

Part 1 General Introduction and Sign Illustrations

2003 Edition

First Issue 1st August, 2003

Second Issue 25th May, 2009

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PREFACE

Part 1 describes the numbering system for signs used in this Manual. It also explains the basic elements of signs including shape, colour, lettering and dimensions.

Each sign in the Manual is illustrated in colours which approximate those specified in AS1743, Road Signs.

Appendix A illustrates signs which, although used infrequently, are included to indicate their availability for specific situations.

Appendix B explains the application of warrants and guidelines.

Appendix C provides a recommended procedure for the erection and removal of permanent regulatory traffic control devices on roads controlled by the Department of Transport and Main Roads.

Appendix D describes signs which are not used in Queensland.

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DEPARTMENT OF TRANSPORT AND MAIN ROADS
Queensland

Manual of Uniform Traffic Control Devices

PART 1 – GENERAL INTRODUCTION AND SIGN ILLUSTRATIONS

SECTION 1. SCOPE AND INTRODUCTION

1.1 SCOPE

This Part of the Manual illustrates the signs used for controlling vehicular and pedestrian traffic on the road. It also defines the sign classifications, specifies the numbering system used and sets out the basic design of signs in each classification.

Detailed specifications for the design of the signs and the materials to be used in their manufacture are not included in this Manual. These are the subject of the following standards:

- AS 1743 Road Signs
- AS 1744 Forms of Letters and Numerals for Road Signs
- AS 1906 Retroreflective Materials and Devices for Road Traffic Control Purposes Part 1 – Retroreflective Materials

The TC sign page on www.transportandmainroads.qld.gov.au

1.2 APPLICATION

Signs applicable to all types of road are illustrated in this Part of the Manual.

1.3 REFERENCED DOCUMENTS

The following standards are referred to in this Part of the Manual:

- AS 1743 Road Signs.
- AS 1744 Forms of Letters and Numerals for Road Signs.
- AS 2342 Design and use of Graphic Symbols and Public Information Symbol Signs Part 3 – Test Procedures for Evaluating Graphical Symbols and Symbol Signs.

1.4 DEFINITIONS

For the purpose of this Manual the following definitions apply:

1.4.1 Traffic Control Device

Any sign, signal, pavement marking or other installation placed or erected under authority of the Transport Operations (Road Use Management) Act, for the purpose of regulating, warning or guiding road users.

1.4.2 Shall

A *mandatory* condition. Where certain requirements in the design or application of the device are described with the 'shall' stipulation, it is mandatory that when an installation is made, these requirements be met.

1.4.3 Should

An *advisory* condition. Where the word 'should' is used, it is considered to be advisable usage; recommended but not mandatory.

1.4.4 May

A *permissive* condition. Where the word 'may' is used, it indicates that usage of the device is conditional, or optional. Usually, no specific requirement for design or application is intended.

1.4.5 Official Traffic Sign

A traffic control device in relation to which the methods, standards and procedures are prescribed in this manual or are approved by the Director-General, Transport and Main Roads.

1.4.6 Roadway

The portion of the road devoted particularly to the use of vehicles, inclusive of shoulders and auxiliary lanes.

NOTE: This definition does not match any definition in the Queensland Road Rules. Furthermore, the term 'road' is used in this Manual in its common, all-embracing sense as defined in dictionaries and not as more narrowly defined in the Queensland Road Rules.

1.4.7 Running lane

A portion of the roadway allotted for the use of a single line of vehicles.

1.4.8 Travelled path

The part of the roadway which is made available to vehicles and which may comprise of one or more traffic lanes.

1.5 CLASSIFICATION OF SIGNS

Signs are divided into the classifications given in Table 1.1 which also briefly describes the function of the signs in each classification. Further advice relating to sign function is given in the following sections of this Part of the Manual (e.g Section 2. Regulatory Signs).

TABLE 1.1 SIGN CLASSIFICATION AND FUNCTION

| Class | Function |
|--------------------------|---|
| Regulatory Signs (R) | To regulate the movement of traffic and to indicate that a legal requirement applies, failure to comply with which constitutes an offence. |
| Warning Signs (W) | To warn road users of conditions on or adjacent to the road which may be unexpected or hazardous. |
| Guide Signs (G) | To inform and advise road users of directions, distances, destinations, routes, the location of services for road users, points of interest and other traffic information. |
| Freeway Guide Signs (GE) | To inform and advise road users on freeways of directions, distances, destinations, routes, the location of services for road users, points of interest and other traffic information. |
| Temporary Signs (T) | To warn, instruct and guide road users safely through, around or past work sites on roads and footpaths and to warn and advise of other temporary hazardous conditions which could endanger road users. |
| Hazard Markers (D) | To emphasize to approaching traffic a marked change in the direction of travel or the presence of an obstruction. |

1.6 NUMBERING OF SIGNS

1.6.1 Coding System

The numbering system used in the Manual is an alphanumeric coding system comprising –

- a letter prefix, as shown in Clause 1.6.2, to denote the class of sign;
- a number to denote the sign series;
- a number(s) to identify the sign in the series;

NOTE: Where variations of some types of sign occur, these are identified by an additional number. Where a sign has been specially developed in Queensland, the number includes the letter Q (e.g. R2-Q02).

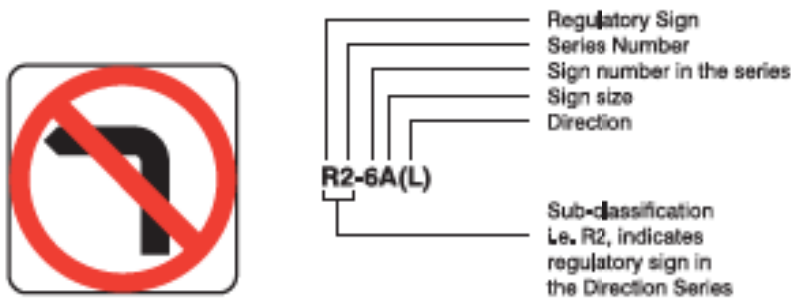
- a letter to denote the size of the sign (e.g. A, B, C, D etc, where A is the smallest sign size);
- the letters (L) or (R), when the sign has directional significance.

1.6.2 Prefixes

The letter prefixes used are:

- R – Regulatory Signs
- W – Warning Signs
- G – Guide Signs
- GE – Freeway Guide Signs
- T – Temporary Signs
- D – Hazard Markers.

Example: R2-6A(L) or (R) denotes a regulatory sign in the Direction Series – R2. The sign is the sixth in the series, is the smallest available, and has directional significance.



1.7 BASIC ELEMENTS OF SIGNS

1.7.1 General

Traffic signs are provided to aid in the safe and orderly movement of traffic. They may contain instructions which the road user is required to obey, warning of hazards which may not be self-evident, or information about routes, directions, destinations and points of interest. Signs must be recognised as such. The means employed to convey information consists of a combination of a message and a distinctive shape and colour. The message may be either a legend or a symbol, or both.

As signs are an essential part of the road traffic system, their message should be consistent, and their design and placement coordinated with the road geometric design.

Uniformity in the design of signs facilitates identification by the road user. Standardisation of shape, colour and message is used, so that the various classes of sign can be promptly recognised.

It is essential to ensure uniformity of application of signs. Similar conditions should always be treated with the same type of sign, so that road users can readily anticipate the course of action required.

The use of a sign which is at variance with its use elsewhere is confusing, and consequently creates a potentially hazardous situation.

This Manual provides criteria for the application of signs and, where applicable, includes warrants or guides.

1.7.2 Shape

Sign shapes and their uses are as follows -



The *octagon* is reserved exclusively for the STOP sign.



The *equilateral triangle* with one point downward is reserved exclusively for the GIVE WAY and Roundabout signs.



The *rectangle with long axis vertical* is used generally for regulatory signs other than those for which a specific alternative shape is prescribed and for non-regulatory traffic instruction signs.



The *circle* is used for regulatory signs associated with pedestrian safety, hand bats, banners and the railway level crossing gate position sign assembly.



The *diamond* is used for warning signs.

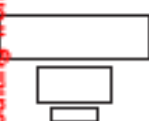


The *diagonal cross* is reserved exclusively to indicate the position of a railway level crossing.



The *equilateral triangle with one point upward* is reserved exclusively for special warning.

NOTE: This shape is not currently specified for any sign in this Manual.



The *rectangle with long axis horizontal* is used for guide and information signs, signs for works on roads and footpaths and special purposes. It is also used for supplementary plates to warning and regulatory signs.



The *shield* is used for route markers.



The *trapezoid* is reserved exclusively for kilometre posts.

7.3 Colour

The standard colours for signs are as given below and shall comply with those specified in AS 1743, Road Signs and the Department of Transport and Main Roads Signface Design Specification 80.253.

Red

is used as a background colour for STOP signs, the RAILWAY CROSSING Position (with target board) sign, freeway signs relating to wrong way movement and reducing speed, hand STOP bats and special hazard signs; as a legend and zone panel colour on prohibitive parking signs; as a legend and border colour on STOP HERE ON RED SIGNAL and STOP HERE ON RED ARROW signs; as a border colour on GIVE WAY signs and as a colour associated with symbols on certain regulatory signs.

Black

is used as a legend colour for signs having a white, yellow, fluorescent yellow/green, fluorescent red, or fluorescent orange background; as a background colour for hazard markers, width markers, T-junction sight boards, and certain internally illuminated signs such as No Turns.

White

is used as a background colour for National Route markers, most regulatory signs, most information signs, street names signs; as a legend colour on signs having a green, blue, black, red or brown background and for the diagonal cross indicating the position of a railway crossing.

NOTE: National Route markers erected on National Highways have a yellow legend on a standard green background.

Fluorescent
Retroreflective
Yellow/Green

is used as a background colour for pedestrian and school signs - Pedestrian Crossing (R3-1), SAFETY ZONE (R3-2), Pedestrian Crossing Ahead (W6-2), Children (W6-3), SCHOOL (W6-4) and SCHOOL (W8-14), CROSSING AHEAD (W8-22) and BUS STOP (W8-Q03) supplementary plates.

Yellow

is used as a background colour for most warning signs, advisory speed signs, and for most roadworks and special purpose signs and for legends on National Highway Route markers.

Fluorescent
Retroreflective
Orange

is used as a background colour for roadworks signs which relate to works personnel.

| | |
|---------------------------------------|---|
| Fluorescent Red or Fluorescent Orange | is used for CHILDREN CROSSING flags and STOP bat, traffic cones and the FASTEN SEAT BELT sign. |
| Green | is used as a legend colour on permissive parking signs. |
| Standard Green | is used as a background colour for most direction signs, the kilometre plate (G10-3), fingerboards with reflectorised legends, National Highway Route Markers and signs designating the start and end of a freeway. |
| Blue | is used as a background colour for Community Facility signs, State and Bicycle Route markers, Service signs and for legends on bicycle route direction signs. |
| Brown | is used as a background colour for Tourist Route markers and Tourist Information signs. |

1.7.4 Lettering

Letters and numerals used for word messages on signs described in this Manual shall conform with those specified in AS 1744. They comprise six alphabets of capital letters and sets of numerals, designated Series A to F (narrow to wide), and one alphabet of lower case letters headed by Modified Series E capitals (Series E with increased stroke width-Mod.E). Lower case letters are generally used only for direction names on guide signs, and for abbreviations such as m (metres), km (kilometres) and t (tonnes).

Series D and E alphabets provide the most acceptable legibility distance and pleasing appearance on signs. Series C is acceptable for common words where sign space is limited. Series A and B are normally restricted to parking or other signs not normally required to be read at speed.

The legibility distances for series C, D, E, and Modified E capitals are given in Table 1.2. These may be used as a guide in determining the legibility distance of standard signs and for the design of special guide and other signs.

TABLE 1.2 LEGIBILITY DISTANCE OF LETTERS

| Letter series | Legibility distance in metres per millimetre of letter size |
|---------------|---|
| C | 0.5 m |
| D | 0.6 m |
| E | 0.7 m |
| Modified E* | 0.75 m |

* Corresponding lower case letters have the same legibility as the initial capital.

Standard letter tables for capital letters given in AS 1744 comprise three sets of spacings; narrow, medium and wide. Wide spacing is always used for lower-case letters.

In the size tables for legend signs given in AS 1743, the abbreviations following the letter size indicate firstly the alphabet series, A to F or Mod E/LC, and secondly the spacing as follows:

- N = narrow spacing.
- M = medium spacing.
- W = wide spacing.

Examples:

- 160 DM would mean 160 mm series D letters at medium spacing.
- 120 Mod.E/90 LC would mean 120 mm Modified Series E capitals with 90 mm lower-case letters which are always at the wide spacing.

NOTE: The individual parts of the Manual which relate to specific traffic situations give more detailed information on the size of sign lettering to be used.

1.7.5 Symbols

Symbols shown on signs shall be limited to and shall conform with those shown in this Manual, the artwork for which is given in AS 1743 or on the TC Sign page on www.transportandmainroads.qld.gov.au. The only permitted exceptions to this requirement will be new symbols approved by the Director-General, Transport and Main Roads.

The advantage of symbols is that they can be seen, read and interpreted at a greater distance ahead of the decision making point than legend signs.

1.7.6 Reflectorisation and illumination

1.7.6.1 General

Signs that are intended to convey their messages during the hours of darkness (except parking signs) shall be either illuminated or reflectorised so that they display their colours and shape and are as legible by night as by day. Illumination may be required where reflectorisation is judged to be ineffective, for example, on overhead signs. Reflectorisation may also be ineffective in some areas with high intensity street lighting.

NOTE: Tourist signs directing to attractions normally only of interest during daytime, may be reflectorised to advise night drivers of the location of the attraction for future reference or to reassure them that the sign is not applicable to immediate driving circumstances.

1.7.6.2 Means of illumination

Illumination may be by means of –

- a light within or behind the sign face, illuminating the main message or symbol, or the sign background or both, through a translucent material; or
- an attached or independently mounted light source designed to direct adequate illumination over the entire face of the sign.

1.7.6.3 Means of reflectorisation

Reflectorisation shall be effected by means of retroreflective materials complying with AS/NZS 1906.1, used in the following ways:

- by reflectorising the background only, on signs with a darker legend and border on a white or yellow background;
- by reflectorising legend, border and background, on signs with a white or yellow legend and border on a darker coloured background.

1.7.7 Distance indication

Where distances are shown on signs, they should be shown as follows:

- For distances up to 500 min 50 m increments.
- For distances between 500 m and 1 kmin 100 m increments.
- For distances of 1 km or moreto the nearest kilometre.

8 SIGN SIZE

As indicated in Clause 1.6.1, most of the signs are provided in a range of sizes designated A (smallest) up to B, C etc. In some cases e.g. Bus, Transit and Truck lanes, sizes D and E are also provided.

Unless special uses for some or all of the various sizes are specified in the text accompanying a particular sign, the following general principles should be observed when selecting sign size:

- For regulatory, warning and traffic instructions, the smallest designated available size should normally be used –
 - only where the 85th percentile approach speed is less than 70km/h;
 - where prominence or conspicuity of the sign is not affected by competing visual stimuli; and
 - where lateral displacement of the sign from the driver's path is not excessive.
- Progressively larger signs in the above categories should be used –
 - as approach speeds become higher;
 - where a greater need exists for sign prominence due either to competing visual stimuli or the need to emphasize the message; or
 - where there is excessive lateral displacement of the sign.
- The largest available sizes should be used on freeways.
- Where one sign supplements another the two signs should be the same width. With the exception of the Times of Operation supplementary plate (R9-1), this means that the same size designation i.e. A, B, C etc., should be used for both signs. When the Times of Operation supplementary plate (R9-1) is used with Bus, Truck or Bicycle Lane (R7-1) signs, the former should be one size designation smaller than the lane sign so that the widths are equal.

1.9 NON-STANDARD SIGNS

Authorities responsible for the erection of signs are not encouraged to develop signs for their own particular use. However, there may be instances where no suitable standard sign exists. In such cases, the following procedures will apply to requests for special non-standard signs:

- (a) A statement giving the detailed nature of the problem.
- (b) A description of the proposed sign, how it was developed, the manner in which it deviates from the Manual, and how it is expected to be an improvement over the existing standard.
- (c) An illustration of the proposed sign taking into account the shape, colours, reflectorisation, size and series of letters, size of sign and legend.

Any sign developed in this manner should comply with the design requirements specified in this Manual for the particular sign classification.

Once the design of a non-standard sign has been determined, it shall be approved by the Director-General, Transport and Main Roads as an Official Traffic Sign prior to erection on a road.

Guidance on the trial application of traffic control devices in a manner contrary to the criteria outlined in this Manual is provided in Clause 1.13.

1.10 RESPONSIBILITY AND AUTHORITY FOR INSTALLATION

The Transport Operations (Road Use Management) Act provides that Official Traffic Signs shall be installed only by the authority of the Director-General, Transport and Main Roads or a local government. The Act also provides that any such sign shall be installed in accordance with the methods, standards and procedures prescribed in this Manual, or other duly approved documents.

The placement of unauthorised traffic signs or devices on or adjacent to the road by a private or commercial organisation without proper authority causes distraction and lessens the effect of devices essential to the road user. The display of unofficial and non-essential devices should not be permitted.

1.11 VARIABLE-MESSAGE SIGNS

Variable-message signs are designed to have one or more messages that may be displayed or deleted as required. Such a sign may be changed manually, by remote control or by automatic controls that can 'sense' the conditions that require special sign messages.

It is recognised that due to technological limitations some variable-message signs may not conform to the exact sign shape, colour and dimensions specified in this Manual. Due to the continuing rapid development in this area of signing, this Manual has not specified detailed standards for variable-message signs. Nevertheless, it is essential that variable-message signs comply with the principles established in this Manual and, to the extent practicable, with the design requirements and applications prescribed herein.

1.12 UNIFORMITY OF LOCATION

1.12.1 General

Signs are normally erected on the left side of the roadway. In special circumstances, which are specified in this Manual, signs may be duplicated on the right side or mounted over the roadway.

Care is needed in locating signs to ensure that they do not obscure each other or otherwise generally obscure visibility of approaching traffic, pedestrians or cyclists, particularly at intersections. If the sign is located in an exposed position, consideration may need to be given to the use of a frangible or break-away type construction, or other means of safety protection for the road user at the sign supports (see Clause 1.12.5).

In addition to the principles set out in Clause 1.12.2 and Clause 1.12.3, principles which apply to the individual sign categories and to particular situations are given in the relevant clauses in this Manual.

1.12.2 Longitudinal placement

The longitudinal placement of certain signs is fixed by the nature of their message or their characteristic use. Special care is required when siting such signs to ensure that they are prominently displayed to approaching drivers or other road users.

Signs that give advance warning or information shall be located sufficiently in advance to enable the driver to react appropriately. Guidance on advance distances, shown in each of the relevant illustrations in this Standard as Dimensions A and B, is given in Table 1.3.

These dimensions are illustrated in Figure 1 and are applied as follows:

- Dimension A - the primary advance warning distance to a hazard or action point from a single advance sign or the last of a series of advance signs.
- Dimension B - the separation between successive advance signs where there are two or more.

Values for Dimension A in the distance ranges given for each speed range in Table 1.3 are intended to be applied generally in accordance with the speed at the location concerned, i.e. longer distances towards the higher end of each speed range, but with some flexibility to optimize the longitudinal positioning of the sign.

Values for Dimension B are intended to be regarded as minima but should never exceed the lowest value of A in the same speed range.

Generally, there should be not more than one sign of a particular type on each post, except where one sign supplements another. Where it becomes necessary to convey two or more different messages at the one location, separate signs located a minimum of $0.6V$ m apart (where V is the 85th percentile speed in km/h) should be used. For guide signs on freeways and other high speed roads considerably greater distance may be required.

Parking control signs are erected at the extremities of the restriction indicated, unless regulations permit otherwise, and intermediate signs shall be provided where extremity signs are more than 75m apart. Where two or more different types of control operate along a common section of roadway, all controls shall be included in every sign (e.g. clearway panels shall be included in every parking control sign along a clearway). In areas of intense parking demands, statutory restrictions (e.g. close to intersections) may also require signing.

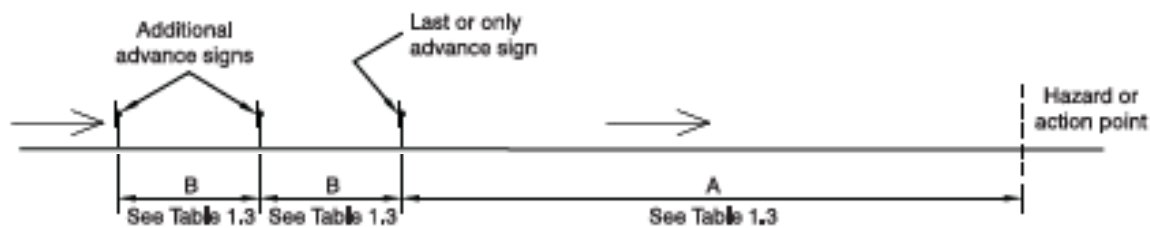


Figure 1 ADVANCE SIGN DISTANCES

TABLE 1.3 LOCATION OF WARNING SIGNS IN ADVANCE OF A HAZARD

| Dimension | Situation | V_{85} , km/h | | | Typical examples |
|-------------|--|-----------------|---------|---------|---|
| | | <75 | 75-90 | >90 | |
| Dimension A | (i) Must or may need to stop | 80-120 | 120-180 | 180-250 | W3-2 Give Way Sign Ahead W3-1 Stop sign Ahead W2-3 T junction (sign on minor road) W6-7 FLOODWAY W4-8 LOW CLEARANCE _ _ m |
| | (ii) Significant speed reduction required | 80-80 | 80-120 | 120-180 | Signs in the Turn Sign Zone in Figure 4.5 W5-20 Slippery W2-7 Roundabout ahead |
| | (iii) Low to moderate speed reduction required – or no speed reduction | 40-60 | 60-80 | 80-120 | Signs in the Curve Sign Zone in Figure 4.5 W5-3 Aircraft W4-4 Divided road Intersection warning signs located on straight major road |
| Dimension B | Position of any additional warning sign in advance of sign at Dimension A. | 50 | 60 | 70 | |

NOTE: Values for Dimensions A and B in this Table are to be used unless a different value is specified elsewhere in this Standard in a particular case.

1.12.3 Lateral placement and mounting height

1.12.3.1 General

The following are general rules for lateral location of roadside signs and overhead sign structure supports, and for mounting heights of roadside and overhead signs. The lateral placement shall be measured from the edge of the sign nearest the road, and the height from the underside of the sign or the lowest sign in an assembly of signs.

The requirements apply to signs of a permanent nature, and include signs for roadworks and special purposes where these are mounted on posts set into the ground. Any variation in these requirements for a particular sign is given in the Clause relating to that sign.

There may, however, be exceptions where conditions do not permit these rules to be applied. In these cases placement or height is adjusted to meet the special conditions, e.g. mounting height of a sign may be increased or decreased to avoid obstructing sight distance at an intersection.

Lateral clearance and mounting height details for various situations are shown in Figure 2.

1.12.3.2 Lateral placement – rural

On unkerbed roads in rural areas, the sign shall be at least 600 mm clear of the outer edge of road shoulder, line of guide posts or face of guardrail. The clearance should not be less than 2 m nor more than 5 m from the edge of the travelled way, except for large guide signs on expressways where greater clearances may be required in line with clear zone requirements.

1.12.3.3 Lateral placement – urban

On kerbed roads in urban areas signs should be located back from the face of the kerb not less than 300mm. Where mountable or semi-mountable kerbs are used, e.g. on traffic islands, minimum clearance should be 500mm. On urban roads which are unkerbed, bicycle paths and joint-use paths or on certain arterial roads designed for express traffic movement the distances given in Clause 1.12.3.2 may be more appropriate. Placing signs on traffic islands or median ends in or near an intersection where they might cause intersection sight distance problems, should be avoided. Where this cannot be avoided, special attention should be given to their positioning and mounting height.

1.12.3.4 Mounting height – rural

In rural areas roadside signs should be mounted clear of roadside vegetation and clearly visible under headlight illumination by night. The height of the sign should normally be not less than 1.5m above the nearest edge of travelled path, except that parking control signs should be mounted 2m above the footpath or 2.2m above the road surface (as appropriate). The mounting height for fingerboards and intersection direction signs should be increased to 2m.

1.12.3.5 Mounting height – urban

In urban areas on kerbed roads, bicycle paths or joint-use paths, the sign should be mounted a minimum of 2m above the top of the kerb to prevent obstruction to occasional pedestrians, or to reduce interference from parked vehicles. Where neither pedestrians nor parked vehicles have to be considered e.g. on a traffic island or median, the mounting height given in Clause 1.12.3.4 may be more appropriate.

Signs that may obscure sight distance, e.g. on a median on the approach to an intersection, may need to be height adjusted so that road users can see under or over them. Lowering signs may have maintenance implications and may leave insufficient vertical space to fit the signs. Signs that overhang a footway or cycle path shall have a height of 2.5 m min. above the level of the footway or cycle path.

1.12.3.6 Overhead mounting

Overhead signs should be mounted a minimum of 5.3m above the highest level of the travelled path; this is particularly important if there is no alternative route for occasional high loads. Mounting height may be reduced to 4.6m if the sign projects over a shoulder or lane which is used only for parking or emergency stopping. The greater height is preferred, where possible.

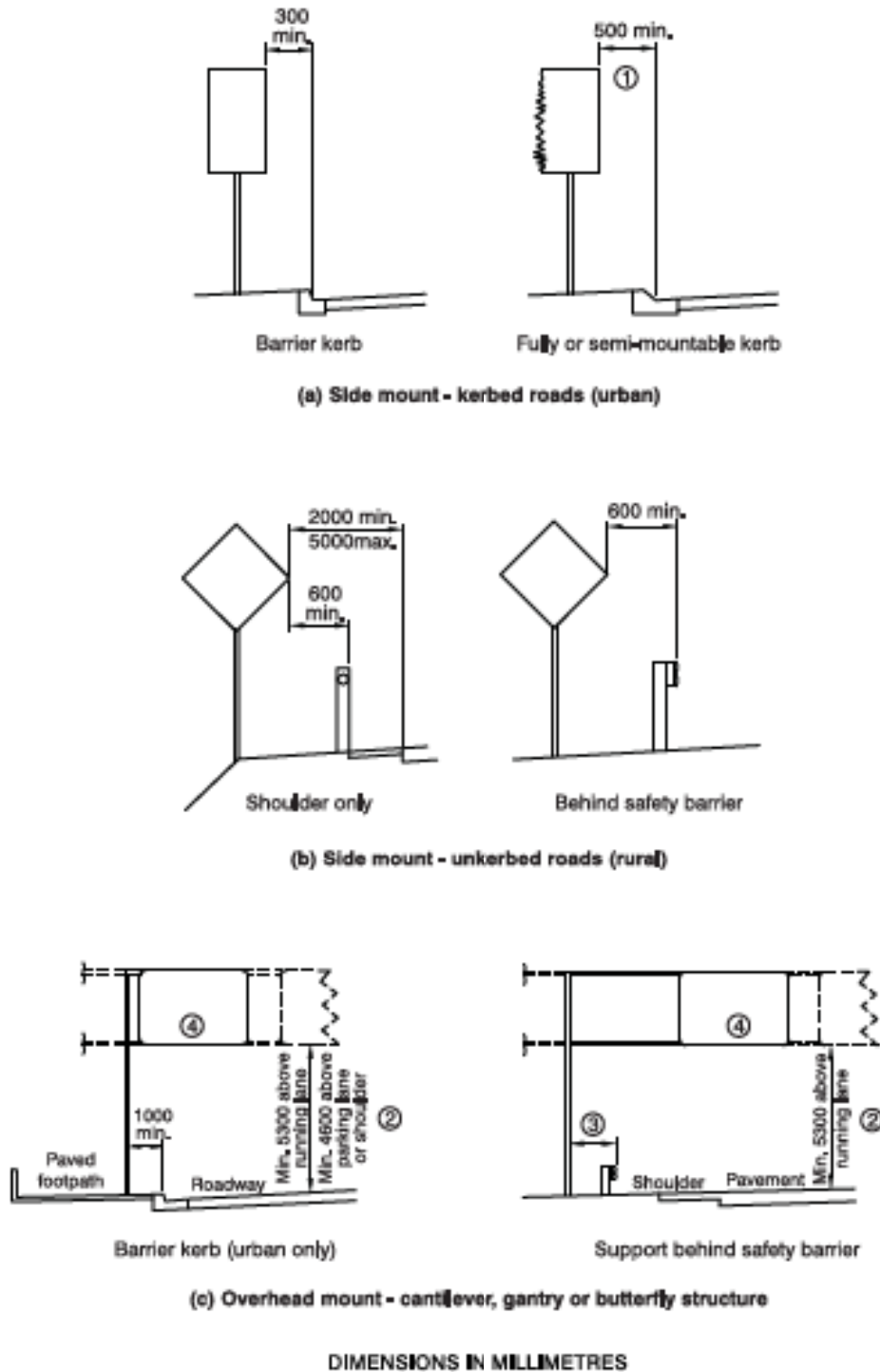
Where an allowance is made for pavement resurfacing or strengthening, a minimum mounting height of 5.5m should be provided except on high clearance routes where at least 6.0m is provided. The mounting height should be increased to 6.0m for signs on expressways, and to 6.5m for high clearance routes. The greater heights are preferred, where possible.

1.12.4 Overhead signs

Overhead signs provide means of displaying essential traffic information on wide multilane roads, where some degree of lane use control is required, or where space at the roadside is insufficient to accommodate a road sign. It may also be the only means of providing adequate viewing distance.

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NOTES:

- At traffic islands additional clearance may be required to allow for overhang of turning vehicles.
- Minimum clearance applies to lighting brackets or other fixtures when these project below the sign.
- Clearance behind safety barrier to take account of dynamic deflection of barrier and body roll of high vehicles in a collision, see AS/NZS 3845.
- For cantilever or butterfly mounted signs, desirably the centre of the sign should be located above the kerb or edge line.

Figure 2 LATERAL CLEARANCE AND MOUNTING HEIGHT

Overhead signs may also be desirable where the environmental background would detract from the essential message of a roadside sign. Composition and speed of traffic may also be influencing factors.

On expressways, overhead signs are especially suitable for complex or closely spaced interchanges, multi lane exits, or exits which leave the freeway from the right hand side.

Overhead signs are generally of the directional and lane control types, and are generally supported on cantilever, butterfly or gantry structures, or on overbridges.

1.12.5 Installation

1.12.5.1 Side mounted signs

Signposts of strength equivalent to a standard 50mm O.D. steel pipe or less are generally considered to be not a roadside hazard on higher speed roads. Signs supported by these will not generally require protection. Where signposts of greater strength are used, consideration may need to be given to the use of breakaway supports unless the sign is located: –

- (a) behind guard fence or safety barrier;
- (b) on a cut batter slope 2:1 or steeper, with the base of the post not less than 1.2m vertically above the shoulder or verge level;
- (c) in any other location where it is unlikely that the posts could be struck by an out-of-control vehicle;
- (d) more than 9m offset from the nearest edge of the running lane.

In addition to any other mounting height requirements, signs on breakaway supports should be mounted a minimum of 2.2 m above the level of the top of the lower base plate of the sign support, to allow an impacting light vehicle to run under the sign. Further information relating to the size and number of posts is available in the Design Guide for Roadside Signs published on the Department of Transport and Main Roads website.

1.12.5.2 Overhead signs

Supports for overhead signs cannot be made breakaway, and must be either protected or located so that they will not be a hazard to out-of-control vehicles. Supports located as indicated in sub-para (a) to (d) of Clause 1.12.5.1 above would meet this requirement. In addition, the following should be observed: –

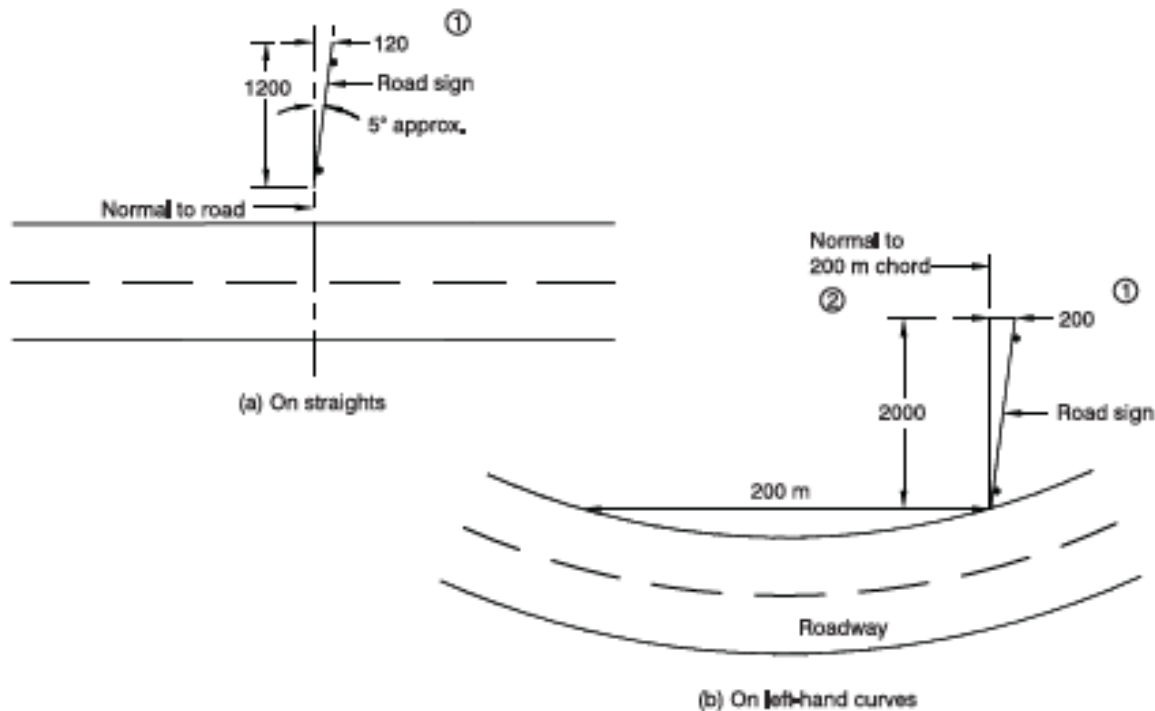
- (a) supports for large butterfly or cantilever signs should not be located in the gore of exit ramps unless protected by a properly designed crash cushion. Alternative forms of sign structure which avoid this e.g. gantry in lieu of butterfly, are preferred;
- (b) where supports for overhead signs are located in medians, they should be shielded by a safety barrier and satisfactory terminal treatments. On high volume freeways as the median width becomes progressively narrower, crash cushions may be required.

1.12.5.3 Sign orientation

Signs should be orientated at approximately right angles to, and facing, the traffic they are intended to serve. At curved alignments, the angle of placement should be determined by the course of approaching traffic rather than by the road edge at the point where the sign is located.

In rural areas night-time specular reflection from traffic signs can be troublesome. To eliminate or minimize the effect, signs should be set at angles so as to face slightly away from the beam direction of headlights from approaching vehicles.

On a straight length of road the horizontal axis of a sign should be set at an angle of 5 degrees away from the normal to the left-side edge of the roadway on the approach side (see Figure 3(a)). On some bends and complicated winding alignments, compromise solutions may have to be adopted but generally it will be adequate on a right-hand bend for a sign to be set parallel to the normal to the left-hand edge of the roadway at the point where the sign is erected. Signs sited on the left side of the road at left-hand bends should be set at an angle of 5 degrees away from the normal to a line joining the edge of the roadway at the sign with a point on the same edge of roadway 200 m in advance of the sign (see Figure 3(b)).



DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN

NOTES:

Sign is rotated away from the normal approximately 5 degrees or one tenth of the width of the sign.

On RIGHT-HAND curves the sign is placed ON the normal to the road at the sign position.

Figure 3 METHOD OF AVOIDING SPECULAR REFLECTION ON A ROAD SIGN

13 TRIALS OF TRAFFIC CONTROL DEVICES

Trials of new traffic control devices or the application of existing devices in a manner contrary to the criteria in this Manual can be undertaken in accordance with this clause.

The Department of Transport and Main Roads may issue an "approved notice" under Section 166(2) of the Transport Operations Road Use Management Act to install and maintain a traffic control device for trial purposes. An application for a trial must encompass sufficient information to allow an informed decision to be made, including:

- (a) the purpose of the trial;
- (b) the place where the trial is to be held;
- (c) the period of the trial (not exceeding two years);
- (d) the terms and conditions of the trial; and
- (e) details of the proposed traffic control devices to be used (traffic control devices developed for use in the trial must comply with the design and location principles outlined in Clauses 1.7, 1.8, 1.9 and 1.12 of this Manual).

The Department may impose any other terms and conditions that are considered necessary, including, for example, a requirement to advertise details of the trial in a local newspaper in which the trial is to be held.

SECTION 2. REGULATORY SIGNS

2.1 SCOPE

This section illustrates standard regulatory signs and sets out the overall dimensions of the various sizes of each sign.

The sub-classifications and the prefix and series number relevant to each are as follows:

- R1 Movement Series.
- R2 Direction Series.
- R3 Pedestrian Series.
- R4 Speed Series.
- R5 Parking Series.
- R6 Miscellaneous Series.
- R7 Exclusive-use Lane Series.
- R8 Bicycle/Pedestrian Series.
- R9 Supplementary Plates for General Use Series.

NOTE: Detailed design specifications are given for each sign in AS 1743 or on the TC Sign page on www.transportandmainroads.qld.gov.au for Queensland signs e.g. R2-Q02.

2.2 SIGN FUNCTION

Regulatory signs inform road users of traffic laws or regulations which it would be an offence to disregard.

These signs indicate the application of legal requirements to locations or situations where the requirements may not otherwise be apparent and to which the road users' attention should be particularly drawn.

Included in this classification are those signs which indicate the end or termination of a legal restriction imposed by a preceding regulatory sign. An example is the END LOAD LIMIT sign (R6-5).

Regulations may apply to a considerable length of road and repeater signs may be required. However, unnecessary signs should be avoided if the situation can be adequately catered for by the basic rules of the road.

2.3 SHAPE, COLOUR AND MESSAGE

Most regulatory signs are rectangular in shape with the long axis vertical and have black legend on white background. For those signs where there is a special need for easy identification other shapes and colours are specified.

The individual signs are illustrated in Clause 2.4 in colours which approximate those specified in AS 1743 or on the TC Sign page on www.transportandmainroads.qld.gov.au.

Wherever practicable, use is made of symbols and arrows to –

- (a) assist in identification;
- (b) clarify the instruction; and
- (c) increase legibility.

Additional information may be added to certain signs restricting their application to particular periods and classes of traffic or to indicate the beginning or end of a special traffic lane. Wherever possible, supplementary plates R7-2 to R7-5 and R9-1 and R9-2 should be used for this purpose. However, where special information is needed this should be shown in black below the main instructions on an enlarged sign or on a special supplementary white plate of the same width as the regulatory sign.

Such information should be clear and simple to understand and care should be taken to ensure that the conditions so imposed are enforceable.

2.4 ILLUSTRATIONS OF REGULATORY SIGNS

MOVEMENT SERIES

R1

STOP



| | |
|-------|-----------|
| R1-1A | 600 x 600 |
| R1-1B | 750 x 750 |

GIVE WAY



| | |
|------------------|-------------|
| R1-2A (special)* | 375 height |
| R1-2A | 750 height |
| R1-2B | 800 height |
| R1-2C | 1200 height |

* This sign size is used only on exclusive bicycle path or joint-use path approaches to a road crossing.

Roundabout



| | |
|-------|-------------|
| R1-3A | 750 height |
| R1-3B | 900 height |
| R1-3C | 1200 height |

DIRECTION SERIES

R2

ONE WAY
(L or R)

R2-2A 450 x 600
R2-2B 600 x 800

KEEP LEFT (RIGHT)
(L or R)

R2-3A 450 x 600
R2-3B 600 x 800

NO ENTRY



R2-4A* 450 x 450
R2-4B 600 x 600
R2-4C 750 x 750
R2-4D 900 x 900

No U Turn



R2-5A* 450 x 450
R2-5B 600 x 600
R2-5C 750 x 750
R2-5D 900 x 900

No Left (Right) Turn
(L or R)

R2-6A* 450 x 450
R2-6B 600 x 600
R2-6C 750 x 750
R2-6D 900 x 900

No Turns



R2-7A 450 x 600
R2-7B 600 x 800

LEFT (RIGHT) LANE MUST
TURN LEFT (RIGHT) (L or R)

R2-9A 450 x 750
R2-9B 600 x 1000

GIVE WAY TO PEDESTRIANS



R2-10 600 x 600

Two Way



R2-11A 450 x 600
R2-11B 600 x 800

* These signs may be required for special purposes, such as severely limited lateral space, but are not recommended for general use.

DIRECTION SERIES

R2

NO STOPPING OR TURNING



R2-13 1100 x 1100

All Traffic Turn
(L or R)R2-14A 600 x 800
R2-14B 900 x 1200

U-TURN PERMITTED

R2-15A 450 x 600
R2-15B 600 x 800TURN LEFT AT ANY TIME
WITH CARE

R2-16 750 x 600

ONE WAY

R2-17A 450 x 800
R2-17B 600 x 1067
R2-17C 900 x 1600

LEFT LANE MUST EXIT



R2-19 800 x 1200

NO HOOK TURN BY
BICYCLES

R2-22 750 x 750

THROUGH TRAFFIC KEEP
LEFT (RIGHT) (L or R)R2-Q02A 600 x 800
R2-Q02B 900 x 1200

DIRECTION SERIES

R2

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PEDESTRIAN SERIES

R3

Pedestrian Crossing



R3-1A 600 dia.
 R3-1B 750 dia.
 R3-1C 900 dia.

NOTE: The background colour is fluorescent retroreflective yellow/green.

SAFETY ZONE



R3-2A 450 dia.
 R3-2B 600 dia.

NOTE: The background colour is fluorescent retroreflective yellow/green.

CHILDREN CROSSING



R3-3 600 x 600

Pedestrians may cross diagonally (Scramble crossing)
 (L or R) (R illustrated)



R3-5 90 x 110

WALK TO ISLAND AND WAIT FOR FURTHER SIGNAL



R3-Q01 450 x 300

SPEED SERIES

R4

Speed Restriction



| | |
|-------|-------------|
| R4-1A | 450 x 600 |
| R4-1B | 600 x 800 |
| R4-1C | 900 x 1200 |
| R4-1D | 1200 x 1800 |

ROAD WORK



| | |
|-------|-----------|
| R4-3A | 450 x 300 |
| R4-3B | 600 x 400 |
| R4-3C | 900 x 600 |

SHARED ZONE



| | |
|------|-----------|
| R4-4 | 450 x 750 |
|------|-----------|

END SHARED ZONE



| | |
|------|-----------|
| R4-5 | 450 x 750 |
|------|-----------|

SCHOOL ZONE



| | |
|-------|-----------|
| R4-8A | 450 x 300 |
| R4-8B | 600 x 400 |

Speed Limit AREA



| | |
|--------|------------|
| R4-10A | 450 x 750 |
| R4-10B | 600 x 1000 |

END Speed Limit AREA



| | |
|--------|------------|
| R4-11A | 450 x 750 |
| R4-11B | 600 x 1000 |

END Speed Limit



| | |
|--------|------------|
| R4-12B | 600 x 1000 |
| R4-12C | 800 x 1350 |

SCHOOL ZONE
Speed Limit

| | |
|---------|-------------|
| R4-Q01A | 600 x 1550 |
| R4-Q01B | 800 x 2100 |
| R4-Q01C | 1200 x 3100 |

NOTE: The sign dimensions include the target board. See Appendix A, Part 10 for further details.

SPEED SERIES

R4

SCHOOL ZONE AHEAD



| | |
|---------|-------------|
| R4-Q03A | 800 x 1100 |
| R4-Q03B | 800 x 1450 |
| R4-Q03C | 1200 x 2200 |

NOTE: The sign dimensions include the target board. See Appendix A, Part 10 for further details.

SCHOOL ZONE



| | |
|---------|-------------|
| R4-Q04A | 800 x 1550 |
| R4-Q04B | 800 x 2100 |
| R4-Q04C | 1200 x 3100 |

NOTE: The sign dimensions include the target board.

ROAD TRAIN SPEED LIMIT



| | |
|---------|-------------|
| R4-Q05A | 450 x 1100 |
| R4-Q05B | 600 x 1500 |
| R4-Q05C | 900 x 2200 |
| R4-Q05D | 1200 x 3000 |

END ROAD TRAIN SPEED LIMIT



| | |
|---------|-------------|
| R4-Q06A | 450 x 1100 |
| R4-Q06B | 600 x 1500 |
| R4-Q06C | 900 x 2200 |
| R4-Q06D | 1200 x 3000 |

HOSPITAL ZONE



| | |
|---------|-----------|
| R4-Q07A | 450 x 300 |
| R4-Q07B | 600 x 400 |

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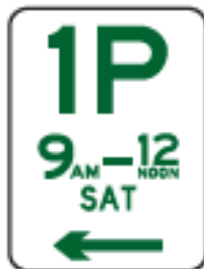
PARKING SERIES

R5

Parking controls and the times they apply vary so widely from situation to situation that parking signs generally have to be individually designed. Many signs contain a number of parking controls.

When indicating signs on plans, or to assist with ordering purposes, a general system of numbering may be used. A suggested system is to provide a decimal point between adjacent panels, with an oblique stroke between vertical panels. When using single panels, the direction of the arrow needs to be indicated by an L, R or D. When using double (adjacent) panels, the direction of the arrow is predetermined e.g. R5-1.R5-35 or R5-46D/R5-1.R5-35. A sketch of the sign(s) should always accompany this numbering system to indicate additional information on the sign which is not specified within the numbering system.

Parking (whole hours)



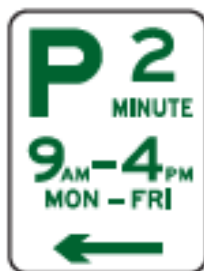
| | | |
|------|----------------|----|
| R5-1 | 1 hour parking | 1P |
| R5-2 | 2 hour parking | 2P |
| R5-3 | 3 hour parking | 3P |
| R5-4 | 4 hour parking | 4P |
| R5-5 | 5 hour parking | 5P |
| R5-6 | 6 hour parking | 6P |
| R5-7 | 7 hour parking | 7P |
| R5-8 | 8 hour parking | 8P |

No Limit Parking



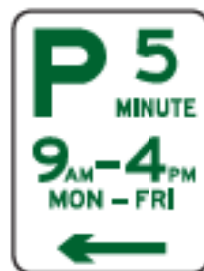
R5-10

2 Minute Parking



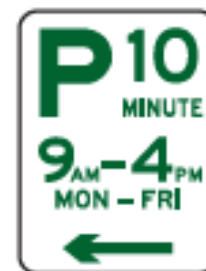
R5-12

5 Minute Parking



R5-13

10 Minute Parking



R5-14

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PARKING SERIES

R5

15 Minute Parking



R5-15

30 Minute Parking



R5-16

90 Minute Parking



R5-17

BUS ZONE



R5-20

TAXI ZONE



R5-21

PERMIT ZONE



R5-22

LOADING ZONE



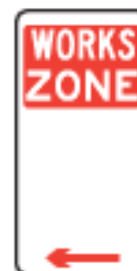
R5-23

TRUCK ZONE



R5-24

WORKS ZONE



R5-25

NOTE: See also R5-Q04 and R5-Q05 for special loading zones.

PARKING SERIES

R5

MAIL ZONE



R5-28

No Stopping Any Time



R5-35

No Stopping
(use time suffix or specify times)

R5-36

Tow Away



R5-39A 600 x 225
R5-39B 800 x 337

No Parking Any Time



R5-40

No Parking
(use time suffix or specify times)

R5-41

Clearway
(at all times)

R5-45

Clearway
(use time suffix or specify times)

R5-46

CLEARWAY



R5-50A 600 x 800
R5-50B 900 x 1200

PARKING SERIES

R5

END Clearway



R5-51A 600 x 600
R5-51B 900 x 900

EMERGENCY STOPPING LANE
ONLY (L or R)
(L version illustrated)

R5-58 1500 x 1100

Parking Area
(Major road)

R5-60A 2000 x 1150
R5-60B 3000 x 1675
(Previously TRAFFIC AREA)

Parking Area
(Minor road)

R5-61A 750 x 1050
R5-61B 1125 x 1575
(Previously TRAFFIC AREA)

Parking Area
(Internal)

R5-62A 450 x 750
R5-62B 600 x 1000
(Previously TRAFFIC AREA)

END of Parking AREA



R5-63A 600 x 600
R5-63B 900 x 900
(Previously END OF TRAFFIC AREA)

AREA PARKING CONTROL
AHEAD

R5-64A 600 x 600
R5-64B 800 x 800
(Previously TRAFFIC AREA AHEAD)

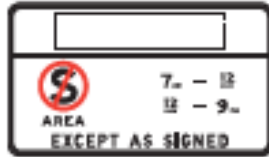
PARK IN BAYS ONLY



R5-65A 450 x 300
R5-65B 600 x 400

PARKING SERIES

R5

No Stopping Area
(Major Entry)

R5-70A 2000 x 1150
R5-70B 3000 x 1875

No Stopping Area
(Minor Entry)

R5-71A 750 x 1050
R5-71B 1125 x 1575

No Stopping Area
(Internal)

R5-72A 450 x 750
R5-72B 600 x 1000

END No Stopping AREA



R5-73A 600 x 600
R5-73B 900 x 900

No Parking Area
(Major Entry)

R5-80A 2000 x 1150
R5-80B 3000 x 1875

No Parking Area
(Minor Entry)

R5-81A 750 x 1050
R5-81B 1125 x 1575

No Parking Area
(Internal)

R5-82A 450 x 750
R5-82B 600 x 1000

END No Parking AREA



R5-83A 600 x 600
R5-83B 900 x 900

TOW-AWAY ZONE



R5-Q01 225 x 200

PARKING SERIES

R5

Special Loading Zone



R5-Q04

Special Loading Zone



R5-Q05

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