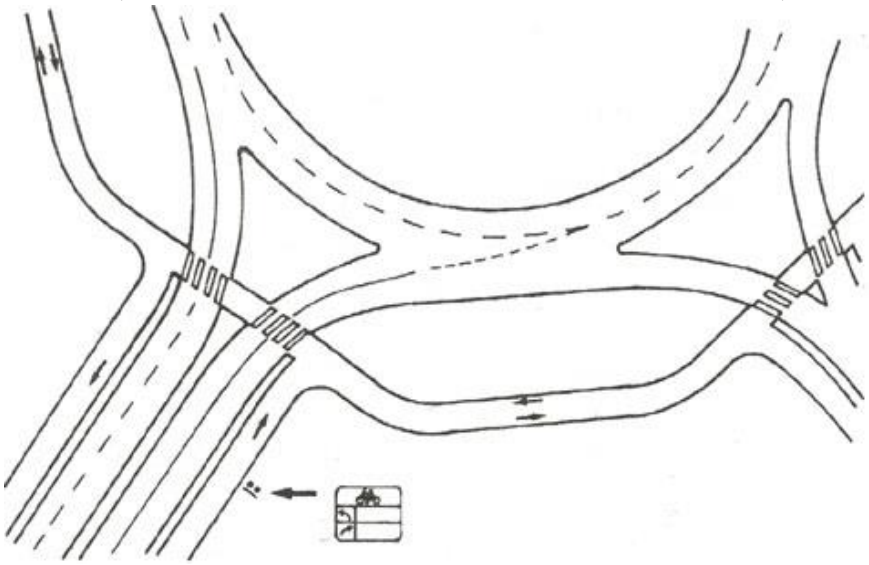
6.6.4.2 Generally such cycle lanes will not be suitable for use in the Territory for the following reasons : -

(i) Legislation does not presently provide for a cycle lane marking, and therefore whilst under Regulation 8 of the Road Traffic (Traffic Control) Regulations, suitable markings may be utilised, it would not be an offence for motor vehicles to be driven across the marking to the possible danger of cyclists.

(ii) A large proportion of the cycling population are recreational cyclists, on hired bikes, with little riding experience or road traffic awareness, and therefore the use of cycle lanes could put these cyclists at some risk.

6.6.4.3 Although cycle lanes are generally not recommended, Diagrams 6.6.4.1 to 6.6.4.2 illustrating arrangements that have been used in other countries are included for reference. While certain of these arrangements may be suitable in some locations in the Territory, the contra-flow cycle lane arrangement should not be used, as the legislation does not provide for the necessary regulatory signs, and to use advisory signs is not appropriate.

DIAGRAM 6.6.4.1 : CYCLE LANE JUNCTION TREATMENT
SWEDISH CYCLE LINK AVOIDING ROUNDABOUT
(REVERSE HAND FOR DRIVING ON THE LEFT)



SCANDINAVIAN TWO-PHASE LEFT (RIGHT) TURN
(REVERSE HAND FOR DRIVING ON THE LEFT)

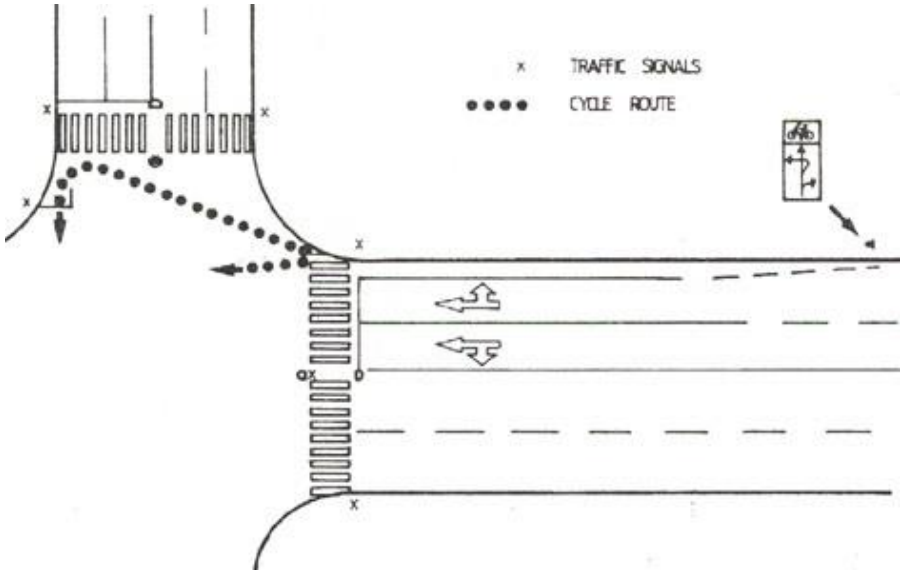
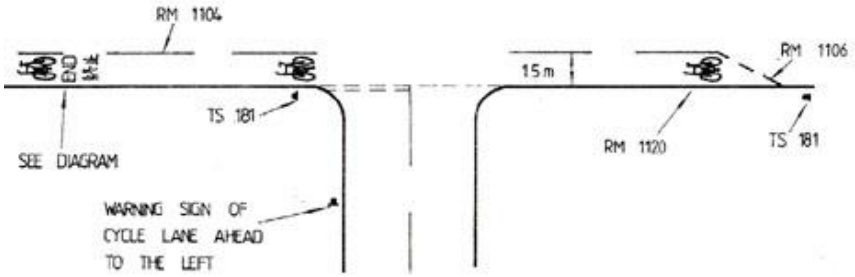
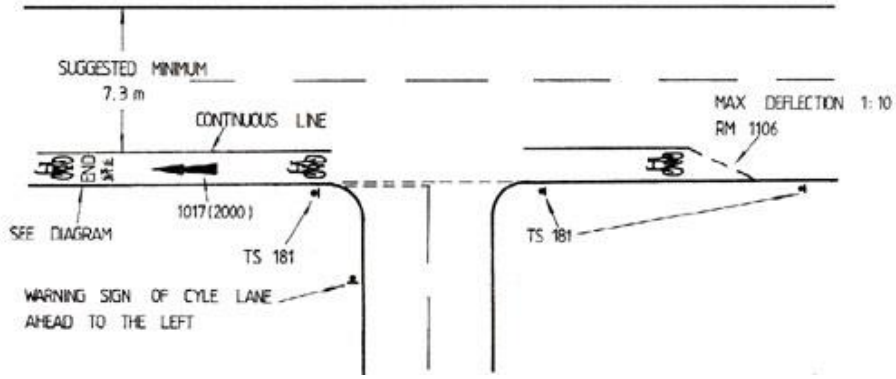


DIAGRAM 6.6.4.2 : CYCLE LANE ARRANGEMENT BASED ON U.K. PRACTICE

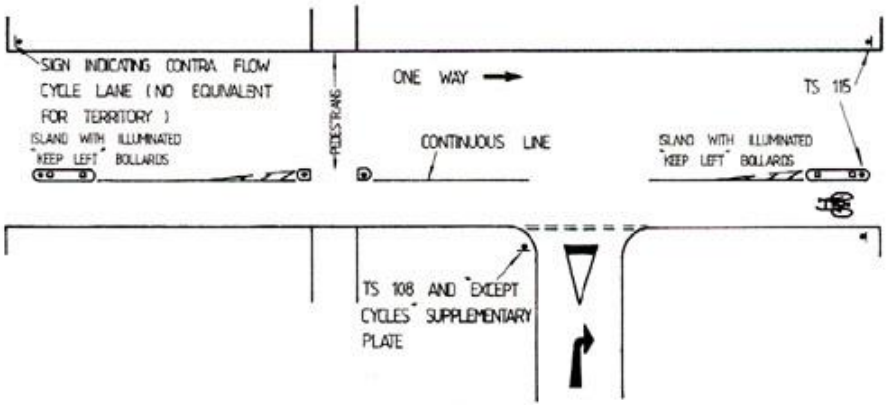
(i) WITH-FLOW CYCLE LANE ARRANGEMENT



(ii) PREFERRED WITH-FLOW CYCLE LANE ARRANGEMENT



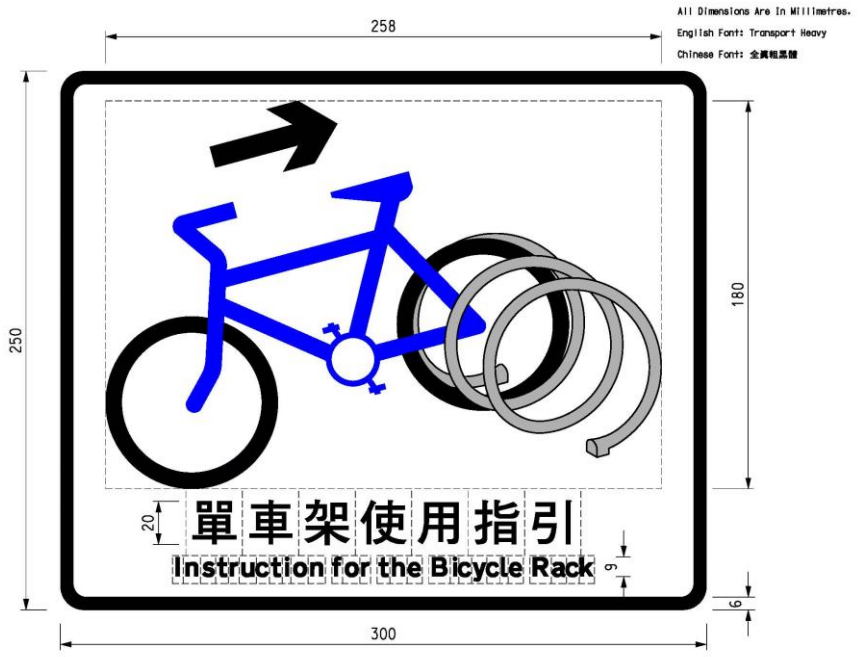
(iii) CONTRA-FLOW CYCLE LANE ARRANGEMENT (NOT SUITABLE FOR TERRITORY CONDITIONS)



APPENDIX – SAMPLE OF USER'S INSTRUCTION BOARD FOR CYCLE PACKING FACILITIES

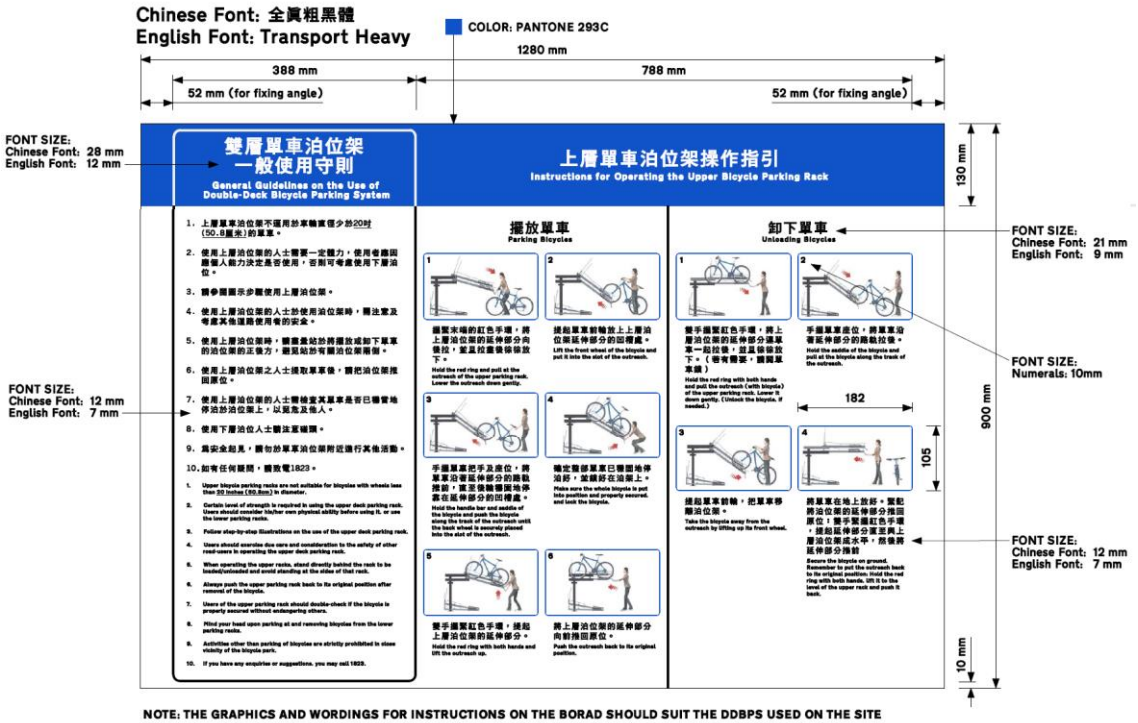
(i) Sample of User's Instruction Board for Spiral Parking Rack

This shall be read in conjunction with Volume 3 chapter 6.5.6.4.



(ii) Sample of User's Instruction Board for Double Deck Parking System

This shall be read in conjunction with Volume 3 chapter 6.5.7.6.



NOTE: THE GRAPHICS AND WORDINGS FOR INSTRUCTIONS ON THE BORAD SHOULD SUIT THE DDBPS USED ON THE SITE

TPDM Volume 3 Chapter 7 – Pedestrian Wayfinding Signage System

7.1 References

1 The Laws of Hong Kong

2 Transport Planning & Design Manual, Volume 2 - Highway Design Characteristics, Transport Department

7.2 Introduction

7.2.1 General

7.2.1.1 The design requirement in this Section applies to sign face details of pedestrian wayfinding signage system in Hong Kong. It is important that all pedestrian wayfinding signs erected on public roads can be adequately read and understood for serving the directional guidance purpose.

7.2.1.2 The guidelines for planning and signing arrangement together with sign type formats of pedestrian wayfinding signage system are provided in Volume 6 Chapter 10.

7.3 Map-based Totem

7.3.1 Content Arrangement

Address Panel

7.3.1.1 Sub-district is shown for representation of a large area. When it is used at the address, it allows the users to acknowledge their current location.

7.3.1.2 The standard sub-district names listed in Table 7.3.1.1 are all place names that generally adopted for vehicular directional signs. All sub-districts used on pedestrian wayfinding signs should be names in common usage and generally recognised by pedestrians.

Table 7.3.1.1
List of Sub-district

Hong Kong Island	Kowloon	New Territories
Aberdeen	Beacon Hill	Airport
Ap Lei Chau	Cha Kwo Ling	Au Tau
Causeway Bay	Cheung Sha Wan	Clear Water Bay
Central	Cheung Sha Wan(W)	Discovery Bay
Chai Wan	Choi Hung	Fairview Park
Chung Hom Kok	Chuk Yuen	Fanling
Cyberport	Cruise Terminal	Fo Tan
Hang Fa Tsuen	Diamond Hill	Ha Tsuen
Happy Valley	Hang Hau	Hin Tin
Kennedy Town	Ho Man Tin	Heung Yuen Wai
Kornhill	Hung Hom	Hong Lok Yuen
Mid-levels	Hung Hom Bay	Hung Shui Kiu
North Point	Kai Tak	Kam Tin
Pok Fu Lam	King's Park	Kwai Chung
Quarry Bay	Kowloon Bay	Kwai Fong
Repulse Bay	Kowloon City	Kwai Hing
Sai Wan	Kowloon Tong	Kwu Tung
Sai Wan Ho	Kwun Tong	Lai King
Sai Ying Pun	Kwun Tong Business Area	Lam Tei
Shau Kei Wan	Lai Chi Kok	Lantau(S) or South Lantau
Shek O	Lai Chi Kok (S)	Lau Fau Shan
Shek Tong Tsui	Lam Tin	Lei Muk Shue
Sheung Wan	Lok Fu	Lok Ma Chau
Shouson Hill	Ma Tau Wai	Long Ping
Stanley	Mei Foo	Luen Wo Hui
Siu Sai Wan	Mong Kok	Luk Keng
Tai Hang	Ngau Chi Wan	Lung Kwu Tan
Tai Koo Shing	Ngau Tau Kok	Ma On Shan
The Peak	Ngong Shuen Chau	Ma On Shan Town Centre
Wah Fu	Ping Shek	Ma Liu Sui
Wan Chai	Po Lam	Ma Wan
Wan Chai (N)	San Po Kong	Man Kam To
Wong Chuk Hang	Sham Shui Po	Mui Wo
	Sham Shui Po (W)	Ngong Ping
	Shek Kip Mei	On Lok Tsuen
	Sau Mau Ping	Ngong Ping
	Tai Kok Tsui	Pak Shek Kok
	Tai Kok Tsui (W)	Pak Tam Chung
	Tiu Keng Leng	Pat Heung
	To Kwan Wan	Ping Che
	Tsim Sha Tsui	Ping Shan
	Tsim Sha Tsui East	Pui O

Tsz Wan Shan
Wang Tau Hom
West Kowloon Cultural District
West Kowloon Terminus
Wong Tai Sin
Yau Ma Tei
Yau Ma Tei (W)
Yau Tong
Yau Yat Chuen

River Trade Terminal
Sai Sha
Sai Kung Sam Shing Hui
San Tin
San Hui
Science Park
Sha Tau Kok
Sha Tin
Sha Tin Central
Sham Tseng
Shek Kong
Shek Lei
Shek Pik
Shek Wu Hui
Shek Yam
Shenzhen Bay
Sheung Shui
Sheung Tak
Siu Lam
Siu Lek Yuen
So Kwun Wat
Tai Hing
Tai Mei Tuk
Tai O
Tai Po
Tai Po Industrial Estate
Tai Po Kau
Tai Po Market
Tai Po Town Centre
Tai Po (N),(S)
Tai Shui Hang
Tai Wai
Tin Shui Wai
Tai Lin Pai
Tai Wo Hau
Tin Sam
Tin Shui Wai (N),(S),(E),(W)
Ting Kau
Tiu Keng Leng
Tseung Kwan O
Tseung Kwan O (E)
Tseung Kwan O Industrial Estate
Tseung Kwan O Town Centre
Tsing Lung Tau
Tsing Yi
Tsing Yi Town Centre
Tsing Yi (N),(S),(E)
Tsuen Wan
Tsuen Wan Central
Tsuen Wan (N),(S)
Tsui Lam
Tuen Mun
Tuen Mun Town Centre
Tuen Mun (W)
Tung Chung
Tung Chung Town Centre
Tung Chung (W),(N)
Tung Tau Industrial Area
Wo Hop Shek
Wu kai sha
Yuen Chau Kok
Yuen Long

		Yuen Long (C),(S) Yuen Long Industrial Estate

7.3.1.3 Neighbourhood refer to local identification. It could be the name of major development, landmark building, large public housing estate, main road, major transport termini, town centre, major industrial estate, convention exhibition centre, major public park or theme park, major public beach, stadium, university and tertiary institution, government building and service centre, major community facility, etc.

7.3.1.4 Neighbourhood can be categorised to Super Primary, Primary, Secondary and Tertiary level according to their importance. Appendix 1 has summarised the categorisation and prioritisation of neighbourhoods, however, local context should be considered when evaluating the inclusion of individual destinations.

7.3.1.5 The names of non-government facilities (e.g. Red Cross Centre, religious organization, etc.), major retail, commercial or residential developments which are of landmark value or of a significant size may be used as destinations / neighbourhood if there is no suitable neighbourhood within the district of the sign. Consideration should also be given to the scale of the developments, importance of buildings, community value and facilities provided for the general public. It should however be noted that the use of private buildings as a destination / neighbourhood should be avoided as far as possible unless the private development is a major representative development in the local area and the use of its name is considered most appropriate. For the use of the names of private developments, approval from Transport Department D1 rank officer of relevant offices should be sought in advance.

7.3.1.6 Neighbourhood in address must be directly adjacent to and clearly visible from the sign. It should however be noted that the place name should not be replicated on the directional panel. In general, the Neighbourhood used in address would be limited to (i) transport facilities (e.g., MTR Station, ferry pier, public transport interchange, and cruise terminal), (ii) attractions (e.g. cultural and historical building, heritage and famous park), and (iii) public facilities (e.g. government office, hospital and court).

7.3.1.7 The more important neighbourhoods, as shown in Appendix 1, should be in higher priority in application. Nevertheless, designers should choose the best name to suit individual circumstances.

Directional Panel

7.3.1.8 The directional panel aims to display the neighbourhoods with arrow indicating its direction to guide the users. Normally only those neighbourhoods close to the sign would be applicable to avoid too many neighbourhoods displayed confusing the pedestrians. In this connection, the recommended number of neighbourhoods should be displayed are summarised in Table 7.3.1.3. Designers should note that the arrangement would be subject to the word width, number of directions or word alignment.

7.3.1.9 Some measures to select appropriate neighbourhoods to be displayed in directional panel include:

(i) by the level of importance as per Appendix 1, neighbourhood with lower priority should be abandoned.

(ii) by the actual distance to wayfinding signage, high priority is granted to neighbourhood closer to the wayfinding signage.

(iii) destinations should be grouped into a more global name of the area, e.g. Central Piers for Central Piers no.1-9 and Water Taxi.

7.3.1.10 Seven directions are illustrated in Diagram 7.3.1.1. Neighbourhoods should be identified with a direction to its most preferred route, while the route may not always the quickest route or the shortest path but

should be developed on consideration of several factors, such as walkability-friendly, road safety, public walking behavior etc.

DIAGRAM 7.3.1.1 : ARROWS FOR WAYFINDING SYSTEM



7.3.1.11 The neighbourhoods with same direction would be grouped by its direction arrow, then sorted by distance from the nearest to farthest to the signs within the same group. If two or more directions are defined, the placement of direction should be in a consistent order. The direction placement order applied to directional panel would follow Table 7.3.1.2.

Table 7.3.1.2
Type and Placement Order of Direction

Placement Order	Arrow Type	Direction
1	↑	Straight ahead
2	↖ / ↗ (1)	Ahead left / Ahead right
3	← / →	Left / Right
4	↙ / ↘ (1)	Bottom left / Bottom right

NOTES : WHEN THE ARROWS ARE APPLIED TO INDICATE THE ROUTE VIA GRADE-SEPARATED WALKWAYS, APPROPRIATE PICTOGRAM SHOULD BE APPLIED.

7.3.1.12 The actual size of the arrow being related to the font size of the sign on which it is to be displayed, see Diagram 7.3.2.9 & Diagram 7.4.2.3.

7.3.1.13 When applied to directional panel of map-based totem and wall/ railing/ ceiling mounted route marker, a consistent arrow arrangement shall be followed. If more than one column found on the directional panel, “Right” and “Right Up” should be always at the right column; “Left” and “Left Up” should be always at the left column, while “Up” could be placed on either column with available space. If more than one direction on a column, “Up” shall be always placed at first, then followed by “Right Up” or “Left Up” and then by “Right” or “Left”, “Right Down” or “Left Down” shall be always on the lower part of directional panel if there are more than one direction on the panel.

Table 7.3.1.3
Number of Direction Groups and Neighbourhoods for Map-based Totem

Signage Type	Maximum Number of Direction Groups per Panel	Maximum Number of Neighbourhoods per Panel
Gateway Totem	4	10
Navigation Totem	2	5
Wall-mounted Totem	3	9

Focus Map, Wide Map & Destination Index Panel

7.3.1.14 The importance of neighbourhoods to be displayed in focus map and wide map are summarised in Appendix 1. The map space shall reserve for neighbourhoods with high priority and can aid for wayfinding purpose, appropriate spacing shall be maintained in between different map elements to enhance the legibility of map. Designers should choose the best presentation method to suit individual circumstances.

7.3.1.15 In focus map (with 5-minute walk circle), if the neighbourhoods could represent the local community or with useful navigational feature or with prominence or architectural merit, they are eligible to be highlighted in 3D illustrations. The selected neighbourhood should be well established, well known and are unlikely to change. The 3D assets should be distributed evenly across the map as much as practically possible.

7.3.1.16 In wide map (with 15-minute walk circle) there are usually more than one sub-districts. The naming of sub-district is dealt with in paragraphs 7.3.1.1 to 7.3.1.2.

7.3.1.17 Neighbourhood names displayed in destination index panel should tally with those appeared in the focus map. The neighbourhoods would be listed in 4 categories: (1) public transports, (2) parks (3) local attractions and (4) shopping. The estimated walking time and its associated grid as displayed in focus map would be shown.

7.3.1.18 Legend should include all the pictogram and graphic used in the directional panel, focus map, wide map and destination index panel. Pictograms shall be listed with its descriptions in as shown in Diagram 7.3.2.3.

Base Panel

7.3.1.19 The base panel displays the Transport department's name and logo and the signage identification code for identification and inventory purpose. The signage identification code is composed by its district, sign type and sign number. The codes of district and sign type are presented as tabulated in Table 7.3.1.4 & Table 7.3.1.5. Designers should choose the appropriate district and sign type for each individual sign. The sign number refer to 4-digit number following the production number. For 2-sided Map-based Totems, the different sign faces would be denoted as "A" or "B" (e.g. 0001A and 0001B).

Table 7.3.1.4
Code of District in Base Panel

Hong Kong Island	Code	Kowloon	Code	New Territories	Code
Aberdeen	A	Beacon Hill	BH	Airport	AA
Ap Lei Chau	ALC	Cha Kwo Ling	CKL	Au Tau	AT
Causeway Bay	CB	Cheung Sha Wan	CSW	Clear Water Bay	CWB
Central	CT	Cheung Sha Wan(W)	CSW	Discovery Bay	DB
Chai Wan	CW	Choi Hung	CH	Fairview Park	FP
Chung Hom Kok	CHK	Chuk Yuen	CY	Fanling	F
Cyberprot	CP	Cruise Terminal	CT	Fo Tan	FT
Hang Fa Tsuen	CWHFT	Diamond Hill	DH	Ha Tsuen	HT
Happy Valley	HV	Hang Hau	HHAU	Hin Tin	HIN
Kennedy Town	KTN	Ho Man Tin	HMT	Heung Yuen Wai	HYW
Kornhill	KH	Hung Hom	HH	Hong Lok Yuen	HLY
Mid-levels	ML	Hung Hom Bay	HH	Hung Shui Kiu	HSK
North Point	NPT	Kai Tak	KAIT	Kam Tin	KAMT
Pok Fu Lam	PFL	King's Park	KP	Kwai Chung	KC
Quarry Bay	QB	Kowloon Bay	KB	Kwai Fong	KF
Repulse Bay	RB	Kowloon City	KCTY	Kwai Hing	KHG
Sai Wan	SWN	Kowloon Tong	KLNT	Kwu Tung	KWUT
Sai Wan Ho	SWH	Kwun Tong	KT	Lai King	LK
Sai Ying Pun	SYP	Kwun Tong Business Area	KT	Lam Tei	LT
Shau Kei Wan	SKW	Lai Chi Kok	LCK	Lantau(S) or South Lantau	LANT
Shek O	SO	Lai Chi Kok (S)	LCK	Lau Fau Shan	LFS

Shek Tong Tsui	STT	Lam Tin	LAMT	Lei Muk Shue	LMS
Sheung Wan	SW	Lok Fu	LF	Lok Ma Chau	LMC
Shouson Hill	SHOU	Ma Tau Wai	MTW	Long Ping	LP
Stanley	STY	Mei Foo	MF	Luen Wo Hui	LWH
Siu Sai Wan	SSW	Mong Kok	MK	Luk Keng	LUK
Tai Hang	TAIH	Ngau Chi Wan	NCW	Lung Kwu Tan	LKT
Tai Koo Shing	TKS	Ngau Tau Kok	NTK	Ma On Shan	MOS
The Peak	PEAK	Ngong Shuen Chau	NSC	Ma On Shan Town Centre	MOS
Wah Fu	WF	Ping Shek	PS	Ma Liu Sui	MLS
Wan Chai	WC	Po Lam	PL	Ma Wan	MWN
Wan Chai (N)	WC	San Po Kong	SPK	Man Kam To	MKT
Wong Chuk Hang	WCH	Sham Shui Po	SSP	Mui Wo	MW
		Sham Shui Po (W)	SSP	Ngong Ping	NP
		Shek Kip Mei	SKM	On Lok Tsuen	OLT
		Sau Mau Ping	SMP	Ngong Ping	NP
		Tai Kok Tsui	TKT	Pak Shek Kok	PSK
		Tai Kok Tsui (W)	TKT	Pak Tam Chung	PTC
		Tiu Keng Leng	TKL	Pat Heung	PH
		To Kwan Wan	TKW	Ping Che	PC
		Tsim Sha Tsui	TST	Ping Shan	PING
		Tsim Sha Tsui East	TST	Pui O	PO
		Tsz Wan Shan	TWS	River Trade Terminal	RTT
		Wang Tau Hom	WTH	Sai Sha	SAIS
		West Kowloon Cultural District	WKCD	Sai Kung Sam Shing Hui	SKSSH
		West Kowloon Terminus	WKT	San Tin	SANT
		Wong Tai Sin	WTS	San Hui	SH
		Yau Ma Tei	YMT	Science Park	SP
		Yau Ma Tei (W)	YMT	Sha Tau Kok	STK
		Yau Tong	YT	Sha Tin	ST
		Yau Yat Chuen	YYC	Sha Tin Central	ST
				Sham Tseng	SHAM
				Shek Kong	SK
				Shek Lei	SLEI
				Shek Pik	PIK
				Shek Wu Hui	SWH
				Shek Yam	SY
				Shenzhen Bay	SZB
				Sheung Shui	SS
				Sheung Tak	STAK
				Siu Lam	SL
				Siu Lek Yuen	SLY
				So Kwun Wat	SKWT
				Tai Hing	TH
				Tai Mei Tuk	TMT
				Tai O	TO
				Tai Po	TP
				Tai Po Industrial Estate	TP
				Tai Po Kau	TPK
				Tai Po Market	TP
				Tai Po Town Centre	TP
				Tai Po (N),(S)	TP
				Tai Shui Hang	TSH
				Tai Wai	TW
				Tin Shui Wai	TSW
				Tai Lin Pai	TLP
				Tai Wo Hau	TWH
				Tin Sam	TS
				Tin Shui Wai (N),(S),(E),(W)	TSW
				Ting Kau	TK
				Tiu Keng Leng	TKL
				Tseung Kwan O	TKO
				Tseung Kwan O (E)	TKO
				Tseung Kwan O Industrial Estate	TKO
				Tseung Kwan O Town Centre	TKO
				Tsing Lung Tau	TLT
				Tsing Yi	TY
				Tsing Yi Town Centre	TY
				Tsing Yi (N),(S),(E)	TY
				Tsuen Wan	TWAN
				Tsuen Wan Central	TWAN
				Tsuen Wan (N),(S)	TWAN
				Tsui Lam	TL
				Tuen Mun	TM

				Tuen Mun Town Centre	TM
				Tuen Mun (W)	TM
				Tung Chung	TC
				Tung Chung Town Centre	TC
				Tung Chung (W),(N)	TC
				Tung Tau Industrial Area	YL
				Wo Hop Shek	WHS
				Wu kai sha	WKS
				Yuen Chau Kok	YCK
				Yuen Long	YL
				Yuen Long (C),(S)	YL
				Yuen Long Industrial Estate	YL
				Yuen Long Industrial Estate	

Table 7.3.1.5
Code of Sign Type in Base Panel

Sign Type	Code
Gateway Totem	GT
Navigation Totem	NT
Wall Mounted Totem	WT
Broad Map Totem	BT

Abbreviation

7.3.1.20 Abbreviations are used to reduce the overall word width. Abbreviation is particularly useful for panels/maps with limited space or for neighbourhood names with substantial width. Abbreviated names should be understandable by the general public at a glance and a consistent abbreviation should be adopted along a route or over an area. Common abbreviations are illustrated in Table 7.3.1.6. Nevertheless, abbreviation should not be used in the address panel and naming of MTR stations.

Table 7.3.1.6
Abbreviation Table

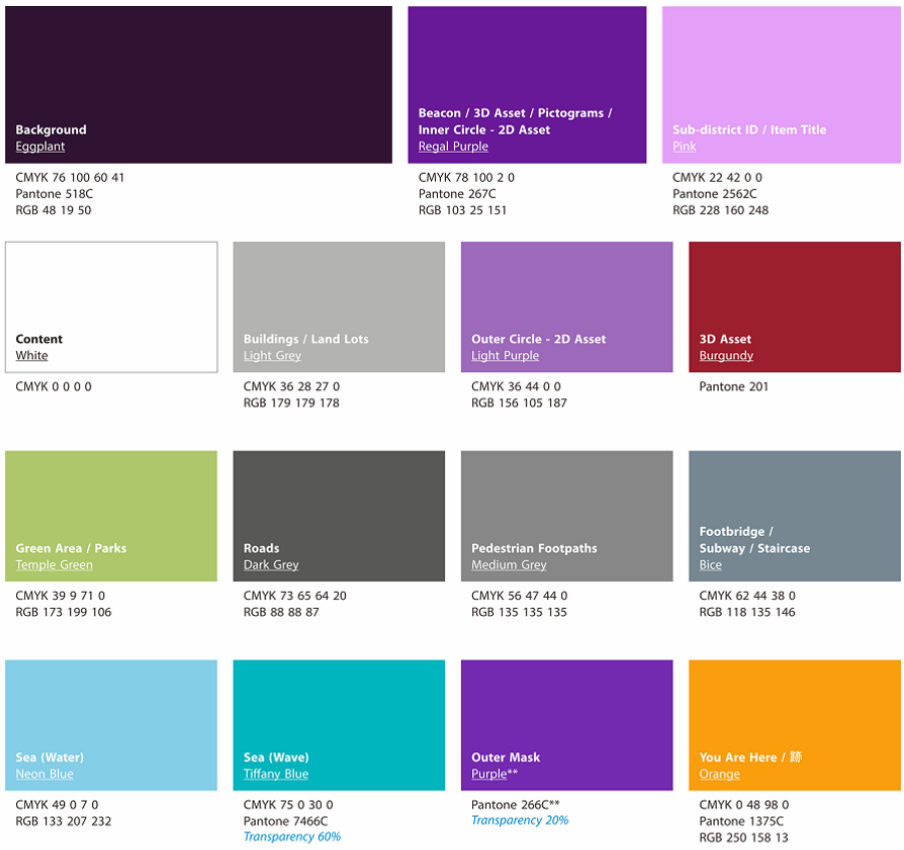
Word	Abbreviation
Hong Kong	HK
And	&
Building	Bldg
Boulevard	Blvd
Estate	Est
Station	Stn
Square	Sq
Road	Rd
Street	St
Government	Govt
Lane	Ln
North	N
South	S
West	W
East	E

7.3.2 Artwork design

Colour Palette for Artwork

7.3.2.1 The colour palette and colour codes as shown in Diagram 7.3.2.1 should be applied to the design and production of pedestrian wayfinding signages.

DIAGRAM 7.3.2.1 : COLOUR PALETTE FOR WAYFINDING SYSTEM

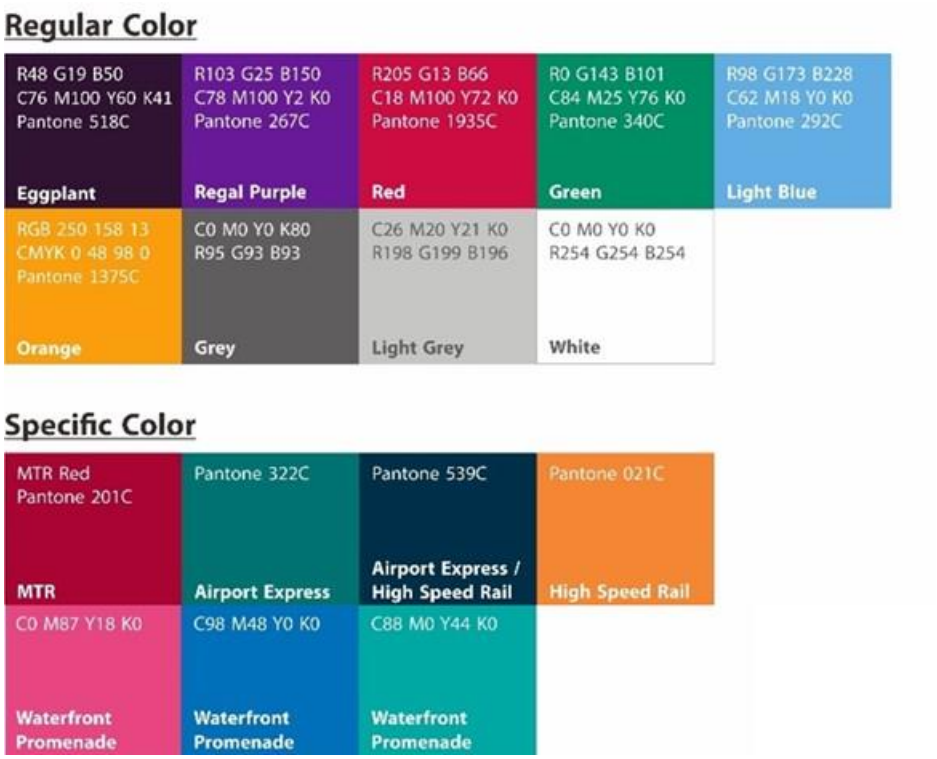


****20% transparency outer mask of Pantone 266C**
is applied to the outer area of the 5-min walking circle (Focus Map)
and 15-min walking circle (Wide Map).

Colour Palette for Pictogram

7.3.2.2 The colour palette and colour codes as shown in Diagram 7.3.2.2 is designed for the usage of pictogram. The regular colour shall be always applied unless the pictograms are designed according to the existing symbol with specific colour of the neighbourhoods.

DIAGRAM 7.3.2.2 : COLOUR PALETTE FOR PICTOGRAM



7.3.2.3 Pictograms would be adopted to directional panel, maps & destination index panel on the map-based totems. Same set of pictograms would also be applied to directional panel of route markers.

7.3.2.4 Designers should choose the best pictogram to suit individual circumstance. All pictograms used on signs should be generally understandable by pedestrian. New pictogram should be considered if those as shown in Diagram 7.3.2.3 are not able to best suit the respective neighbourhood.

7.3.2.5 Designers should follow the design requirement for neighbourhood with specific logo or colour, i.e.HK Scout Centre and MTR.

7.3.2.6 At any one time therefore, the respective management office and related management B/Ds are in the best position to advise on the appropriateness of pictogram(s), taking into account, if necessary, of the views of the District Office and other relevant government departments.

DIAGRAM 7.3.2.3 : PICTOGRAM FOR WAYFINDING SYSTEM



Beacon

7.3.2.7 The beacons for different sign type are in fixed deign and dimensions, as shown in Diagram 7.3.2.4. “Walk in Hong Kong” graphic shall be appeared on all beacons except for finger post, while the walking man should be appeared on beacon on all type of signs. Adjustment is not permitted unless approval is granted from the Project Office and Transport Department. .

DIAGRAM 7.3.2.4 : GRAPHIC FOR "WALK IN HONG KONG" LOGO AND WALKING MAN



Typeface

7.3.2.8 The alphanumeric characters used on pedestrian wayfinding signs are transport alphabet while Noto Sans HK is adopted for Chinese characters as shown in Diagram 7.3.2.5.

7.3.2.9 Transport Heavy and Noto Sans HK-Bold are for words in heading to catch attention, e.g. address panel, while Transport Medium and Noto Sans HK Medium are generally for all other content, e.g. directional panel.

7.3.2.10 The application of typeface for map-based totem and route marker would be further discussed in Table 7.3.2.2 to Table 7.3.2.4 and Table 7.4.2.1 to Table 7.4.2.2 respectively.

DIAGRAM 7.3.2.5 : TYPEFACE

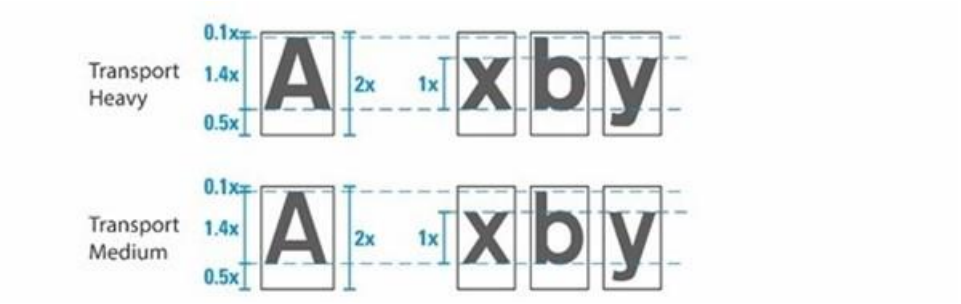


7.3.2.11 The punctuation marks should follow Transport Heavy / Medium and Noto Sans HK for English and Chinese respectively.

Font Size

7.3.2.12 The size of the letters or numerals, in either the Transport Medium or Transport Heavy alphabets, are related to the height of the lower case "x", i.e. the x-height. The upper-case letters are 1.4 times the x-height.

DIAGRAM 7.3.2.6 : x-HEIGHT



7.3.2.13 English alphabets, Chinese characters and numerals are with fixed height in each panel of Map-based Totem as illustrated in Diagram 7.3.2.7.

DIAGRAM 7.3.2.7 : FONT ON MAP-BASED TOTEM



7.3.2.14 The typography of Address Panel, Directional Panel, Map & Destination Index Panel and Base Panel should follow the details listed in Table 7.3.2.2 and the artwork design for map-based totem is illustrated in Diagram 7.3.2.9. Adjustment of artwork design is not permitted, unless approval from the Project Office and Transport Department has been obtained.

7.3.2.15 For directional panel more than one column, a minimum of 40mm clear width must be maintained between the two columns.

7.3.2.16 Maximum five lines i.e. two lines for Chinese characters and three lines for English alphabets shall be arranged for a single place name. If exceeded, kerning or condense on word(s) shall be applied. The English alphabets, Chinese characters and numerals adopt optical kerning in all cases. It should be noted if the width of the neighbourhood names is limited by the space available, settings in Table 7.3.2.1 can be applied to reduce the width of the neighbourhood names as a last resort.

Table 7.3.2.1
Arrangement to Words under Space constraint

Priority	English alphabets	Chinese characters
1	Splitting the name to another line	
2	Condensing the characters to a maximum of 10%	Reducing the kerning up to -35%
3	Reducing the kerning up to -25%	

7.3.2.17 It should be noted that in case the word width of the address exceeded the available width of the address panel such that more space would be required to accommodate the address, the available space for the directional panel would be reduced and the contents would need to adjust accordingly.

Table 7.3.2.2
Typography of Address Panel, Directional Panel, Map & Destination Index Panel and Base Panel

Index(1)	Location and category	Chinese Characters and Numerals	English Alphabets and Numerals	Pictogram
1	Address Panel – Sub-district	Typeface: Noto Sans HK Bold Height: 30mm Alignment: Left Colour: Pantone 2562C **Numeral** Typeface: Transport Medium Height: 30 mm Colour: Pantone 2562C	Typeface: Transport Heavy x-height: 15mm Case: Upper and lower Alignment: Left Colour: Pantone 2562C **Numeral** Typeface: Transport Medium Height: 21 mm Colour: Pantone 2562C	N/A
2	Address Panel – Neighbourhood	Typeface: Noto Sans HK Bold Height: 52mm Alignment: Left Colour: White **Numeral** Typeface: Transport Medium Height: 52 mm Colour: White	Typeface: Transport Heavy x-height: 21.5mm Case: Upper and lower Alignment: Left Colour: White **Numeral** Typeface: Transport Medium Height: 30 mm Colour: White	N/A
3	Directional Panel – Neighbourhood	Typeface: Noto Sans HK Medium Height: 30mm	Typeface: Transport Medium x-height: 15mm	Pictogram (next to neighbourhood) size:

		Alignment: Left and right Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 30 mm Colour: White	Case: Upper and lower Alignment: Left and right Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 21 mm Colour: White	36mm x 36mm Arrow size: 45mm x 45mm Pictogram (next to arrow) size: 45mm x 45mm
4	Map & Destination Index Panel - Legend	Typeface: Noto Sans HK Medium Height: 6mm Alignment: Left Colour: White	Typeface: Transport Medium x-height: 2.8mm Case: Upper and lower Alignment: Left Colour: White	Size: 8.4mm x 8.4mm
5	Map & Destination Index Panel – Category Name	Typeface: Noto Sans HK Bold Height: 7mm Alignment: Left Colour: Pantone 2562C	Typeface: Transport Heavy x-height: 3.5mm Case: Upper and lower Alignment: Left Colour: Pantone 2562C	N/A
6	Map & Destination Index Panel – Neighbourhood	Typeface: Noto Sans HK Medium Height: 7mm Alignment: Left Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 7 mm Colour: White	Typeface: Transport Medium x-height: 3.5mm Case: Upper and lower Alignment: Left Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 5 mm Colour: White	N/A
7	Map & Destination Index Panel – Walking time	Typeface: Noto Sans HK Medium Height: 6.5mm Alignment: Left Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 6.5mm Colour: White	Typeface: Transport Medium x-height: 3.5mm Case: lower Alignment: Left Colour: White	Size: 7.5mm x 7.5mm
8	Map & Destination Index Panel – Grid number	N/A	Typeface: Transport Medium x-height: 3.5mm Case: Upper Alignment: Left Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 3.5mm	N/A

			Colour: White	
9	Base Panel – Title of Serial number	Typeface: Noto Sans HK Medium Height: 5mm Alignment: Left Colour: White	Typeface: Transport Medium x-height: 2.9mm Case: Upper and lower Alignment: Left Colour: White	
10	Base Panel – Serial number	N/A	Typeface: Transport Medium x-height: 5.4mm Case: Upper Alignment: Left Colour: White **<u>Numeral</u>** Typeface: Transport Medium Height: 7.5mm Colour: White	

NOTES :

(1) THE INDEX REFERS TO DIAGRAM 7.3.2.9.

(2) THE KERNING OF CHINESE CHARACTERS, ENGLISH ALPHABETS AND NUMERAL ARE OPTICAL.

DIAGRAM 7.3.2.8 : ARTWORK DESIGN FOR MAP-BASED TOTEM

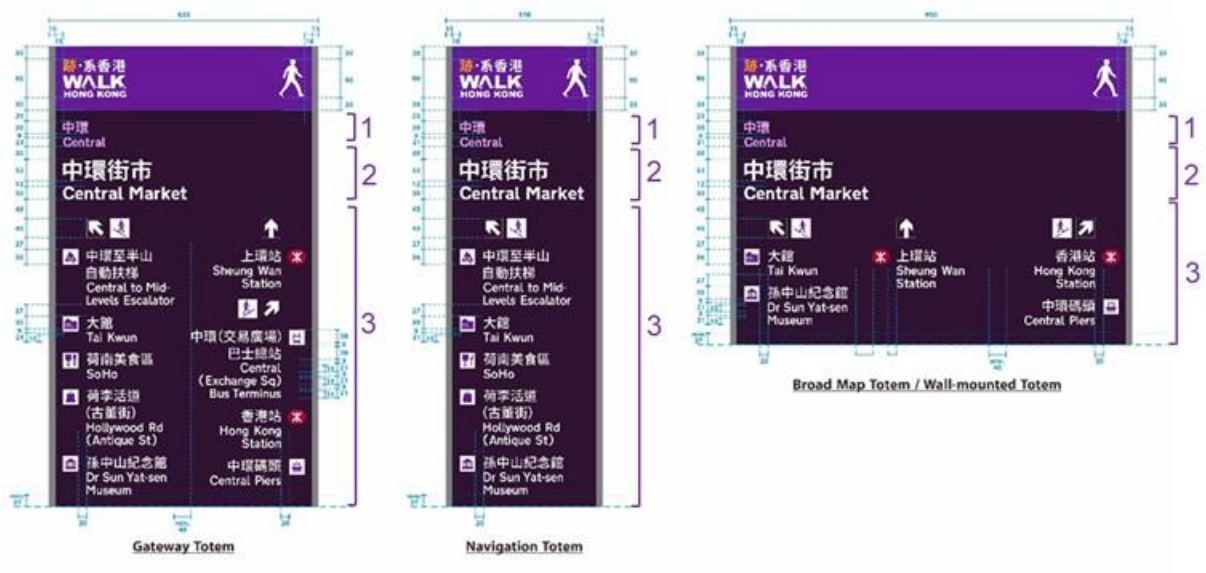


DIAGRAM 7.3.2.9 : ARTWORK DESIGN FOR MAP-BASED TOTEM (CONT')



All Map-based Totem

7.3.2.18 The typography in Table 7.3.2.3 is specifically designed for focus map. It should be noted if the coverage area of specific neighbourhood is large and popular, it could be defined as collective neighbourhood to outstand it in the focus map.

Table 7.3.2.3
Typography of Focus Map

Category	Chinese Characters	English Alphabets and Numerals	Pictogram
Collective Neighbourhood Name  	Typeface: Noto Sans HK Medium Height: 11mm Colour: White Opacity: 70% Numeral Typeface: Transport Medium	Typeface: Transport Medium x-height: 4.2mm Case: Upper and lower Colour: White Opacity: 30% Numeral	Size: 7mm x 7mm

	Height: 11 mm Colour: White Opacity: 70% Shadow: Mode: Normal Opacity: 70% X Offset: 0.2 Y Offset: 0.2 Colour: Black	Typeface: Transport Medium Height: 6 mm Colour: White Opacity: 70% Shadow: Mode: Normal Opacity: 70% X Offset: 0.2 Y Offset: 0.2 Colour: Black	
Neighbourhood Name  	Typeface: Noto Sans HK Medium Height: 4.5mm Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 4.5 mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.2 Y Offset: 0.2 Colour: Black	Typeface: Transport Medium x-height: 2mm Case: Upper and lower Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 3 mm Colour: White Opacity: 100% <u>Only English Name</u> Typeface: Transport Medium x-height:3 mm Case: Upper and lower Colour: White <u>Numeral</u> Typeface: Transport Medium Height: 4.2 mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.2 Y Offset: 0.2 Colour: Black	Size: 7mm x 7mm
Minor Road Name  	Typeface: Noto Sans HK Medium Height: 3mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.2 Y Offset: 0.2 Colour: Black	Typeface: Transport Medium x-height: 1.7mm Case: Upper Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.2 Y Offset: 0.2 Colour: Black	N/A

Major Road Name 	Typeface: Noto Sans HK Medium Height: 4mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.2 Y Offset: 0.2 Colour: Black	Typeface: Transport Medium x-height: 2.3mm Case: Upper Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.2 Y Offset: 0.2 Colour: Black	N/A
Neighbourhood Name on Grid 	Typeface: Noto Sans HK Medium Height: 4.6mm Alignment: Left Colour: Pantone 267C Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 4.6 mm Colour: Pantone 267C Opacity: 100%	Typeface: Transport Medium x-height: 2mm Case: Upper and lower Alignment: Left Colour: Pantone 267C Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 3 mm Colour: Pantone 267C Opacity: 100%	N/A
Walk Circle 	Typeface: Noto Sans HK Medium Height: 6.2mm Alignment: Left Colour: Pantone 267C Opacity: 100%	Typeface: Transport Medium x-height: 3mm Case: lower Alignment: Left Colour: Pantone 267C <u>Numeral</u> Typeface: Transport Medium Height: 5mm Colour: Pantone 267C Opacity: 100%	Walking man: 8mm x 8mm

NOTE : THE KERNING OF CHINESE CHARACTERS, ENGLISH ALPHABETS AND NUMERAL ARE OPTICAL.

7.3.2.19 The typography in Table 7.3.2.4 is specifically designed for wide map.

Table 7.3.2.4
Typography of Wide Map

<u>Category</u>	<u>Chinese Characters</u>	<u>English Alphabets and Numerals</u>	<u>Pictogram</u>
Sub-districts 	Typeface: Noto Sans HK Medium Height: 11mm Colour: White Opacity: 60% <u>Numeral</u> Typeface: Transport Medium Height: 11 mm	Typeface: Transport Medium x-height: 4.2mm Case: Upper and lower Colour: White Opacity: 60% <u>Numeral</u> Typeface: Transport Medium	N/A

	Colour: White Opacity: 60% Shadow: Mode: Multiply Opacity: 75% X Offset: 0.2 Y Offset: 0.2 Colour: Black	Height: 6 mm Colour: White Opacity: 60% Shadow: Mode: Multiply Opacity: 75% X Offset: 0.2 Y Offset: 0.2 Colour: Black	
Neighbourhood Name 	Typeface: Noto Sans HK Medium Height: 3.5mm Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 3.5 mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.1 Y Offset: 0.1 Colour: Black	Typeface: Transport Medium x-height: 1.4mm Case: Upper and lower Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 2 mm Colour: White Opacity: 100% <u>Only English Name</u> Typeface: Transport Medium Height:3.2 mm Case: Upper and lower Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 4.5 mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.1 Y Offset: 0.1 Colour: Black	N/A
Neighbourhood Name (only for MTR station and pier) 	Typeface: Noto Sans HK Medium Height: 4.5mm Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 4.5 mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100%	Typeface: Transport Medium x-height: 2mm Case: Upper and lower Colour: White Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 2.8 mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100%	Size: 7mm x 7mm

	X Offset: 0.1 Y Offset: 0.1 Colour: Black	X Offset: 0.1 Y Offset: 0.1 Colour: Black	
Road Name 	Typeface: Noto Sans HK Medium Height: 2mm Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.1 Y Offset: 0.1 Colour: Black	Typeface: Transport Medium x-height: 1.2mm Case: Upper Colour: White Opacity: 100% Shadow: Mode: Normal Opacity: 100% X Offset: 0.1 Y Offset: 0.1 Colour: Black	N/A
Walk Circle 	Typeface: Noto Sans HK Medium Height: 3mm Alignment: Left Colour: Pantone 267C Opacity: 100%	Typeface: Transport Medium x-height: 1.4mm Case: lower Alignment: Left Colour: Pantone 267C Opacity: 100% <u>Numeral</u> Typeface: Transport Medium Height: 2mm Colour: Pantone 267C Opacity: 100%	Walking man size: 4mm x 4mm

NOTE: THE KERNING OF CHINESE CHARACTERS, ENGLISH ALPHABETS AND NUMERAL ARE OPTICAL.

7.3.2.20 All the texts and pictograms are positioned to avoid clashing with other elements. All the texts or pictogram, except for road names, must be in horizontal and be placed as to accurately indicate the location to which they refer to. The texts and pictograms can be either align to left or right on best placement to ensure readability. For road names, the text should be rotated according to the actual road alignment where the orientation of the name shall be applied as listed in Diagram 7.3.2.10 and Diagram 7.3.2.11.

DIAGRAM 7.3.2.10 : ROAD NAME ALIGHMENT ON FOCUS MAP

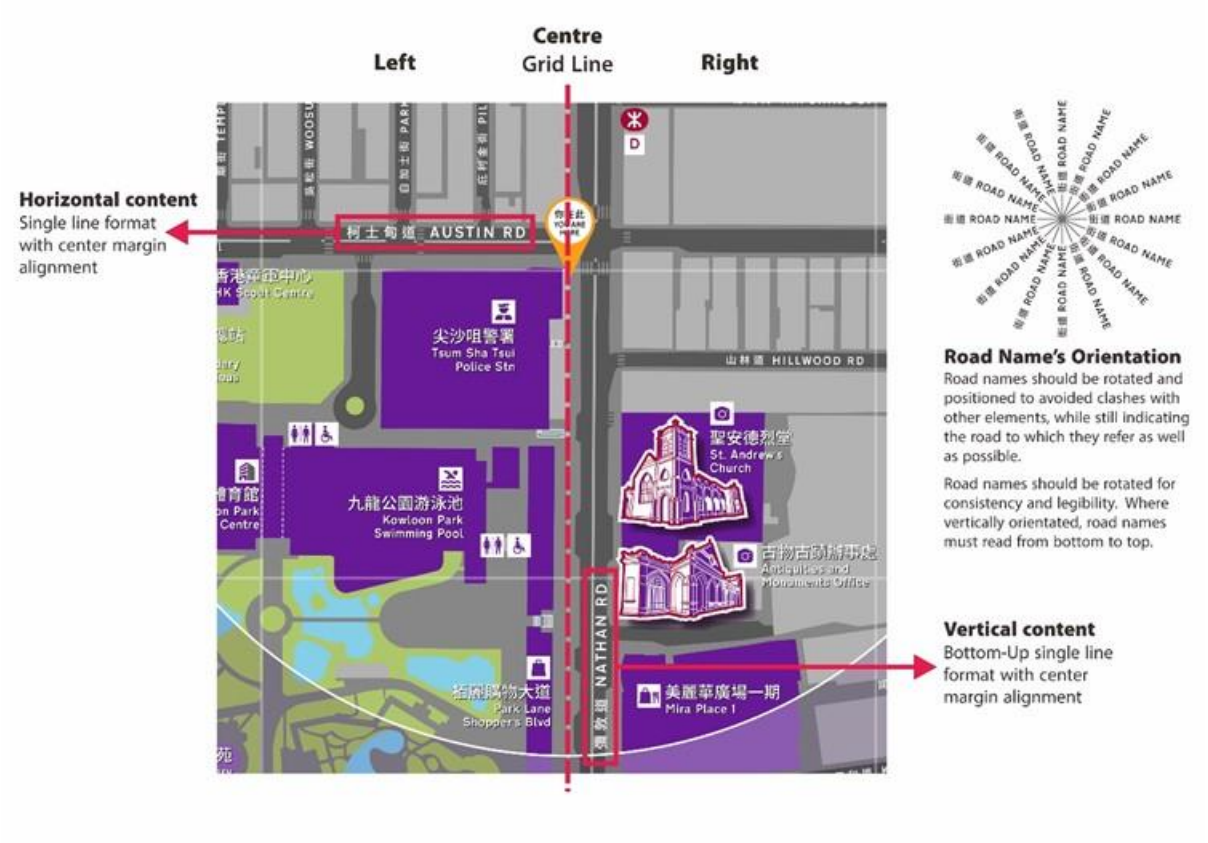
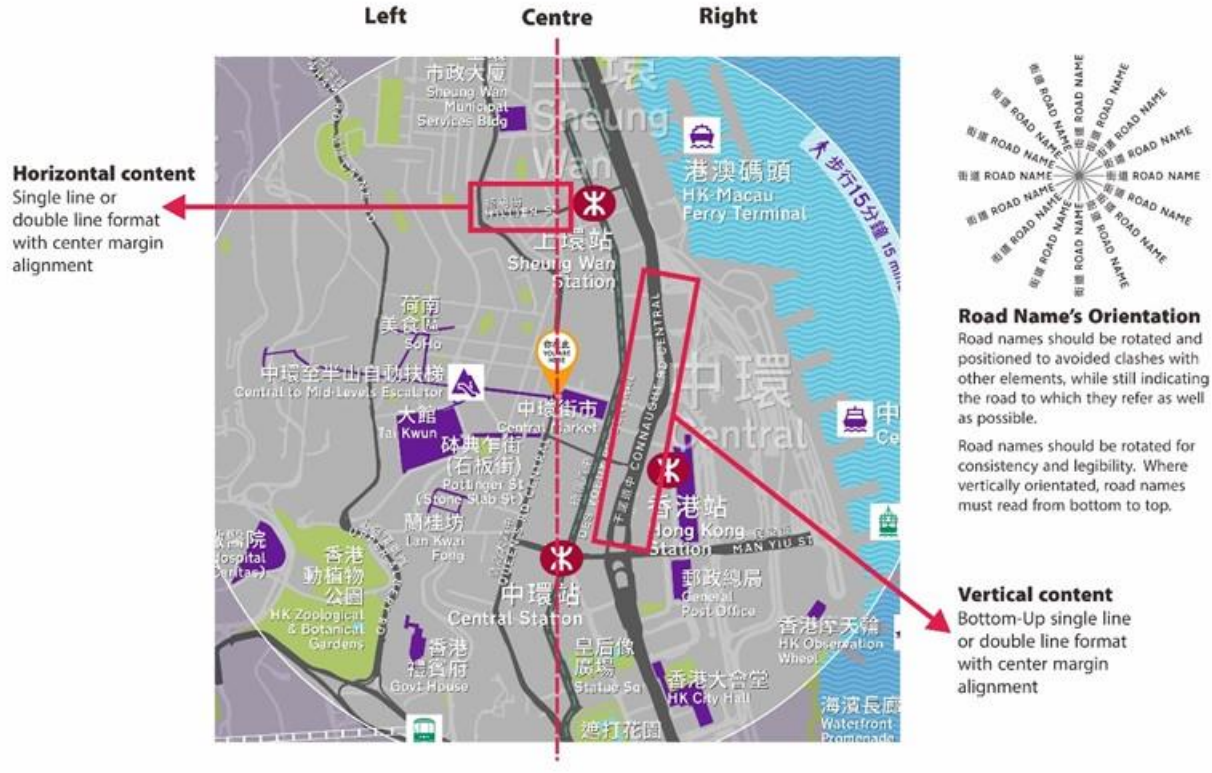


DIAGRAM 7.3.2.11 : ROAD NAME ALIGNMENT ON WIDE MAP



Typeface

7.3.2.21 The Focus Map is scaled to 1:1850. Word content, such as neighbourhood names and road names, should be added with the required typographic treatment, in Table 7.3.2.3, to be applied Graphic content, such as pictograms, walk circle, “you are here” logo, 2D assets and 3D assets shall be included.

7.3.2.22 These details should be added as new layers to the map base to deliver an organised and manageable map file for future sign art working and update purposes as summarised in Table 7.3.2.5.

Table 7.3.2.5
Layer of Artwork on Maps

Focus Map
Above Outer Mask
Walk Circle
Grid Line
Grid Index
North Pointer
Pictograms
3D Assets
QR Code
Below Outer Mask
"You Are Here"
2D assets
Road Names
Neighbourhood Names
Roads
Routing: such as Tramway, Ferry Routes
Sea
Water
Green Area, Parks
Buildings, Land Lots
Footbridge, Subway, Staircase

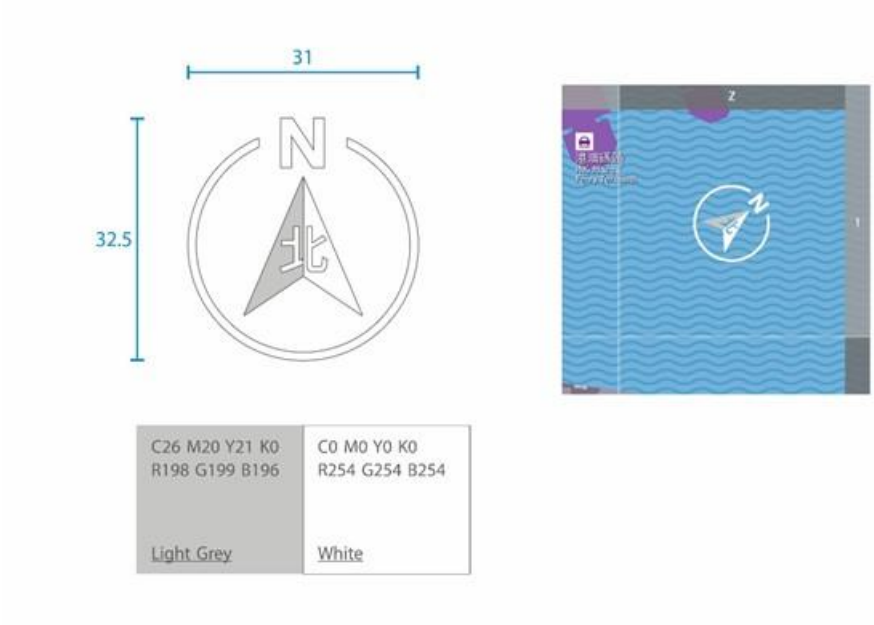
7.3.2.23 Focus map would only be appeared on map-based totem. The size of focus map on different totem is slightly different as listed in Table 7.3.2.6; but the scale, format, typography and content coverage should be identical.

Table 7.3.2.6
Dimension of Focus Map for Map-based Totem

Map-based Totem	Focus Map Dimension (Width*Height in mm)
Gateway Totem	570mm x 570mm
Navigation Totem	305mm x 570mm
Wall Mounted Totem	570mm x 570mm
Board Map Totem	890mm x 890mm

7.3.2.24 A north-pointer as shown in Diagram 7.3.2.12, size 32.5mm x 31mm, would be placed at the top-right or top-left corner to indicate the north direction. The orientation of focus map and wide map must be the same as well as the north-pointer.

DIAGRAM 7.3.2.12 : LAYOUT OF NORTH POINTER IN FOCUS MAP



7.3.2.25 The location of map-based totem is indicated by a “You are here” symbol as shown in Diagram 7.3.2.14 with size 15mm x 24mm on the map. The symbol shall always be placed on the actual signage location on the map.

7.3.2.26 All focus map consists of a 5-minute walk circle with radius of 270m, measured from the location of signage, which is tally with the walking speed of 0.9m/s as mentioned in Ch 8.4 in TPDM. Focus map on board-map totem also includes a 15-minutes walk circle, with radius of 810m. Designer are required to carry out a desktop study and on-site checking to verify the coverage of these walk circles. The walk circle must be in round shape as always, therefore, after verification, the shortest route would be considered as radius as a conservative approach.

7.3.2.27 The area outside the walk circle would be covered by a purple mask as shown in Diagram 7.3.2.13 with the purpose for outstanding the destinations inside the walk circle.

DIAGRAM 7.3.2.13 : LAYOUT OF OUTER MASK



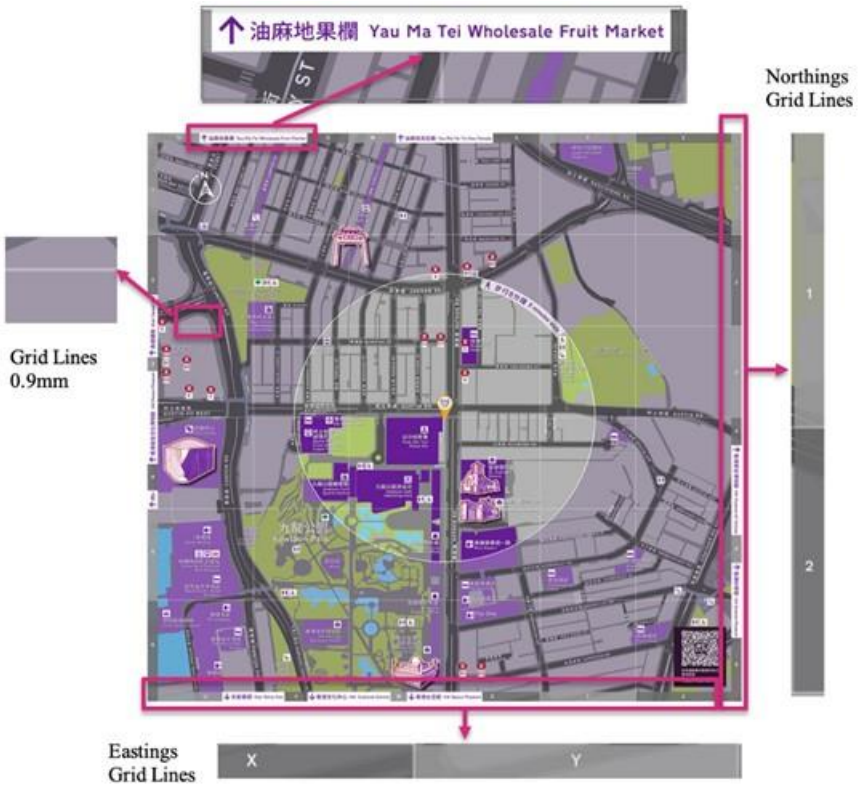
7.3.2.28 The colour palette mentioned in paragraph 7.3.2.1 is applied to focus map, application should follow Diagram 7.3.2.14. Each colour has its specific meaning, therefore, the consistency of colour usage is a must.

DIAGRAM 7.3.2.14 : COLOUR APPLICATION ON FOCUS MAP



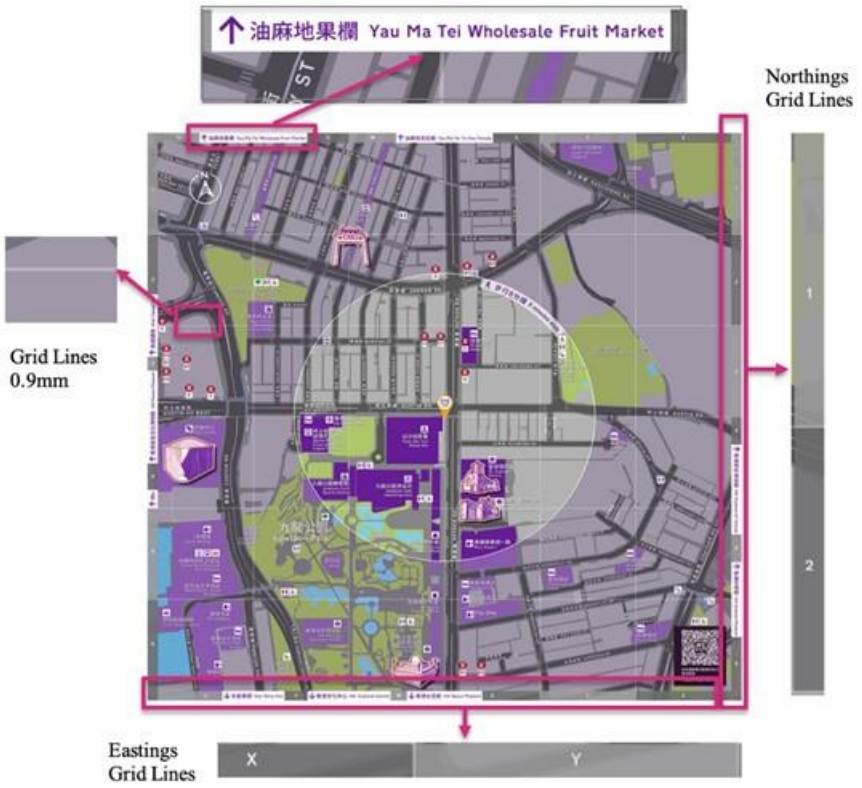
7.3.2.29 Focus map is bounded by a grid panel, the map is divided to 36 grids (6 columns x 6 rows), named 1 to 6 vertically and U to Z horizontally. Diagram 7.3.2.15 shows the detail layout of the grid and grid line. For destinations outside the coverage of Focus Map, it could be indicated by adding the neighbourhood name on the gird panel.

DIAGRAM 7.3.2.15 : LAYOUT OF GRID



7.3.2.30 A unique QR code is located on bottom-right or bottom-left of the map as shown in Diagram 7.3.2.16. It provides a linkage to HKeMobility application and shows users with the signage location on the digital map.

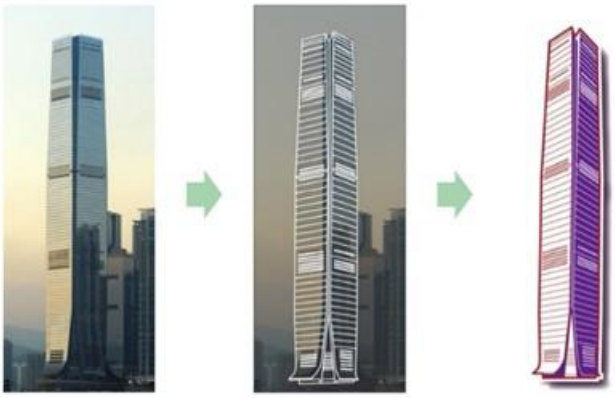
DIAGRAM 7.3.2.16 : LAYOUT OF QR CODE



7.3.2.31 3D assets would only be appeared in Focus Map. Recommended quantity of 3D assets shall be 4-5 assets for navigation totem, 5-6 assets for gateway & wall-mounted totem, or 7-8 assets on a broad-map totem.

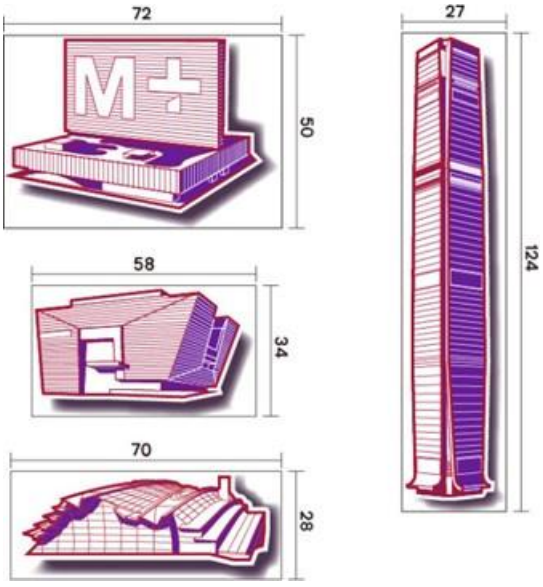
7.3.2.32 The 3D asset should be simplified as illustrated in Diagram 7.3.2.17. It can be refined by removing and merging lines and reducing floors of the building as far as practicable. If certain features are too small to be represented properly in print, such as doors or windows, they can be exaggerated the size of that features, or delete these features.

DIAGRAM 7.3.2.17 : 3D ASSETS TRANSFORMATION PROCESS



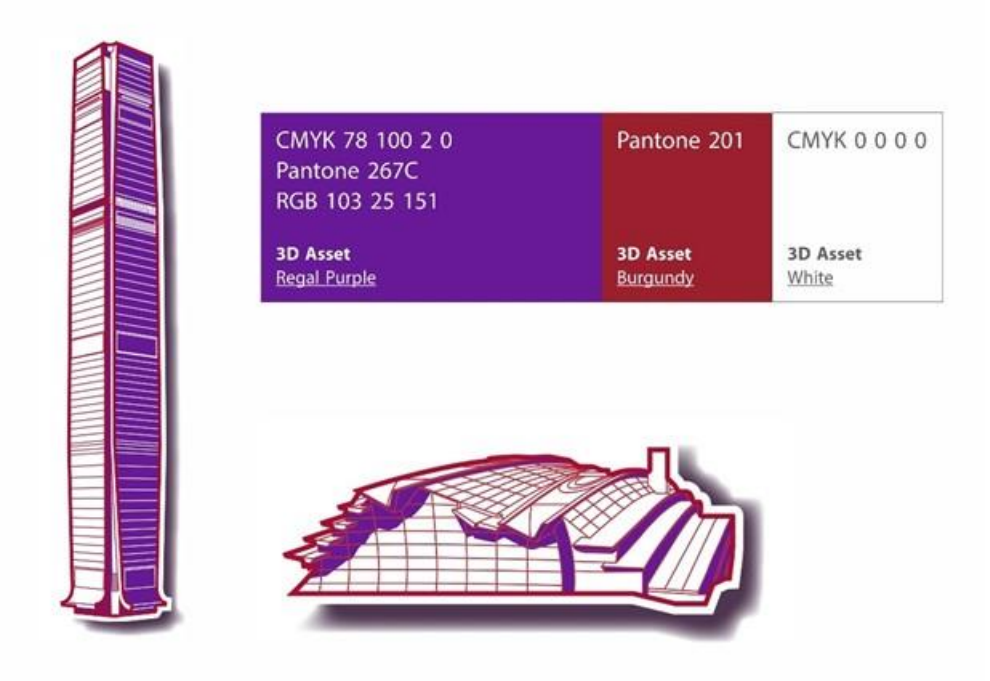
7.3.2.33 The size of 3D asset is subject to the building outline and footprint itself, and the comparative scale with the other 3D assets on the same map. If the 3D asset is over-sized, it would affect the reality of the building itself and eventually distorting the purpose of 3D assets. While if it is too small, it would forfeit the purpose of navigation and general orientation use. Hence, the size of 3D asset should be adjusted in case by case basis, which should aid for wayfinding purpose with sacrificing the map legibility as well as readability. Demonstration of 3D assets is shown in Diagram 7.3.2.18.

DIAGRAM 7.3.2.18 : SUGGESTED SCALE FOR A GROUP OF 3D ASSET



7.3.2.34 Diagram 7.3.2.19 shows the colour palette used for 3D assets. All the designed 3D assets shall follow the suggested colour for format consistence.

DIAGRAM 7.3.2.19 : COLOUR PALETTE FOR 3D ASSET



Wide Map

7.3.2.35 The Wide Map is scaled to 1:10000, which provides users with their general location in the context of the wider region. The wide map would only appear on map-based totem, except the type of broad map totem. The size of wide map is 300mm x 300mm. The scale, format, typography and content coverage in other type of totems are identical.

7.3.2.36 Word content, such as neighbourhood names and road names, should be applied with the required typographic arrangement as shown in Table 7.3.2.4. Graphic content, such as pictograms, walk circle, “you are here” logo and 2D assets shall also be included

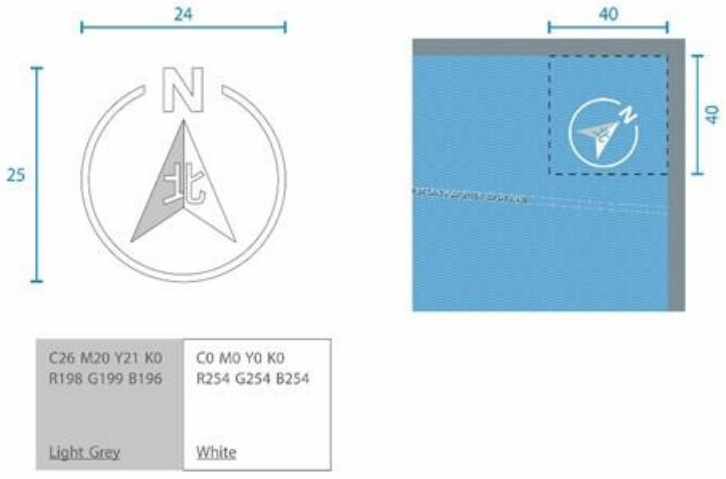
7.3.2.37 These details should be added as new layers to the map base to deliver an organised and manageable map file for future sign art working and update purposes as summarised in Table 7.3.2.7.

Table 7.3.2.7
Layer of Artwork on Maps

Wide Map
Above Outer Mask
Walking Circle
North Pointer
Pictograms
Road Names
Neighbourhood Names
Routing: such as Tramway, Ferry Routes
Below Outer Mask
"You Are Here"
2D assets
Land Lots
Roads
Sea
Water
Green Area, Parks

7.3.2.38 A north-pointer in size 25mm x 24mm, as shown in Diagram 7.3.2.20, would be placed at the top-right or top-left corner to indicate the north direction. The orientation and north-pointer in focus map and wide map must be the same.

DIAGRAM 7.3.2.20 : LAYOUT OF NORTH POINTER IN WIDE MAP



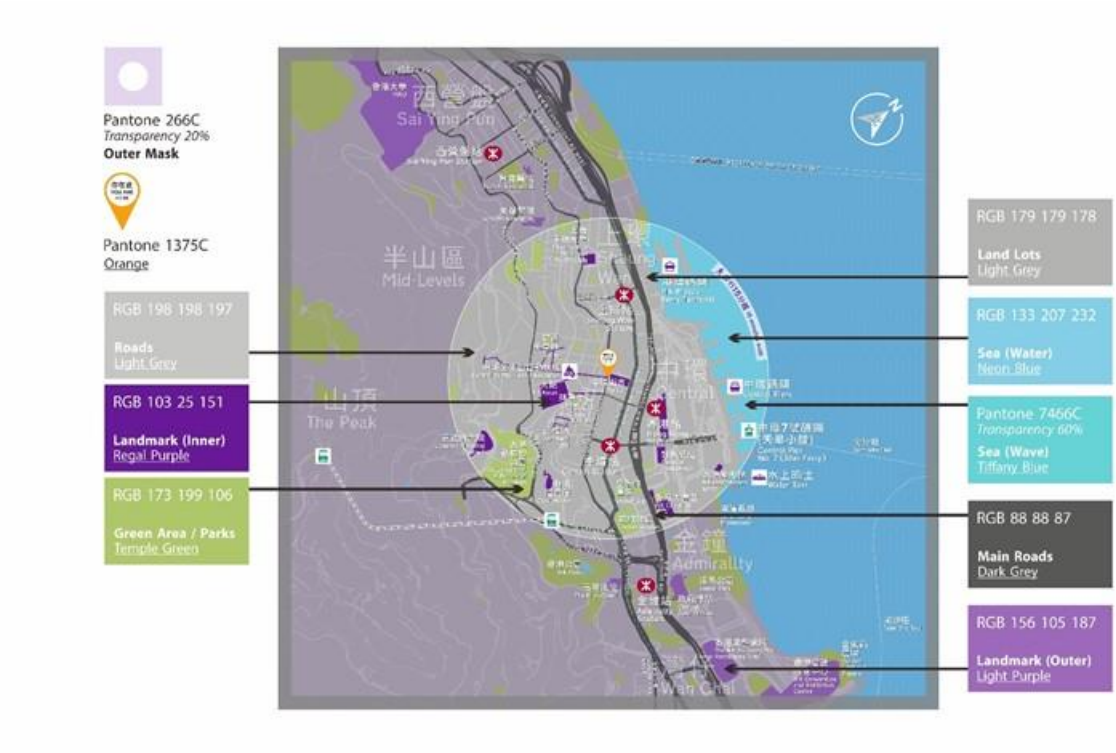
7.3.2.39 The “You are here” is dealt with in paragraph 7.3.2.25.

7.3.2.40 The radius of 15-minute walk circle is 810m, measured from the location of signage, which is tally with the walking speed of 0.9m/s as mentioned in Volume 6, Chapter 8, Section 8.4 in TPDM. Designers are required to carry out desktop study and on-site checking to verify the coverage of 15-minute walk circle. The walk circle shall be in round shape as always, therefore, after verification, the shortest route would be considered as radius as a conservative approach.

7.3.2.41 The outer mask is dealt with in paragraph 7.3.2.25.

7.3.2.42 The colour palette mentioned in paragraph 7.3.2.1 is applied for the artwork design for wayfinding signage. Whereas, for wide map, colour applications are extracted in Diagram 7.3.2.21. Each colour has its specific meaning, therefore, the consistency of colour usage is a must.

DIAGRAM 7.3.2.21 : COLOUR APPLICATION ON WIDE MAP



Appendix 1

Hierarchy Chart

CATEGORY	PRIORITY	RATIONALE FOR INCLUSION	EXAMPLE	TOTEM				ROUTE MARKER
				DIRECTIONAL	FOCUS MAP	WIDE MAP	DEST. INDEX	DIRECTIONAL
i) Public Transport								
Airport	Super Primary	Major transport infrastructure and significant, recognisable landmark/anchor for orientation purposes. Attracts high proportion of visitors / unfamiliar local district users.	HK International Airport	Text + Icon	Text + Icon	Text + Icon	Yes	Text + Icon
Public Transport Interchange / Bus Terminus	Primary	Key part of local transportation system and supports extended walking journeys. Not classed as Super Primary as users can access bus services via a dense network of bus stops distributed regularly across the road network.	Kowloon Station Public Transport Interchange	Text + Icon	Text + Icon	No	Yes	Text + Icon
Peak Tram / Cable Car Station	Super Primary	Key part of local transportation system, in addition to being a visitor attraction in its own right.	Peak Cable Car Terminal	Text + Icon	Text + Icon	Icon	Yes	Text + Icon
Cross Boundary Coach Terminus	Super Primary	Significant and recognisable landmark for orientation purposes. Attracts high proportion of visitors / unfamiliar local district users.	Austin Road Cross Boundary Coach Terminus	Text + Icon	Text + Icon	No	Yes	Text + Icon
Ferry Pier / Cruise / Terminal	Super Primary	Key part of local transportation system, with some being visitor attractions in their own right.	Central Pier	Text + Icon	Text + Icon	Text + Icon	Yes	Text + Icon
MTR / High Speed Rail Station	Super Primary	Backbone of transportation system and supports extended walking journeys	Central MTR Station	Text + Icon	Text + Icon	Text + Icon	Yes	Text + Icon
MTR / High Speed Rail Station Exit	Super Primary	Well established entrance/exit identification system that is used commonly by passengers, including visitors / unfamiliar local district users, as wayfinding landmarks or intermediate destinations in their own right.	Central MTR Station Exit A	No	Text + Icon	No	No	No
Tram / Light Rail Station	Tertiary	Key part of local transportation system, which also serves as a destination in its own right.	Pottinger Street Tram Station	No	Icon	No	No	No
Hillside Escalator	Primary	Key part of local transportation system, supports extended walking journeys, is a major landmark/ orientation tool, and an attraction in its own right.	Central to Mid-Levels Escalator	Text + Icon	Text + Icon	Text + Icon	Yes	Text + Icon
Major Bus-Bus Interchange	Primary	Key part of local transportation system, serving for high volume of passengers	Western Harbour Crossing Bus Stop	Text + Icon	Text + Icon	No	Yes	Text + Icon

Water Taxi	Primary	Key part of local transportation system, with some being visitor attractions in their own right.	Water Taxi near West Kowloon Cultural District	Text + Icon	Text + Icon	Text + Icon	Yes	Text + Icon
Bus Stop (within Public Transport Interchange / Bus Terminus)	Tertiary	Key part of local transportation system.	Kowloon Station Public Transport Interchange	No	Icon	No	No	No
Mini-bus Stop (within Public Transport Interchange / Bus Terminus)	Tertiary	Key part of local transportation system.	Kowloon Station Public Transport Interchange	No	Icon	No	No	No
Taxi Stand (within Public Transport Interchange / Bus Terminus)	Tertiary	Key part of local transportation system.	Kowloon Station Public Transport Interchange	No	Icon	No	No	No
Lift (in public area)	Tertiary	Public facility to support inclusive journeys	N/A	No	Icon	No	No	No
Escalator (in public area)	Tertiary	Public facility to support inclusive journeys	N/A	No	Icon	No	No	No
ii) Civic Building								
City / Town Hall	Secondary	Serves and supports the requirements of local communities.	Tuen Mun Town Hall	No (unless it characterises area)	Text + Icon	No	No (unless it characterises area)	No (unless it characterises area)
Government Office / Municipal Building	Primary	Provide valuable public services to the local and/or wider HK community. Some are used infrequently or by first time visitors, who may therefore require extra wayfinding assistance.	Kwun Chung Municipal Service Bldg	Text + Icon	Text + Icon	No (unless it characterises area)	Yes	Text + Icon
Hospital	Primary	Supports the local community and potentially important for emergency situations. Also often recognisable as local landmarks to aid with general orientation.	Precious Blood Hospital (Caritas)	Text + Icon	Text + Icon	Text	Yes	Text + Icon

Law Court	Primary	Supports the local community and also often recognisable as local landmarks to aid with general orientation	High Court	Text + Icon	Text + Icon	No	Yes	Text + Icon
Library	Tertiary	Contributes to support the local	Yau Ma Tei Public Library	No (unless it characterises area)	No (unless it characterises area)	No	No (unless it characterises area)	No (unless it characterises area)
Police Station	Primary	Contributes to supporting the local community as well as emergency situations.	Tsim Sha Tsui Police Station	Text + Icon	Text + Icon	No	No	Text + Icon
Post Office	Tertiary	Contributes to support the local	Tai Kok Tsui Post Office	No (unless it characterises area)	No (unless it characterises area)	No	No (unless it characterises area)	No (unless it characterises area)
Kindergarten / Primary / Secondary School	Tertiary	Contributes to support the local	Hoi Pa Street Government Primary School	No (unless it characterises area)	No (unless it characterises area)	No	No (unless it characterises area)	No (unless it characterises area)
University / Major Academic Institution	Primary	Contributes to supporting the local community and provides key navigation / landmark orientation information. Universities also often receive new or unfamiliar visitors.	HK Polytechnic University / Hong Kong Academy for Performing Arts	Text + Icon	Text + Icon	Text	Yes	Text + Icon
Public Toilet (including Accessible Toilet)	Tertiary	Public facility to support inclusive journeys	San Kwai Street Public Toilet	No	Icon	No	No	No
iii) <u>Culture & Leisure</u>								
Character Area / Streets / Roads / Bazaar	Primary	Popular destinations for both locals and visitors, and can also serve to represent multiple facilities or attractions within a local area. Some areas will have a greater prominence or geographic scale over others, which may influence its catchment area for directional purposes.	Lan Kwai Fong	Text + Icon	Text + Icon	No	Yes	Text + Icon
Major Street / Road with Retail / Food and Beverage	Primary	Popular destinations for locals and/or visitors.	Jordan Road	Text + Icon	No	No	No	Text + Icon

Cultural Performance Venue	Primary	Popular destinations for locals and/or visitors. Significant, well known or well established examples that may warrant a larger catchment area can be upgraded to Visitor Attractions in their own right	Xiqu Centre	Text + Icon	Text + Icon	Text	Yes	Text + Icon
Major Shopping Centre / Department Store	Primary	Well known and well established shopping spots serving locals and visitors	Mira Place 1	No	Text + Icon	No	No	No
Hotel	Secondary	Contributes to support the visitors for accommodation in Hong Kong. Requested hotels under https://www.hadla.gov.hk/tc/licensing_matters/hotels/overview.php with >250 rooms or historically significant or famous in the area would be selected	InterContinental Hong Kong	No	Text + Icon	No	No	No
Major Place of Worship / Religious Premises	Primary	Contributes to supporting the local community, and is also frequently used as an orientation or navigation landmark.	Kowloon Mosque and Islamic Centre	Text + Icon	Text + Icon	No	Yes	Text + Icon
Leisure / Sports Centre / Venue	Secondary	Contributes to supporting the local community and promoting active lifestyles.	Kowloon Park Sports Centre	No	Text + Icon	No	Yes (if space allows)	No
Monument / Public Art	Secondary	Due to their high density, these are generally omitted unless they are deemed as significant visitor attractions in their own right or characterise an area.	Monument In Commemoration Of The Return Of Hong Kong To China	Yes (if space allows)	Yes (if space allows)	No	Yes (if space allows)	Yes (if space allows)
Museum / Gallery	Primary	Popular destinations for both locals and visitors.	Hong Kong Museum of Art	Text + Icon	Text + Icon	Text	Yes	Text + Icon
District Park / Open Space / Playground	Primary	Acts as key destinations in Hong Kong and contribute to supporting the local community, promote outdoor lifestyles, and also offer destinations in their own right.	Kowloon Park	Text + Icon	Text + Icon	Text	Yes	Text + Icon
Local Park / Open Space / Playground	Secondary	Acts as key destinations within the community/sub district and contribute to supporting the local community, promote outdoor lifestyles, and also offer destinations in their own right.	Man Cheong Street Park	Yes (if space allows)	Text + Icon	Text	Yes	No
Promenade	Primary	Contribute to supporting the local community, promote outdoor lifestyles, and also offer destinations in their own right.	Promenade next to West Kowloon Cultural District	Text + Icon	Text + Icon	No	Yes	Text + Icon
Visitor Attraction - International	Super Primary	Acts as key destinations in Hong Kong for locals and visitors alike.	Ocean Park	Text + Icon	Text + Icon	Text	Yes	Text + Icon

Visitor Attraction - Local	Primary	Acts as key destinations within the community/sub districts for locals and visitors alike.	Hong Kong Heritage Discovery Centre	Text + Icon	Text + Icon	No	Yes	Text + Icon

7.4 Route Marker

7.4.1 Content Arrangement

Directional Panel

7.4.1.1 The neighbourhood is discussed in paragraphs 7.3.1.8 to 7.3.1.13 of this Chapter.

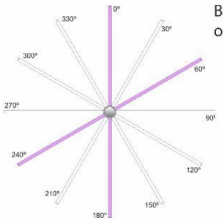
7.4.1.2 The arrow direction refer to paragraph 7.3.1.10. The recommended number of destination names to be displayed are summarised in Table 7.4.1.1. The amount of message is varied and is subject to the word width, number of directions or word alignment.

Table 7.4.1.1
Number of Direction Groups and Destinations for Route Marker

Signage Type	No. of Directional Panel	Maximum Number of Direction Groups per Panel	Maximum Number of Neighbourhoods per Panel
Fingerpost	2-6	1	5
Wall/ railing/ ceiling Mounted Route Marker	1-2	1	6

7.4.1.3 A fingerpost could carry maximum six directional panels, the directional panel usually pointed align to the street network. The top slat is the arrow pointing and followed by one to five slat(s) with destination name(s) and walking time in minute. If panel arranged too closed to other panel, it would cause obstruction to each other. Therefore, minimum 90^{o} clearance should be maintained between two slats at the same level. In case more than four panels required or the pointing directions are not perpendicularly located, minimum 30^{o} shall be maintained for two panels in different height level, subject to case-by-case review. Some samples of panel arrangement are demonstrated in Diagram 7.4.1.1.

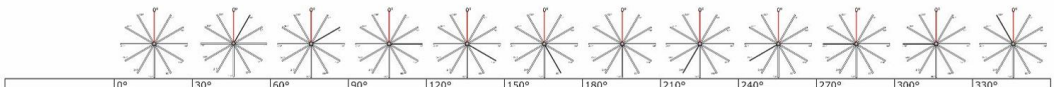
DIAGRAM 7.4.1.1 : FINGERPOST SIGN VISIBILITY CHART



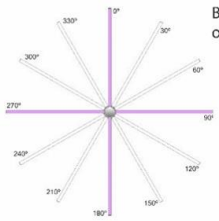


Poor visibility of sign information

Message panel occupied



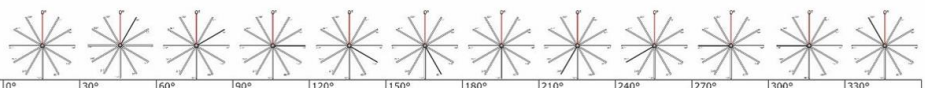
	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Double-sided Face	1 Arrow + 2 Destinations		1 Arrow + 2 Destinations				1 Arrow + 1 Destination		1 Arrow + 3 Destinations			
Finger 1 (TOP)	Arrow						Arrow					
Finger 2	Destination minutes						Destination minutes					
Finger 3	Destination minutes								Arrow			
Finger 4			Arrow						Destination minutes			
Finger 5			Destination minutes						Destination minutes			
Finger 6 (BOTTOM)			Destination minutes						Destination minutes			



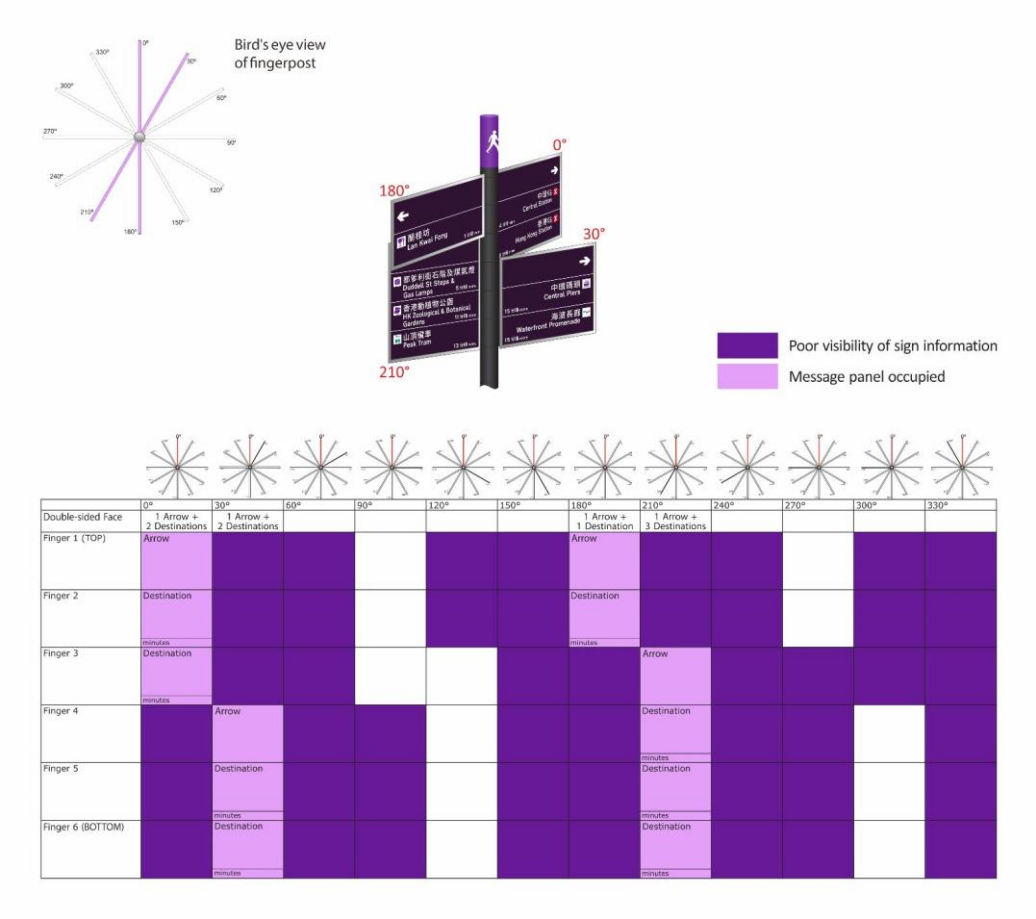


Poor visibility of sign information

Message panel occupied



	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Double-sided Face	1 Arrow + 5 Destinations			1 Arrow + 4 Destinations			1 Arrow + 3 Destinations			1 Arrow + 2 Destinations		
Finger 1 (TOP)	Arrow			Arrow			Arrow			Arrow		
Finger 2	Destination minutes			Destination minutes			Destination minutes			Destination minutes		
Finger 3	Destination minutes			Destination minutes			Destination minutes			Destination minutes		
Finger 4	Destination minutes			Destination minutes			Destination minutes					
Finger 5	Destination minutes			Destination minutes								
Finger 6 (BOTTOM)	Destination minutes											



	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Double-sided Face	1 Arrow + 2 Destinations	1 Arrow + 2 Destinations					1 Arrow + 1 Destination	1 Arrow + 3 Destinations				
Finger 1 (TOP)	Arrow						Arrow					
Finger 2	Destination minutes						Destination minutes					
Finger 3	Destination minutes							Arrow				
Finger 4		Arrow						Destination minutes				
Finger 5		Destination minutes						Destination minutes				
Finger 6 (BOTTOM)		Destination minutes						Destination minutes				

Abbreviation

7.4.1.4 The abbreviation is dealt with in paragraph 7.3.1.20 of this Chapter.

7.4.2 Artwork design

Colour Palette

7.4.2.1 The colour palette is dealt with in paragraph 7.3.2.1 of this Chapter.

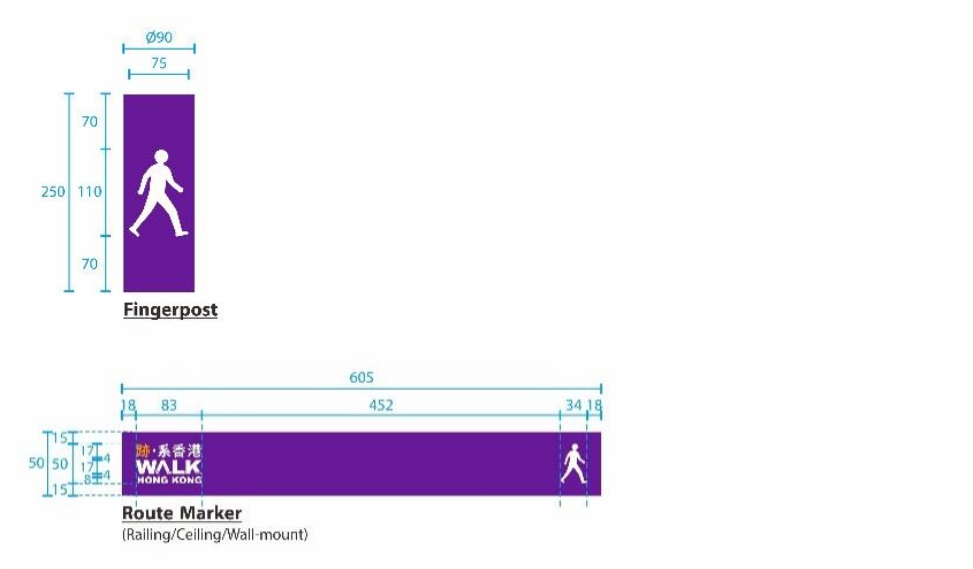
Pictogram

7.4.2.2 The pictogram is dealt with in paragraph 7.3.2.2 of this Chapter.

Beacon

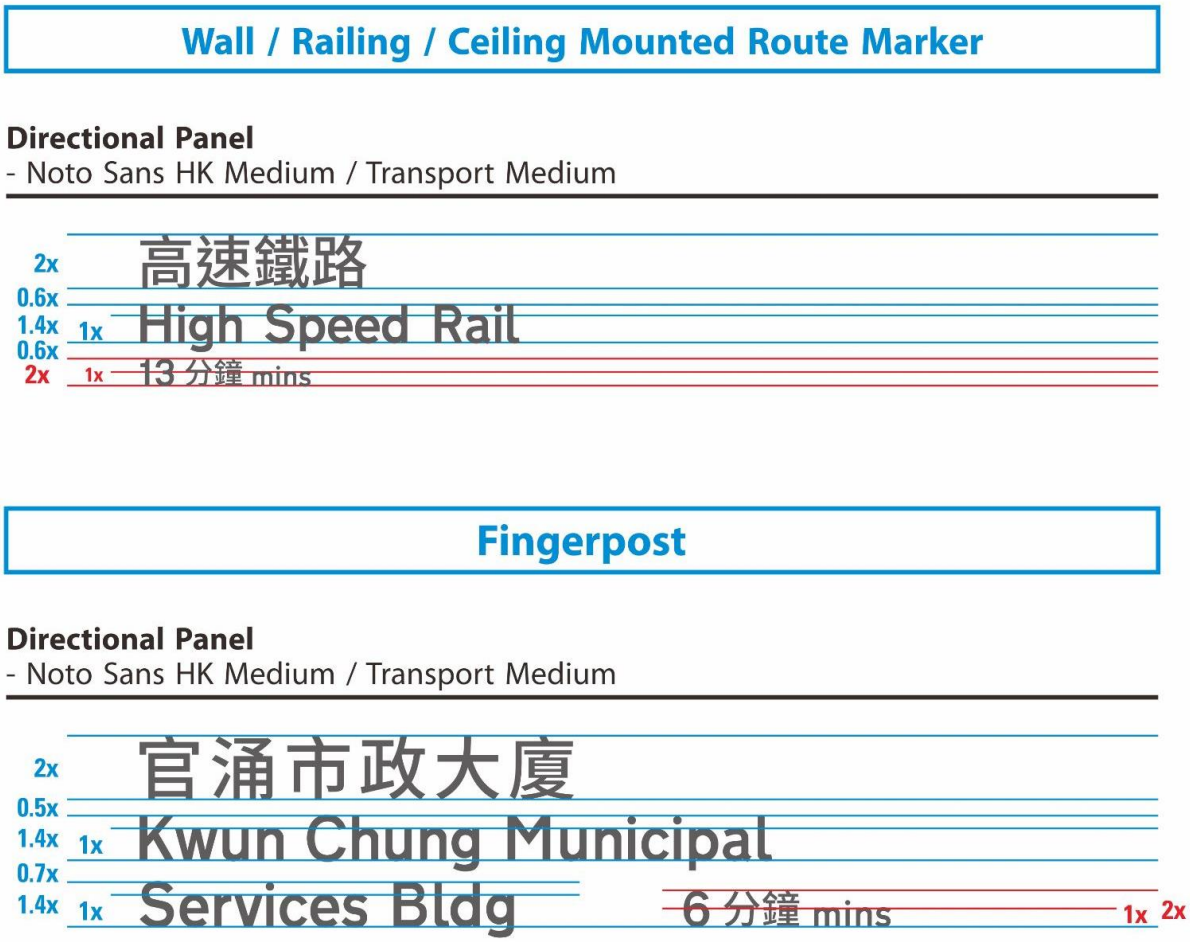
7.4.2.3 The standard design and fixed dimensions for beacons in fingerpost and wall / railing / ceiling mounted route marker are shown in Diagram 7.4.2.1.

DIAGRAM 7.4.2.1 : GRAPHIC FOR LOGO AND WALKING MAN



7.4.2.4 English alphabets, Chinese characters and numerals are with fixed height in fingerpost and wall / railing/ ceiling mounted route marker as shown in Diagram 7.4.2.2.

DIAGRAM 7.4.2.2 : FONT ON ROUTE MARKERS



7.4.2.5 Adjustment of artwork design is not permitted unless approval from the Project Office and Transport Department has been gained. The typography for fingerpost shall follow the details listed in Table 7.4.2.1 and Diagram 7.4.2.3.

7.4.2.6 Table 7.4.2.2 and Diagram 7.4.2.4 are for wall/ railing/ ceiling mounted route marker.

7.4.2.7 For a single place name, it might contain of maximum three lines in total, i.e. one line for Chinese names and two lines for English names. If exceeded, kerning or condense on word(s) shall be applied as a last resort.

Table 7.4.2.1
Typography of Fingerpost

Index(1)	Location and category	Chinese Characters and Numerals	English Alphabets and Numerals	Pictogram
1	Direction Panel – Neighbourhood	Typeface: Noto Sans HK Medium Height: 35mm Alignment: Left and right Colour: White Numeral Typeface: Transport Medium Height: 35mm Colour: White	Typeface: Transport Medium x-height: 17.5mm Case: Upper and lower Alignment: Left and right Colour: White Numeral Typeface: Transport Medium Height: 24.5mm Colour: White	Pictogram size: 45mm x 45mm Arrow size: 60mm x 60mm
2	Directional Panel – walking time in minute	Typeface: Noto Sans HK Medium Height: 20mm Alignment: Left and right Colour: White	Typeface: Transport Medium x-height: 10mm Case: lower Alignment: Left and right Colour: White Numeral Typeface: Transport Medium Height: 20mm Colour: White	N/A

NOTES :

(1) THE INDEX REFERS TO DIAGRAM 7.4.2.3.

(2) THE KERNING OF CHINESE CHARACTERS, ENGLISH ALPHABETS AND NUMERAL ARE OPTICAL.

DIAGRAM 7.4.2.3 : ARTWORK DESIGN FOR FINGERPOST



Table 7.4.2.2
Typography of Wall/ railing/ ceiling Mounted Route Marker

Index(1)	Location and category	Chinese Characters and Numerals	English Alphabets and Numerals	Pictogram
1	Direction Panel – Neighbourhood	Typeface: Noto Sans HK Medium Height: 30mm Alignment: Left and right Colour: White Numeral Typeface: Transport Medium Height: 30mm Colour: White	Typeface: Transport Medium x-height: 15mm Case: Upper and lower Alignment: Left and right Colour: White Numeral Typeface: Transport Medium Height: 21mm Colour: White	Pictogram size: 36mm x 36mm Arrow size: 45mm x 45mm
2	Directional Panel – walking time in minute	Typeface: Noto Sans HK Medium Height: 15mm Alignment: Left and right Colour: White	Typeface: Transport Medium x-height: 7.5mm Case: lower Alignment: Left and right Colour: White Numeral Typeface: Transport Medium Height: 15mm Colour: White	N/A

NOTES :

(1) THE INDEX REFERS TO DIAGRAM 7.4.2.4.

(2) THE KERNING OF CHINESE CHARACTERS, ENGLISH ALPHABETS AND NUMERAL ARE OPTICAL.

DIAGRAM 7.4.2.4 : ARTWORK DESIGN FOR WALL / RAILING / CEILING MOUNTED ROUTE MARKER

