REGULATORY AND WARNING SIGNS AND MARKING APPLICATIONS

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3.1 INTRODUCTION

3.1.1 General

1 The provision of regulatory and warning signs and road markings is appropriate in a wide variety of situations. Many circumstances require a number of regulatory signs and markings, or regulatory and warning signs and markings, in combination or in sequence, in order to adequately transfer the required information to drivers. It is the purpose of this chapter to illustrate such typical situations. The examples given are not meant to be exhaustive and the practitioner must be acquainted with actual conditions and apply discretion as may be required within the framework of the Act and the Regulations.

2 Many regulatory and warning sign and marking applications are specific to particular subject areas. There is potential for overlap or duplication between these subject areas. This has been avoided to the greatest possible extent by the allocation of specific signing subjects to their own chapters within this Volume of the Manual. The following subjects, dealing commonly with the application of regulatory and warning signs and markings, will not be covered in this chapter but in those indicated below:

(a) Chapter 2: Road Marking Applications;
(b) Chapter 5: Freeway Signing;
(c) Chapter 6: Toll Route Signing - with particular reference to the regulatory and warning signing and marking of interchanges, ramps and toll plazas;
(d) Chapter 7: Signing at Railway Crossings;
(e) Chapter 8: Public Transport Signing;
(f) Chapter 10: Rural Junction Signing;
(g) Chapter 11: Signing for Heavy Vehicles;
(h) Chapter 12: Signing for Traffic Calming;
(i) Chapter 13: Roadworks Signing;
(j) Chapter 14: Signing for Pedestrian Environments;
(k) Chapter 19: Variable Message Signs.

3 There is particular scope for overlap between the contents of some sections of this chapter and some sections of Chapter 2. In order to minimise the effects of any duplication this chapter covers the signs and markings appropriate to various levels of intersection whereas Chapter 2 tends to deal with the treatment of road markings, and where appropriate road signs, on sections of roads between intersections. The positions of various regulatory and warning signs will be repeated in Chapter 2 figures but the actual signfaces will not normally be illustrated.

3.1.2 General Legal Requirements

1 There are many legal requirements which relate to the display, in particular, of regulatory signs. These requirements are contained in the Road Traffic Act, Act 93 of 1996 and the Regulations to the Act, as amended from time to time.

2 Sections of the Act and Regulations of particular relevance, and their coverage, are as follows:

(a) Act: Chapter IX - Road Traffic Signs and General Speed Limits - Sections 56 to 60;
(b) Regulations: Chapter X - Rules of the Road - Sections 296 to 323;
(c) Regulations: Chapter IX - Matters Relating to Road Traffic Signs and General Speed Limits - Sections 284 to 295;
(d) Regulations: Schedule 3;
(e) Definitions
   (i) in Section 1 of the Act;
   (ii) in Section 1 of the Regulations;
   (iii) in Regulation 284 (only valid in respect of road traffic signs).

3 It is strongly recommended that anyone specialising in the provision of regulatory and warning signs and markings, or who requires to provide for such signs or markings for a situation which they have not previously had to deal with, should become familiar with all sections of the legislation noted above.

3.1.3 Size Requirements

1 The minimum legal external dimensions of regulatory and warning signs are laid down, in relation to the speed limit of the road on which they are to be erected, in Regulation 286. The main requirements are summarised in Table 3.1, but for complete details refer to Regulation 286.

2 The minimum width of any longitudinal regulatory or warning road marking is specified in Regulation 286 as 100 mm, with a tolerance of 10% below such a minimum. Additional legal road marking dimensional requirements are summarised in Table 3.2. Many longitudinal road markings are, however, recommended to be used at widths in excess of the minimum 100 mm. The more relevant of these are given in Table 3.3 and full details are given in Volume 4 Table 12.1.

3.1.4 Colour Requirements

1 Regulation 286A also requires road traffic signs to comply with SABS colour specifications as follows:

(a) Road Signs - SANS 1519:1:2006 and 1519:2:2004;
(b) Road Marking Materials - SANS 1091:2004;
(c) Roadstuds - SANS 1442:2008.
2 Specifications for the supply of regulatory and warning road signs and road markings should require general adherence to these SABS specifications, including the colour requirements. It should be noted, however, that Regulation 286 also states that failure of a sign to conform to the colours specified does not affect the legal validity of such a sign, in the absence of proof of prejudice.

3 It should also be noted that it is normal for standard specifications to be subject to revision and that any reference to a standard is deemed to be a reference to the latest edition of the standard. Other standards which are relevant with regard to the colour specification of road marking paints, including red road marking paint, are:

(a) SANS 731-1:2006 and 731-2:2006 Road and runway markings;
(b) BS381C: Specification for colours for identification, coding and special purposes.

3.1.5 Material Requirements

1 Schedule 3 to the Regulations requires that all control, command, prohibition and comprehensive regulatory signs and all warning signs be fully retroreflective (with the exception of any black text or symbols which are required to be semi-matt).

2 Rectangular reservation and parking reservation regulatory signs may optionally be specified with a semi-matt signface.

3 The specifications listed in Subsection 3.1.4 also have relevance to road sign and road marking materials including road marking paint used for the obliteration of other road markings (SANS 731-1:2006/731-2:2004 and SANS 1091:2004).

3.1.6 Symbols

1 The symbols used on regulatory and warning signs are registered by inclusion in Schedule 3 of the Regulations to the Road Traffic Act. As such they may only be varied in shape within fine manufacturing tolerances and symbols not registered by inclusion in the Regulations shall not be used on regulatory or warning signs.

2 If a need arises for a regulatory or warning message which is not catered for by symbol the appropriate message should be indicated in words within the sign in black semi-matt DIN 1451 letters of the style and size permitted by the space available in relation to the operating speed of the road, the sign size and the sign position. The effectiveness of a chosen letter size may be checked according to the rules given in Section 4.4 of Volume 1 or by means of the nomograms in that section. A minimum letter size of 70 mm should be adhered to. The number of words used in such a message should be limited to a maximum of three if at all possible. Examples of such signs are given in Volume 4, Chapters 2 and 3, together with recommended minimum letter sizes for different standard sign sizes.

3.1.7 Placement of Road Signs and Markings

1 Guidelines for the placement of road signs are covered in detail in Volume 1, Section 1.6. It is desirable that authorities providing regulatory and warning signs place them according to consistent standards which lie within the range of the stated guidelines. Standard sign positions need to be specified in three ways:

(a) longitudinally;
(b) laterally;
(c) vertically.

2 Regulatory signs are normally located at, or as close as is practical to, their point of application. As such they generally apply either at a point (STOP sign R1), or from the point onwards, until altered by another similar sign (SPEED LIMIT sign R201). Certain regulatory signs have specific longitudinal limits to their applicability whilst others need to be repeated at regular intervals eg. NO OVERTAKING signs R214 and R215 are only applicable for a distance of 500 m beyond the signs. For further details see Volume 1.

3 The function of triangular warning signs is that of advance warning. They should therefore be placed an adequate longitudinal distance in advance of the hazard to which they relate so that drivers have time to act accordingly (but not so far that they forget the message before reaching the hazard). Table 3.4 indicates recommended positions for advance warning signs based on a zero or almost zero speed at the hazard. These distances may be shortened if the hazard may be negotiated at some speed. For more detail refer to Volume 1, Section 1.6 and Chapter 3.

4 Hazard marker warning signs, as their name implies, should only be used to mark identified hazards.

5 Table 3.4 also includes recommended lateral and vertical regulatory and warning sign positions.

6 It is important to ensure that those practitioners actually siting and erecting signs, whilst adhering to the basic standards, are aware of circumstances under which these standards should be varied, and that they do not adhere slavishly to standards at the expense of effective signing. These people must be trained to look around the site of a sign to observe potential problems and to think out realistic solutions, on which they must take the initiative. This applies particularly to the obstruction of one sign by another, and relates also to signs which are being replaced or superseded by new signs. Under such circumstances the work instruction must include a requirement to remove the old sign. Examples of typical problem situations are covered in Figures 1.15 and 1.16 in Volume 1, Chapter 1, Section 1.6.

3.1.8 STOP versus YIELD

1 The majority of road junctions are controlled by one of the variants of STOP sign R1 or YIELD sign R2. The decision as to which sign to use is commonly made on policy grounds but can be made based on the available sight distance. It is generally recommended in Volume 1 that if adequate sight distance is available a YIELD sign should be used in preference to a STOP sign. Details of the sight distance requirements for the two signs are given in Figure 3.1.

(continued on page 3.1.6)
### TABLE 3.1
BASIC MINIMUM DIMENSIONS FOR REGULATORY AND WARNING SIGNS (Refer to Regulation 409)

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<td>Diameter</td>
<td>Circular Regulatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parking and Stopping</td>
<td>450</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>General</td>
<td>600</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>Overhead</td>
<td>900</td>
<td>1200</td>
</tr>
<tr>
<td></td>
<td>STOP sign R1</td>
<td>600</td>
<td>900</td>
</tr>
<tr>
<td>Side Length</td>
<td>Triangular Regulatory and Advance Warning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>900</td>
<td>1200</td>
</tr>
<tr>
<td>HeightxWidth</td>
<td>Rectangular Regulatory</td>
<td>445x338</td>
<td>900x675</td>
</tr>
<tr>
<td></td>
<td>Parking and Stopping</td>
<td>450x225</td>
<td>600x300</td>
</tr>
<tr>
<td></td>
<td>Bus and Minibus Stop</td>
<td>600x450</td>
<td>900x675</td>
</tr>
<tr>
<td></td>
<td>General</td>
<td>450x600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R4</td>
<td>450x600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R1.3 and R1.4</td>
<td>300x225</td>
<td>450x338</td>
</tr>
<tr>
<td></td>
<td>R2.1</td>
<td>300x225</td>
<td>450x338</td>
</tr>
<tr>
<td></td>
<td>Overhead</td>
<td>900x675</td>
<td>1200x900</td>
</tr>
<tr>
<td></td>
<td>Secondary message</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Examples</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side Length</td>
<td>R5</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>HeightxWidth</td>
<td>W401 and W402</td>
<td>600x150</td>
<td>600x150</td>
</tr>
<tr>
<td>Diagonal</td>
<td>W403 and W404</td>
<td>800</td>
<td>1200</td>
</tr>
<tr>
<td>Height</td>
<td>W405 to W410</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>HeightxWidth</td>
<td>W411 and TW411</td>
<td>200x1200</td>
<td>300x1800</td>
</tr>
<tr>
<td>HeightxWidth</td>
<td>TW412</td>
<td>450x900</td>
<td>600x1200</td>
</tr>
</tbody>
</table>

**NOTES:**

(1) “n” is the number of W405 or W406 modules which make up the W407 to W410 signs. Sign W409 when used with a GD2 sign must be the same length as the GD2 sign.

(2) The above dimensions apply to all temporary sign series as well as permanent signs.
### TABLE 3.2
**MINIMUM LEGAL DIMENSIONS FOR ROAD MARKINGS**

<table>
<thead>
<tr>
<th>Dimension Parameter</th>
<th>Road Marking Type</th>
<th>Urban</th>
<th>Rural</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>Longitudinal Lines</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>Continuous Longitudinal Lines</td>
<td>9000</td>
<td>12000</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>STOP line RTM1</td>
<td>300</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YIELD line RTM2</td>
<td>200</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLOCK PEDESTRIAN CROSSING RTM4</td>
<td>2400</td>
<td>2400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BICYCLE GUIDE LINES GM5</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any other transverse line</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
(1) Although the minimum width of a longitudinal road marking shall not be less than 100 mm (subject to tolerance), many types of longitudinal line are recommended to be marked at a greater width – see Table 3.3.

### TABLE 3.3
**RECOMMENDED WIDTHS FOR LONGITUDINAL ROAD MARKINGS**

<table>
<thead>
<tr>
<th>Road Marking Type</th>
<th>Recommended Width (mm)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO OVERTAKING LINE RM1</td>
<td>150 150</td>
<td></td>
</tr>
<tr>
<td>NO CROSSING LINES RM2</td>
<td>2 x 150 2 x 150</td>
<td>With 150 space</td>
</tr>
<tr>
<td>CHANNELISING LINE RM3</td>
<td>200 300</td>
<td></td>
</tr>
<tr>
<td>LEFT EDGE LINE RM4.1</td>
<td>150 150</td>
<td></td>
</tr>
<tr>
<td>RIGHT EDGE LINE RM4.2</td>
<td>150 150</td>
<td></td>
</tr>
<tr>
<td>BUS, CYCLE, HOV LANE LINE RM9</td>
<td>150 -</td>
<td></td>
</tr>
<tr>
<td>NO STOPPING LINE RM12</td>
<td>150 150</td>
<td></td>
</tr>
<tr>
<td>NO PARKING LINE RM13</td>
<td>100 100</td>
<td></td>
</tr>
<tr>
<td>CONTINUITY LINE WM2</td>
<td>200 300</td>
<td></td>
</tr>
<tr>
<td>DIVIDING LINE WM3</td>
<td>150 150</td>
<td></td>
</tr>
<tr>
<td>REVERSIBLE LANE LINES WM4</td>
<td>2 x 100 2 x 100</td>
<td>With 100 space</td>
</tr>
<tr>
<td>LANE LINE GM1</td>
<td>100 100</td>
<td></td>
</tr>
<tr>
<td>GUIDE LINE GM2</td>
<td>100 100</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
(1) See Table 3.2 for minimum legal widths of longitudinal markings.
(2) See Volume 4, Table 12.1 for more details.
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3.1.5

Fig 3.1 Junction Sight Distance Consideration

Table 3.1.1 Basic Sight Distance Criteria

<table>
<thead>
<tr>
<th>Speed-main Road (km/h)</th>
<th>P (m)</th>
<th>SU+T (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>95</td>
<td>140</td>
</tr>
<tr>
<td>80</td>
<td>130</td>
<td>185</td>
</tr>
<tr>
<td>100</td>
<td>155</td>
<td>230</td>
</tr>
<tr>
<td>120</td>
<td>190</td>
<td>280</td>
</tr>
</tbody>
</table>

Table 3.1.2 Stop Condition

<table>
<thead>
<tr>
<th>Speed-main Road (km/h)</th>
<th>S (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W=7, 5/P</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>120</td>
</tr>
<tr>
<td>80</td>
<td>160</td>
</tr>
<tr>
<td>100</td>
<td>195</td>
</tr>
<tr>
<td>120</td>
<td>235</td>
</tr>
</tbody>
</table>

Detail 3.1.2 Position of Stop or Yield Signs

Locate Stop or Yield Sign in envelope

300 Min 600 Pref.

12000 MIN. (rural)
2 Notwithstanding the placing information given in Sub-section 3.1.7 the position of a R1 or R2 sign is often affected by the geometry of the road junction and particularly by the corner radius. Details of a recommended placing "envelope" for R1 and R2 signs are given in Figure 3.1.

3.1.9 Basic Effects of Act and Regulations

1 As noted in paragraph 3.1.2.3 it is essential that regulatory and warning signs and markings practitioners understand the basic effects of the Road Traffic Act, Act 93 of 1996, and its Regulations on their activities. The reality is that the relevant aspects of the Act and the Regulations most commonly have their effects before the application of road traffic signs. They therefore represent the base upon which, the use of particularly regulatory signs and markings is built. Many definitions of terms and the "Rules of the Road" are important in this regard. A good understanding of the Act and Regulations also has the potential to minimise the costs of signing and marking as some of the details given in Figure 3.2 illustrate.

2 In the descriptions of the various details, quotations of definitions of terms and of sections of the Act and Regulations are frequently given. These are sometimes only quoted in part. For full information readers should consult the Act itself. Terms which are defined in the Act or regulations are highlighted in bold letters both when a definition is quoted and again if they form part of another definition. The latter is done to highlight the interdependence of certain terms.

3 "Road traffic signs" is a legal term and includes within its definition road signs, road markings and traffic signals. Only "road traffic signs" should be erected within a road reserve. The only signs, markings or signals recognised as "road traffic signs" are prescribed by the Minister of Transport by inclusion in Schedule 3 to the Regulations and the Act. "Road traffic signs" are classified in a hierarchal manner. Signs, markings and signals may be used to regulate, to warn or to guide or inform. Regulatory signs, markings and signals carry the force of law and clearly are the most important. Warning signs, markings and signals have a different importance because of the responsibility on road authorities to see that they are used meaningfully and when necessary in the interests of road safety.

4 Two important terms which have particular relevance to the placing of "parking" signs and on pedestrian rights of way are "intersection" and "junction". Details 3.2.1 and 3.2.2 in Figure 3.2 illustrate the extent of an intersection and a junction. It should be noted that a junction is always likely to be within an intersection. The term "intersection" is defined in the Act and as such has an important bearing on many aspects of traffic legislation. "Intersection" is defined as follows:

"intersection: means the area embraced within the prolongation of the lateral boundary lines of two or more public roads, open to vehicular traffic, that join one another at any angle, whether or not one such public road crosses the other;"

"junction" is defined for signing purposes only in Regulation 284 as follows:

"junction: means that portion of an intersection contained within the prolongation of the lateral limits of the intersecting roadways and such junctions shall include any portion of the roadway between such lateral limits, and any stop or yield line marking which is painted at such intersection;"

5 Detail 3.2.2 includes pedestrian crossing road markings as would be provided at a signalised junction (within an intersection). It is a provision of Regulation 304, inter alia, with certain exceptions, that:

"... no person shall stop a vehicle in the roadway of a public road (other than to comply with a road traffic sign) -

(h) within nine metres of his approaching side of a pedestrian crossing demarcated by appropriate road traffic signs;"

This latter provision also applies, through Regulation 305, to parking.

6 In Detail 3.2.2 the relevance of "intersection" is shown in the context of "parking" as covered by Regulation 305. "Parking", in this instance, means "parking" and "no parking". Regulation 305 states, inter alia, in paragraph (3) that:

"(4) No person shall park a vehicle on the roadway of a public road within an urban area --

(a) within nine metres of the side from which he or she approached a pedestrian crossing demarcated by appropriate road traffic signs, unless such parking is permitted by appropriate road traffic signs;

(b) within five metres of any intersection unless such parking is permitted by a road traffic sign;"

This means that it is not necessary to place NO PARKING signs R216 within five metres of the outer limit of an intersection. Attention to this detail can reduce the number of signs required in terms of the provisions of Regulation 288 (see paragraph 3.1.9.10 and Detail 3.2.4).

7 In order to understand better the interaction of various parts of a public road, knowledge of the definitions of the parts is important. The more relevant definitions are listed below and can be correlated with Detail 3.2.3:

"public road: means any road, street or thoroughfare, or except for the purposes of Section 88, any other place (whether a thoroughfare or not) which is commonly used by the public or any section thereof or to which the public or any section thereof has a right of access, and includes -

(a) the verge of any such road, street or thoroughfare;

(b) any bridge, ferry or drift traversed by such road, street or thoroughfare; and

(c) any other work or object forming part of or connected with or belonging to such road, street or thoroughfare;"

"roadway: means that portion of a road, street, or thoroughfare improved, constructed or intended for vehicular traffic which is between the edges of the roadway;"

"edge of roadway: means the boundary between the roadway and the shoulder, which is indicated by an appropriate road traffic sign, or in the absence of such sign -

(a) in the case of a road with a bituminous or concrete surface, the edge of such surface; or

(b) in the case of any other road, the edge of the improved part of the road intended for vehicular use;"
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3.1.7

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REGULATORY/WARNING

Fig 3.2
Basic Effects of Provisions of the Road Traffic Act and Regulations on Signing and Marking Applications
### TABLE 3.4
RECOMMENDATIONS FOR PLACEMENT OF PERMANENT REGULATORY AND WARNING SIGNS

<table>
<thead>
<tr>
<th>Sign Type</th>
<th>Options</th>
<th>Positions</th>
<th>Longitudinal (m)</th>
<th>Lateral (mm)</th>
<th>Vertical (mm)</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approach Speed (km/h)</td>
<td></td>
<td>B</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 B 80 100 120</td>
<td>Longitudinal (m)</td>
<td>B Urban</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>Regulatory</td>
<td>Minimum</td>
<td>At point of application or at regular intervals</td>
<td>600</td>
<td>1200</td>
<td>2100</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>Preferred</td>
<td>600</td>
<td>1500</td>
<td>2500</td>
<td>2100</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>n/a</td>
<td>2000</td>
<td>3000</td>
<td>2500</td>
<td></td>
</tr>
<tr>
<td>Warning</td>
<td>Minimum</td>
<td>120</td>
<td>150</td>
<td>240</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>Preferred</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>n/a</td>
</tr>
<tr>
<td>Hazard Marker</td>
<td>Minimum</td>
<td>At the hazard</td>
<td>600</td>
<td>600</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>4000</td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
<td></td>
</tr>
<tr>
<td>W401/W402</td>
<td>Minimum</td>
<td>At the hazard</td>
<td>600</td>
<td>1500</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>4000</td>
<td>4000</td>
<td>1200</td>
<td>1200</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

(1) The letters given in “Lateral” and “Vertical” columns refer to details given below.
(2) A number of regulatory signs have traditionally been mounted at a low level to improve their effectiveness, often at positions where traffic is split into separate paths by traffic islands – either two-way or one-way movements. Typical of such signs are KEEP LEFT sign R103 and NO U-TURN sign R213. Signs may also occasionally have to be mounted at lower levels to avoid other vertical obstructions.
(3) The longitudinal distances given apply for situations where the hazard is negotiated at zero or almost zero speed. These distances may be shortened for higher negotiating speeds at the hazard. See Figure 3.1 in Volume 1.
(4) Subject to sign support specification the lower limit is not recommended with highly frangible supports.

![Diagram of sign placement](image-url)
"kerb line: means the boundary between the shoulder and the verge;"

"shoulder: means that portion of a road, street or thoroughfare between the edge of roadway and the kerb line;"

"verge: means that portion of a road, street or thoroughfare, including the sidewalk, which is not the roadway or the shoulder;"

"sidewalk: means that portion of a verge intended for the exclusive use of pedestrians;"

8 Regulation 288 deals with stopping and parking of vehicles. As has been noted in paragraphs 3.1.9.5 and 3.1.9.6 these sections cover, amongst other things, some automatic controls on the stopping or parking of vehicles which, therefore, do not require the provision of "parking" signs to be effective for enforcement purposes. (It should be noted, however, that, as is common with such rules, they can be over-ridden by the provision of appropriate road traffic signs.) In addition Regulation 288 also deals with "Signs Regulating Parking". The combined effect of these aspects on the placing of "parking" road signs is illustrated in Detail 3.2.4 and in other figures in Section 3.4. Regulation 288 states, in part, the following:

"(1) A regulatory sign relating to parking of a vehicle shall be displayed at each end and on that side of a portion of public road where the significance of such sign is to be applicable: Provided that -

(a) no junction shall be included in any such section of public road;

(b) ....

(c) in respect of any section of public road which lies between the intersecting public roads and which does not exceed 75 metres in length, parking may be prohibited or restricted in such section by displaying only one appropriate sign;

(d) ....

(2) A regulatory sign prohibiting or restricting the stopping of a vehicle, shall be displayed at each end and on that side of the section of public road where the significance thereof is to be applicable: provided that -

.... as given in (1)(a) and (1)(c) above;

(3) A regulatory sign relating to the parking or stopping of a vehicle shall, unless it is displayed with the face parallel to the lateral line of the public road, display a similar sign on the reverse side."

9 Detail 3.2.4 shows the effects of the judicious collective interpretation of Regulation 288. If the automatic "no parking" within 5 metres of an intersection is applied some sections of roadway may become effectively "less than 75 metres" in length and therefore require only one sign.

In terms of Regulation 288 it is required that "no person shall park a vehicle on a public road - ... (f) in such a manner as to obstruct any private or public vehicular entrance to such road." This requirement in turn may reduce the "75 metre" sign requirement.

10 In the legal context "parking" includes "no parking" and "no stopping" (prohibition - R200 series) signing and "parking" (restriction - R300 series) signing, including all selective restriction variants of such signs. It is relevant also to note that the definition of "park" given in the Act is as follows:

"park: means to keep a vehicle, whether occupied or not, stationary for a period of time longer than is reasonably necessary for the actual loading or unloading of persons or goods, but does not include any such keeping of a vehicle by reason of a cause beyond the control of the person in charge of such vehicle."

11 In terms of Regulation 288 "parking" signs may be placed with the face parallel to the lateral line of a public road, or, by implication, alternatively at 90° to the lateral line of the public road. The regulation requires that in the latter case two signs must be provided each time, mounted back-to-back. The parallel mounting option is therefore the most cost effective system. It should be noted, however, that certain magistrates may require "parking" signs to be mounted at 90° to the road.

12 The definition of a "freeway" given in the Act states:

"freeway: means a public road or a section of public road which has been designated as a freeway by an appropriate road traffic sign." Signs R401 and R402 are the appropriate road traffic signs and they are illustrated in Detail 3.2.5. In terms of the road classification for signing purposes given in Volume 1, Chapter 1 freeways are Class A roads. The class is subdivided into Class A1: Dual Carriageway Freeways designated by sign R401 and Class A2: Single Carriageway Freeways designated by sign R402. Special provisions relating to freeways are dealt with in Regulation 323. A single carriageway freeway may operate with two-way traffic on a two lane or a four lane cross-section, neither of which, by definition, has a median, a central island, a dividing space or a barrier. The rules relating to such a median, a central island, a dividing space or a barrier, as provided on a Class A1 freeway are contained in Regulation 297. These provisions indicate that if a road authority creates an "opening" in such a median an appropriate road traffic sign should be provided to prohibit persons from driving through the opening. When a RIGHT EDGE LINE marking RM4.2 is provided this fulfils the requirement as an appropriate road traffic sign because drivers are precluded from crossing such a line. Figure 5.24 in Chapter 5 gives further details of optional treatment of a median opening for emergency vehicles."

13 The term "traffic circle" is defined for signing purposes in Regulation 284 as follows:

"traffic circle: means a junction which contains a traffic or painted island, around which a road user shall travel in a clockwise direction."

Mini-circle is not defined and is therefore included in the definition of a "traffic circle". The terms traffic island and painted island are also not defined but TRAFFIC CIRCLE MANDATORY DIRECTION ARROWS marking RM15 includes a form of painted island and this marking reinforces the substance of the definition. It is normal practice to only provide marking RM15 at small to medium sized traffic circles when all three arrows may be visible at the same time. The terms of the definition cover the direction of movement at traffic circles of all sizes, however.
14 Detail 3.2.6 shows three different sizes of traffic circle and there are further details given in Subsection 3.2.6 (Figure 3.13) and in Subsection 3.3.3 (Figure 3.20). Subsection 3.3.3 in particular goes into detail on the provisions of Section 94 which deals with the "Right of Way at Certain Road Junctions". It is a basic principle of Section 94 that right of way at a traffic circle is established by this rule without the provision of any road traffic signs. In practice this principle is workable for larger circles but becomes more difficult without road traffic signs as circles become smaller. The use of YIELD AT TRAFFIC CIRCLE sign R2.2 is recommended for use at small or mini-circles and its use modifies the rule of the road (see Subsection 3.3.3). The need, or not, for control at larger circles depends on the size of the circle and on traffic volumes, which in turn dictate the size and frequency of gaps in the "internal" traffic flow which allow intersecting vehicles to enter the circle. In Detail 3.2.6 in the large circle example two pairs of vehicles are shown. In the one case the "black" vehicle is so close as to make a yield a likely option for the driver approaching from his left - in other words the gap is too small for entry. The other pair of vehicles, whilst in a similar position are sufficiently far apart for the entering vehicle to proceed, accepting the available gap, without yielding. If traffic movement is such that gaps are commonly small, or marginal, the use of YIELD sign R2 (sign "A") may be considered because the internal "roadway" of the circle can be considered as a roadway in its own right (or that the traffic circle actually consists of four T-junctions). The medium sized circle on the other hand is too small to be considered as separate junctions and if control is required it is recommended that sign R2.2 (sign "B") be used.

15 Since the operation of traffic circles can permit the junction area to be used close to its maximum efficiency it is important that drivers signal their intentions when turning right or left because this may permit another driver to proceed. In terms of Regulation 300 - Driving Signals and Regulation 302 - Procedure When Turning, drivers are required to "...indicate, in the prescribed manner, his intention to turn ...". Clearly failure to do so constitutes an offence. Any authority wishing to use traffic circles successfully is recommended to draw attention to these requirements in any publicity material it prepares.

16 In the Act a "pedestrian crossing" is defined as follows:

"pedestrian crossing: means -
(a) that portion of a public road at an intersection included within the prolongation or connection of the kerb line and adjacent boundary line of such road, whether such portion is marked or not; or
(b) any other portion of a public road designated as a pedestrian crossing by appropriate road traffic signs;"

Detail 3.2.7 shows four options for pedestrian crossings. The upper part of the detail illustrates the provisions of the definition paragraph (a). It should be noted that, technically, with a relatively narrow roadway within a wide road reserve (public road) the legal pedestrian crossings, within which pedestrians have certain rights, are potentially very wide.

17 The central part of Detail 3.2.7 shows the use of guidelines for pedestrians which may usually effectively reduce the width of a potentially wide pedestrian crossing, but which do not comply with paragraph (b) of the definition as "appropriate road traffic signs". The lower part of the detail shows a mid-block pedestrian crossing designated by YIELD TO PEDESTRIAN sign R2.1 and BLOCK PEDESTRIAN CROSSING markings RTM4 and a signalized junction with PEDESTRIAN CROSSING LINE markings RTM3, both of which comply with the requirements of paragraph (b) of the definition. The rights of pedestrians are covered by Regulations 315 and 316. Regulation 315 states that:

"(1) Where a pedestrian crossing is situated in conjunction with a robot (traffic signal), a pedestrian shall not enter such crossing except in accordance with the indications of such robot as prescribed;

(2) In circumstances not referred to in subsection (1), the driver of a vehicle shall yield the right of way, slowing down or stopping if need be, to so yield to a pedestrian crossing the roadway, within a pedestrian crossing when the pedestrian is upon that half of the roadway upon which the vehicle is travelling, or when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger; ....."

In terms of the foregoing it is not easy to determine how a pedestrian crossing may be marked at an unsignalised junction. It is recommended that the use of PEDESTRIAN CROSSING LINE markings RTM3 be reserved for use at signalised junctions. Therefore, if it is required to mark a pedestrian crossing, either in mid-block or at a junction where traffic signals are not installed, it is recommended that BLOCK PEDESTRIAN CROSSING markings RTM4 be used, with or without sign R2.1.

18 In addition to the various terms discussed and defined in earlier paragraphs there are a number of other terms, the significance of which is important to understand. In many instances the significance of a term is related to the significance of some other term included within its definition or statement of meaning. For example the meaning given to NO PARKING sign R216 is:

"Sign R216: indicates to the driver of a vehicle that he shall not park his vehicle on any portion of a public road where such sign is displayed and that the provisions of Regulation 288(1) are applicable."

The inclusion of "public road" which is a term defined in the Act means that sign R216 is applicable throughout the "public road", including the roadway, shoulders and verges.

19 A shoulder lies between the edge of the roadway and the verge. Many single carriageway roadways have shoulders, the extent of which is indicated by LEFT EDGE LINE marking RM4.1 Dual carriageway roadways commonly have both left and right side shoulders, the latter being indicated by a RIGHT EDGE LINE marking RM4.2. In each case the area on the opposite side of the shoulder from the roadway is verge, so that for the purposes of definition a central median or dividing space is classified as a verge. EDGE LINE markings RM4.1 and RM4.2 have the following significance, given in Schedule 3 of the Regulations:

"Marking RM4.1: indicates to the driver of a vehicle the left edge of the roadway and that he shall not drive such vehicle to the left of such marking; and
Marking RM4.2: indicates to the driver of a vehicle the right edge of the roadway and that he shall not drive such vehicle to the right of such marking or cross such marking."

20 Control over driving on a shoulder is covered by Regulation 298A, which states:

"(1) Subject to subsection (2) .... no person shall drive a motor vehicle on the shoulder of a public road.

(2) Notwithstanding the provisions of subsection (1), the driver of a motor vehicle may, during the period between sunrise and sunset, drive such motor vehicle on the shoulder of a public road which is designated for one lane of traffic in each direction -

(a) while such motor vehicle is being overtaken by another vehicle; and

(b) if he or she can do so without endangering himself or herself, other traffic, pedestrians or property on such public road; and

(c) if persons and vehicles upon the public road are clearly discernible at a distance of at least 150 metres."

It should be noted the option to drive on a shoulder does not extend to public roads with more than two lanes, nor to the hours of darkness. This provision places an obligation on road authorities to inspect relevant shoulders for possible obstructions (see Figure 3.43).

21 The following are brief references to other important sections of legislation for those involved with regulatory and warning signs:

(a) Minister may prescribe road traffic signs - Act: Section 56;

(b) Authority to display road traffic sign - Act: Section 57;

(c) Speed Limits - Act: Section 59 and Regulations 292 and 293;

(d) Reverse side of a STOP sign R1 shall be white - Regulation 286A (4);

(e) Minimum dimensions for road traffic signs - Regulation 286 (1) to (4);

(f) if two signs appear to be in conflict a temporary sign shall take precedence over any other sign - Regulation 287(5)(a);

(g) A bus, midi-bus or mini-bus stop sign shall take precedence over a parking or stopping sign - Regulation 287(5)(c).

3.1.10 Figure/Drawing Codes

1 The drawings in this chapter are limited in their ability to convey information by the A4, and even the A3, page formats. For this reason, in depth detail of road marking dimensions has been limited. This information can be found in Chapter 2: Road Markings. This refers particularly to recommended line widths for longitudinal markings.

2 Whilst every effort has been made to make these figures as clear as possible in some instances the pressure for information is great. In order to demonstrate a point a geometric detail of a roadway and/or junction is commonly required. The figures must not be seen as geometric design details, however, but as representations of the combined application of many signs and markings. It is also not possible for all such figures to conform to all road authority practices since there are significant variations in practice between local authorities.

3 A road marking which has been in use for many years, KERBFACE marking GM8, has been formally introduced as a type of road marking "road traffic sign". This is illustrated in all figures in which it is used by a short frequency, equal length, black and white pattern. The marking is most commonly used on corner kerbing.

4 In many of the urban figures the level of detail is difficult to portray with great clarity. In particular, at the relative "scales" of the figures, it can be difficult to differentiate between marking GM8 and the broken line versions of markings RM12 and RM13. NO STOPPING marking RM12 and NO PARKING marking RM12 may be applied in a broken line when their function is only a part-time one. These markings are coded as long shaded lines with short breaks and are never shown round a corner radius.

5 The chapters of Volume 2 of the South African Road Traffic Signs Manual (SARTSM) are not prepared in colour. Relevant examples used to illustrate appropriate signs, signals and markings are shaded in a black and white coding which is illustrated below.

6 The basic principles of the road traffic sign colour coding system are shown, in colour, in the SADC-RTSM Volume 1, Chapter 1, Section 1.4, and in the Contents sections of relevant Volume 1 and 4 Chapters.
3.2 SIGNING AND MARKING APPLICATIONS IN RURAL SITUATIONS

3.2.1 General

1. The examples covered in this section represent very general regulatory and warning sign and marking applications. They have been classified as rural because they will frequently occur in rural situations, however, many of them may occur in almost any type of road environment.

2. Figures 3.3 to 3.7 illustrate a range of typical rural road junctions. The details in these figures are graded from the simplest junctions such as private or farm accesses up to junctions between dual carriageways. The general principle which has been applied throughout the details is one of attempting to make the positions of junctions clearly identifiable to approaching drivers, even at night.

3. Figures 3.8 to 3.12 deal with a variety of regulatory and/or warning situations which may occur on sections of rural road. Many other specific situations are possible. The principles of the examples given should be noted and applied to more specific situations when required.

4. Figures 3.13 and 3.14 give some coverage of less common types of rural junction.
3.2.2 Typical Minor Rural Road Junctions

1 The following comments refer to Figures 3.3, 3.4 and 3.5. Comments on larger rural junctions are given in Subsection 3.2.3.

2 Figures 3.3, 3.4 and 3.5 include examples of six typical minor rural road junctions graded from simplest to more complex. Many other junction configurations are possible but the majority will include features covered in the six examples. The provision of regulatory and warning signs and markings for specific junction types should therefore be evolved from the examples illustrated. If for example the situation illustrated in Detail 3.3.2 actually occurred on a road with surfaced shoulders the treatment of the shoulder markings in the vicinity of the junction should be essentially as illustrated in Detail 3.3.1.

3 The details given in the figures in this subsection are related to the physical features of the junctions illustrated and not per se to the classes of roads involved. For example Details 3.3.1 and 3.3.2 are appropriate whether the through road is Class D, C or B and the intersecting side road is Class E, D or C.

4 The principles illustrated for gravel intersecting side roads are that:

(a) if the through road has surfaced shoulders and/or edge line markings the presence of the side road or access is identified by the shoulder or edge line treatment - what happens to the “dividing line” is dependent on the need or otherwise for the use of a NO OVERTAKING LINE RM1, according to the warrants appropriate for the use of such a line;

(b) if the through road does not have surfaced shoulders, or an edge line marking, the presence of the side road or access needs to be identified by the “dividing line” treatment in one of the following ways:

(i) if the dividing line between opposing streams of traffic is indicated by a NO OVERTAKING LINE RM1 (or NO CROSSING LINES RM2) the line should be broken at the junction as indicated in Detail 3.3.2;

(ii) if the dividing line between opposing streams of traffic is indicated by a DIVIDING LINE WM3, an 80 m to 140 m length of NO OVERTAKING LINE RM1, broken at the junction by a section of DIVIDING LINE WM3 may be introduced, as illustrated in Figure 3.4.

5 Detail 3.3.1 shows a gated access. In such circumstances it will not normally be necessary to provide a STOP sign R1 or a YIELD sign R2 since drivers entering the through road will have to stop at the gate.

6 Figures 3.5 and 3.6 illustrate situations where the volume of turning traffic has warranted separation of traffic on the through road into two lanes in one direction. If it is required that one of these lanes becomes dedicated to turning traffic only, then the road marking may be varied as follows:

(a) for a left turn - by a demarcation of the left hand lane by 200 mm wide CONTINUITY LINE WM2 and CHANNELISING LINE RM3 on the left side of the through lane (or through and left turn shared lane), with arrow markings as appropriate;

(b) for right and left turns - by the provision of shared lanes indicated by the appropriate MANDATORY DIRECTION ARROWS RM8 (yellow) and MANDATORY DIRECTION AHEAD ARROWS WM7 (white) - see Figure 3.5;

(c) for a right turn - by the introduction of a painted island to divert all traffic into the other lane and by the use of 200 mm wide CONTINUITY LINE WM2 and CHANNELISING LINE RM3 on the right side of this through lane (or through and left turn shared lane), with arrow markings as appropriate (as shown in Figure 3.6).

7 When a shoulder extension or lane extension is demarcated through a junction by a CONTINUITY LINE WM2, or a LANE LINE GM1, it is recommended that these lines be dropped over the length of the return taper on the exit side of the junction when the space to the left of these lines is wide enough to accommodate a vehicle (see Figures 3.4 and 3.5).

8 If such a junction is on a Class B road the provision of directions signs GD1 and/or GD2 may be warranted according to local policies. When these signs are provided the warning signs illustrated in these details may be omitted. However, if the GD1 and/or GD2 signs do not include sign stacks for all turn directions an appropriate advance warning sign shall be provided a distance Vm in advance of the junction or sign GD1 when such is provided, where “V” is the operating speed of the road (see Chapter 10 for further details).

Checklist

- has some provision been made in the edge or dividing line treatment of the road markings to indicate the presence of a junction?
- if turning lanes are provided are they adequately protected from entry by through traffic?
- is the merging nature of the exit traffic path from the junction evident from the road markings i.e. do the markings adequately lead drivers back into the on-going section of the road and not force them onto a shoulder for example?
- can the position of the junction be further identified by a lower order direction sign (GD4 fingerboard) or by a ROAD NAME sign GL1?
- if direction signs GD1 and/or GD2 are in place are advance warning signs required or not?
Fig 3.3  
Unsurfaced Side Roads

(i) 15m long taper for shoulders  
2m or less in width  
(ii) R1 or R2 not required for 
gated entrance

NTX N

Detail 3.3.1 Gravel Side Road with Gate -  
Through Road with Surfaced Shoulders

NTX N

Detail 3.3.2 Un-gated Gravel Side Road -  
Through Road with Unsurfaced Shoulders [see para. 3.2.2.4 (b) (ii)]

NTX N
Dimension 'X' varies with the geometric design of the junction - subject to a minimum 1.2m and maximum 15m.

**Fig 3.4** STOP or YIELD Control – Minor Surfaced Side Roads
Fig 3.5  STOP or YIELD Control – Minor Surfaced Side Roads
With Main Road Widening
3.2.3 Typical Multi-lane Rural Road Junctions

1 Figures 3.6 and 3.7 show details of the regulatory and warning signing and marking of typical large rural road junctions.

2 Figure 3.6 illustrates a 4-lane undivided road intersected by a lower order crossing road. Both roads are provided with locally developed right turn lanes on all approaches. Detail 3.6.2 shows an alternative side road treatment when the side road is provided with a kerbed central island. Such a treatment may be more common at T-junctions but can be provided at crossroad approaches as well. This detail also illustrates the application of a STOP/YIELD sign R1.2 and appropriate road markings.

3 Figure 3.7 deals with a full dual carriageway junction. Only one approach is shown in full detail but a junction of this size is likely to have common standards on all approaches.

4 Junctions of this size may commonly be provided with turning sliproads of greater or lesser size. The two figures show different sized examples. Whilst the treatment of such turning roads is essentially a geometric exercise, designers must be aware of the limitations of a standardised approach to painted island design as it applies to the painted islands which may partially surround a kerbed island at such a junction. The design of these painted islands is improved by careful attention to the offset of kerb lines from the travelled way (see Chapter 2).

5 Important factors incorporated into the details of these figures are:
   (a) the need to set STOP LINE RTM1 well back on narrow intersecting side roads (and/or provide additional width on the exit path for large turning vehicles - Figure 3.6) - values for dimensions "X" and "Y" shown in both figures depend on many factors, particularly lane widths and design vehicles;
   (b) the clear definition of the through portion of the travelled way, however many lanes it comprises, by means of wider CONTINUITY LINES WM2 and CHANNELISING LINES RM3 (200 mm width recommended);
   (c) identification of the extremities of all kerbed islands, and thereby particularly the turning paths, by the use of KERBFACE marking GM8.

Checklist
- are dedicated turning lanes fully protected from entry by through traffic?
- are the turning paths clearly identifiable - or would the use of GUIDELINE marking GM2 by appropriate (see Figure 3.17 and Chapter 2)?

Fig 3.6
Junctions on Multi-lane Roads
With Priority
Fig 3.7
Junctions on Dual Carriageway Roads
3.2.4 Typical Rural Road Restrictions

1 Restrictions placed on drivers by means of regulatory signs and/or markings are relatively infrequent on rural roads, particularly in comparison to the total length of rural road within the road network. The most commonly applied restrictions are those imposed by EDGE LINE markings RM4.1 and RM4.2 and by NO OVERTAKING LINE RM1 and NO CROSSING LINES RM2. It should be noted that the definition and function of parts of the roadway associated with EDGE LINE marking RM4.1 have been significantly altered (mid-1995) (see Figure 3.2 for further details). The provision of markings RM1 and RM2 are covered in detail in Volume 1, Chapter 7.

2 Detail 3.8.1 shows a typical application of NO STOPPING signs R217 and NO STOPPING LINE RM12 to a short section of rural road. This sort of application is likely to be required in association with the following features located within, or close to, the road reserve:
   (a) schools;
   (b) rural stores;
   (c) bus stops (or other transport exchange points);
   (d) tourist related laybys;
   (e) rest laybys.

3 Detail 3.8.2 illustrates a typical section of road on which NO OVERTAKING sign R214 is considered necessary. Sign R214 should only be used on a standard two-lane two-way roadway in addition to road markings RM1 or RM2. The sign is intended to apply for relatively short sections of road and the prohibition is only effective for 500 m beyond the sign. It is therefore necessary, to repeat the sign at 500 m intervals on longer sections. Such a restriction on overtaking is likely to lead to driver frustration, particularly if the reason is not immediately obvious. In an attempt to redress this reaction reassurance may be given by a SUPPLEMENTARY PLATE sign IN11 with a suitable brief text message (IN11.4) or with a "Distance for" (IN11.2) i.e. "For 3 km".

4 The use of NO OVERTAKING sign R215 (GOODS VEHICLES BY GOODS VEHICLES) is more appropriate to uphill or downhill sections of multi-lane road on which it is required to restrict the occupation of more than one lane by goods vehicles.

5 Figure 3.9 illustrates prohibitions some distance ahead which are likely to require some drivers to take an alternative route. Such circumstances may be permanent or temporary in nature and may require the provision of special direction signs in addition to anything indicated in Figure 3.9. MAP TYPE sign GD9 is strictly a guidance sign but should incorporate the relevant restriction in the form of a regulatory sign with a distance message. Sign GD9 may be used in its permanent form for restrictions which are fixed e.g. a low bridge, or in a temporary form (TGD9) for temporary restrictions e.g. a bridge wash-away. It should be noted that, for convenience Figure 3.9 shows two types of restriction. These are unlikely to occur so close together.
Fig 3.8
No Stopping/No Parking – No Overtaking
Fig 3.9
Height/Width or Other Restriction Ahead
3.2.5 Typical Rural Hazard Situations

1 The situations illustrated in Figures 3.10 and 3.11 are very much everyday physical feature hazards that exist on all rural roads. The principle purpose of the signing is to increase the conspicuity of the hazard to drivers. The signs used are therefore hazard marker warning signs which include:
   (a) DANGER PLATES W401 and W402;
   (b) SHARP CURVE CHEVRON signs W405, W406, W407 and W408;
   (c) GUARDRAIL DELINEATOR D1 (which is classified as a road marking).

2 Physical features which should be marked by such signs are:
   (a) bridge abutments and piers on underpasses;
   (b) bridge parapets on overpasses;
   (c) culvert headwalls and culvert positions;
   (d) guardrail sections;
   (d) sign gantry columns;
   (e) height gauge supports at railway crossings;
   (f) any other feature such as trees which are within the safety run-off area at the side of the road.

3 Detail 3.11.2 shows how several SHARP CURVE CHEVRON signs W405 (or W406) may be used in sets, at regular spacings, to define sharp road curvature. Care should be exercised in the placing of such signs to optimise their effectiveness. It is recommended that the first sign to be located be that which will, as nearly as possible, be directly on the line of sight of approaching drivers. All others should then be positioned before and after this sign. The preceding signs should start at, or very close to, the curve tangent point.

4 Figure 3.12 illustrates typical signing which might be called for at a tunnel or a high and exposed viaduct. The situation portrayed is relevant to a typical tourist route where these features may well be linked to panoramic views or even view sites. The signs and markings shown are representative only. Many alternative signs may be warranted at a specific site.

5 In many of the situations illustrated in this subsection the use of roadstuds is likely to enhance awareness of the hazardous circumstances. The use of closer than minimum spacings for the roadstuds will also commonly be warranted.
Fig 3.10 Culverts and Bridges
Fig 3.11 Curves and Guardrails
Fig 3.12  Tunnels and Viaducts
3.2.6 Less Common Types of Rural Junction

1. Figures 3.13 and 3.14 depict three less common types of junction which may occur occasionally in rural areas. Although the junctions concerned may be considered less common they are none-the-less standard junction types. The inclusion of these examples should not be considered as advocating the use of these types of junction, nor any other junction, incorporating what can be considered as complex or non-standard roadway configurations.

2. The traffic circle shown in Figure 3.13 should be considered as "large" (with an internal island diameter of 20m or more). In terms of Regulation 301 (under the "Rules of the Road" of the Road Traffic Act, Act 93 of 1996), it is strictly not necessary to erect control signs at the entry to the circle because priority is determined in terms of the rule, unless "... entry into such junction is controlled by an instruction given by a traffic officer or a direction conveyed by a road traffic sign requiring him to act differently". In this context a "road traffic sign" includes any prescribed road sign, traffic signal or road marking. In the example the signing and marking of the circle is shown to conform to the provisions of the relevant "Rule of the Road" (Regulation 301). No control signs are provided at points of entry to the circle, nor are there STOP lines or YIELD lines. Guidance to define the outer perimeter of the circular roadway is given by CONTINUITY LINE marking WM2.

3. Since traffic circles are not a common type of junction, it is recommended that GD2 direction signs be provided on all exit legs of such junctions even if the class of road concerned does not qualify for direction signs in terms of local policies. The arrow on the GD2 signs may be angled upwards at 45° to indicate the relatively high speed of turn on leaving the circle. The use of an adequately sized FINGERBOARD sign GD4 may be appropriate.

4. Y-junctions are not common. Their particular feature may be that visibility in one direction is significantly worse than in others. It is recommended that, subject to traffic volumes, the approach with the best visibility be the one without control. Three-way STOP control may be considered if the junction has a poor accident history.

5. The other junction illustrated in Figure 3.14 is a form of "Bennet" junction whereby TWO-WAY traffic is permitted on the turning roadways. This form of junction generates traffic movements which unfamiliar drivers may not anticipate. It should be noted that it is fundamentally incorrect to use signs such as KEEP LEFT sign R103 in the gore areas of the traffic islands. It is recommended that consideration be given to the careful use of GUIDELINE marking GM2 and INFORMATION ARROW GM4.1. Because of the unusual configuration of the turning roadways it is particularly important that signs and markings be well maintained.
Fig 3.13 Large Rural Traffic Circle Junction

NOTE:
1. Road markings conform to the requirements of the Rules of the Road - see paragraph 3.2.6.2.
2. The example shows two different approach types for variety with and without raised islands.
3. Advance direction signs GD1 or GD8 will normally be provided.
Fig 3.14 Uncommon Types of Rural Junction
3.3 SIGNING AND MARKING APPLICATIONS IN URBAN SITUATIONS

3.3.1 General

1. The situations illustrated by examples of regulatory and warning sign and marking applications in this section are specific to urban areas and many of them relate to central business districts (CBD). Many of the examples covered in Section 3.2 may also be appropriate in urban areas.

2. Figures 3.15 to 3.17 show a wide range of typical urban street junctions. The details in these figures are graded from the simplest cross road or T-junction in a residential area up to junctions between dual carriageways. CBD type junctions, including intersecting one-way streets, are covered in Figures 3.18 and 3.19 and Figure 3.20 gives details of a range of traffic circle types found in urban areas.

3. A variety of less common situations involving the application of regulatory and warning road signs and markings are illustrated in Figure 3.21.

4. No Stopping and No Parking controls common in urban areas, and particularly CBD areas, are covered by Figures 3.22 to 3.24 and the balance of figures up to Figure 3.29 deal with details of:
   (a) bicycle facilities;
   (b) motorcycle facilities;
   (c) concealed entrances; and
   (d) shopping centres.

5. Detailed examples of parking control are covered in Section 3.4.
3.3.2 Typical Urban Street Junctions

1 Detail 3.15.1 shows a typical local traffic area in an urban or metropolitan environment. The simplified urban road network illustrated includes a range of urban street types ranging from a residential Class "D" street up to intersecting Class "B" arterial numbered routes (see Chapter 9). Minor junction types are detailed in Figure 3.15. The majority of these are straightforward typical urban street junctions. The following details illustrate specific less common junction treatments:

(a) Details 3.15.4 and 3.15.5 show two examples of non-standard arrangement of STOP or YIELD control where turning traffic at a T-junction is given priority over on-coming straight-on traffic - this arrangement is only appropriate when traffic flows are particularly heavy on the side road;

(b) Detail 3.15.6A illustrates a preferred treatment for a minor side road entering an arterial dual carriageway road when no median crossing is provided; the traffic island is designed to force a "left-out/"left-in" movement which can significantly reduce the risk of a wrong-way turn to the right.

2 In Figures 3.16 and 3.17 a progressive build-up in the size of arterial road junctions is catered for. In a similar way to rural situations, illustrated in Section 3.2, traffic should be protected from unwittingly entering exclusive turn lanes. The road marking layout should be designed to "force" drivers into making a specific decision to enter such a dedicated turn lane. Typical of such techniques are:

(a) right turn lanes developed on the approach to a junction should be "protected" against unintentional entry by a painted or physical traffic island (see Details 3.16.1 and 3.17.2);

(b) right or left turn lane markings using 200 mm wide CONTINUITY LINE WM2 and CHANNELISING LINE RM3 to inhibit unintentional movement into the dedicated turn lane to the right or left.

Similar techniques are also illustrated for dedicated turn lanes in a CBD environment in Subsection 3.3.5 and in Chapter 2.

3 The provision of "stacking lanes" is illustrated in several details of multi-lane junctions. It is recommended that the marking of such stacking lanes be standardised as widely as possible. The recommended marking pattern for stacking lanes comprises 9 m of CHANNELISING LINE RM3, preceded by 18 m of "Extra" LANE LINE GM1 or CONTINUITY LINE WM2. The concept described in paragraph 3.3.2.2 of using wider lines bordering dedicated turn lanes is particularly recommended over the stacking lane length (according to this principle a LANE LINE should not be marked with a line wider than 100 mm). Stacking lanes may be made longer than 27 m (or three standard urban road marking modules) if high traffic volumes are likely to generate long queues, particularly at signalised junctions. The lanes should, where practical, be extended in 9 m increments. At minor junctions stacking lanes less than 27 m long may be specified but for purposes of legal enforcement the minimum length of NO OVERTAKING LINE RM1, NO CROSSING LINE RM2 and CHANNELISING LINE RM3 in an urban area must be 9 m.

4 In an urban environment it may be necessary, in close proximity to a junction, to prohibit right turns from within the stacking lane length, or further, in order to gain access to property. This can be achieved by replacing the dividing NO OVERTAKING LINE RM1 with a section of NO CROSSING LINE RM2. An example is illustrated in Detail 3.16.1.

5 Stacking lanes which are dedicated turn lanes shall be provided with appropriate MANDATORY DIRECTION ARROWS RM8 (yellow). It is recommended that shared turn and through lanes also be provided with RM8 arrows. If these provisions result in only one lane without an arrow it is recommended that RM8 arrows be placed in all lanes. All RM8 arrows shall be preceded by at least one MANDATORY DIRECTION ARROW AHEAD WM7 (white). Detailed positioning of these arrows is given in Chapter 2. WM7 arrows shall not be used to indicate the addition of a turning lane. Added lanes should be indicated by BIFURCATION ARROWS GM3 (see Details 13.16.1 and 13.17.1).

6 Figures 3.18 and 3.19 show regulatory signing and marking for typical CBD type urban junctions. These figures are limited to the immediate environs of the junction. Similar details covering NO STOPPING and NO PARKING indications are covered in Subsection 3.3.5 and in Chapter 2 (see also Chapter 8, Figure 8.29).

7 The following design factors are relevant for typical CBD junctions:

(a) ONE WAY signs R4.1 or R4.2 shall always be provided pointing into the junction (ie. on the "downstream" side);

(b) under normal circumstances NO ENTRY sign R3 is not required in addition to signs R4.1 or R4.2;

(c) where practical it is recommended that the potential through path from a dedicated turn lane be visually or physically blocked by a PAINTED (traffic) ISLAND RM5 or by an extension of the sidewalk (this will have the added benefit of shortening pedestrian crossing lengths);

8 Subsection 3.3.5 covers additional aspects of junction signing with regard to parking and its control.

Checklist

- does the junction have lanes dedicated to right or left turning traffic only?
- can the treatment of a "non-standard" junction be modified to conform more closely to standards illustrated?
- are locally developed right turn lanes protected by a painted island?
- are GUIDE LINES GM2 warranted (see Figure 3.17)?
- is the provision of optional NO LEFT TURN sign R209 or NO RIGHT TURN sign R210 warranted?
- is it advisable to warn of a two-way cross street ahead using sign W213?
Fig 3.16 Typical Urban Junctions – Arterial - 1

Detail 3.16.1 Typical Multilane Tertiary Arterial T-Junction

Detail 3.16.2 Typical Multilane Secondary Arterial Cross Road Junction
Fig 3.17
Typical Urban Junctions – Arterial - 2
3.3.6 URBAN

Fig 3.18 Typical Urban Junctions – CBD - 1

Detail 3.18.1 Typical Signalled Two-Way CBD Junction with Parking

Detail 3.18.2 Typical Unsignalled Two-Way CBD Junction with Parking
3.3.3 Traffic Circles

1. The details given in Figure 3.20 relate to the use of traffic circles, large or small, as a form of traffic control and not specifically to "mini-circles" as commonly used in "traffic calming" schemes. Mini-circles used in a traffic calming context are covered in Chapter 12.

2. Traffic circles can provide a very effective form of ordering priority of use of a junction without the potential inefficiencies of a traffic signal or a STOP control on one of the intersecting streets. This is because:
   (a) if there is no opposing traffic there is no delay;
   (b) as potentially conflicting vehicles approach, many conflicts can be removed simply by drivers signaling their intended movement;
   (c) for the remaining movements priority can be established and drivers proceed, taking advantage of all available gaps in the traffic, according to reasonable rules.

3. When considering the regulatory signing and marking of a traffic circle it is important to start from the provisions of Regulation 301 (Road Traffic Act, Act 93 of 1996). The requirements of this section are, inter alia, that "The driver of a vehicle shall .... yield right of way to all vehicular traffic approaching from his right, within such junction, ....". This means that, if the circle is sufficiently large for a driver to be reasonably able to judge the above requirement, the "Rule of the Road" requires no further support from regulatory signs or markings for priority of movement to be exercised (and for it to be enforceable) (see Figure 3.13).

4. It has been common practice in the past to erect YIELD signs R2 on all approaches to a traffic circle and to also mark YIELD LINE marking RTM2 at the point of entry to the circle. In terms of Regulation 301 the provision of such signs varies the "rule" given in paragraph 3.3.3.2 because Section 94 goes on to state "... within such junction, unless his entry into such junction is controlled by ..... a direction conveyed by a road traffic sign requiring him to act differently": YIELD sign R2 and YIELD LINE marking RTM2 are both road traffic signs and marking RTM2 has the same legal significance as sign R2. These regulatory road traffic signs require, inter alia, in terms of Schedule 3 to the Regulations of Act 93 of 1996, that "... the driver of a vehicle approaching such a sign .... shall yield right-of-way to all ..... traffic on the roadway which is joined by the roadway on which he is travelling ..... where such traffic is so close as to constitute a danger or potential danger". Only when a traffic circle is sufficiently large for the circular portion to be considered a "roadway", in its own right, can the effect of using signs R2 on all approaches be considered to be similar to that required by the Regulation 301 rule. As circles become smaller the circular portion tends to become less of a "roadway" and more simply a "junction". At the lower limit of the scale, namely at a mini-circle, it becomes difficult to determine:
   (a) whether a vehicle is on an approach to the junction or within it; and
   (b) whether the circular portion can be considered as a roadway.

5. The YIELD AT TRAFFIC CIRCLE sign R2.2 has been introduced to cater principally for these difficulties at small traffic circles. Sign R2.2 requires that "... the driver of a vehicle approaching a traffic circle .... shall yield right of way to any vehicle which will cross any yield line at such a junction before him and which, in the normal course of events, will cross the path of such driver's vehicle". The effect of this requirement is to move the point of reference, for a decision to be made by the driver approaching the sign, back to any of the yield lines on the perimeter of the circle rather than to the roadway within the circle. It is evident that it is particularly important to the operational efficiency of traffic circles that drivers comply with the requirements of Regulation 300 and "give a conspicuous signal ..... of his intention to turn his vehicle to the left or to the right ....." (another "Rule of the Road"). Any authority preparing publicity material relating to traffic circles and their use is recommended to highlight this aspect.

6. It should be noted that provision of regulatory road markings TRAFFIC CIRCLE MANDATORY DIRECTIONAL ARROWS RM15 is likely to assist effective enforcement at mini-circles. The marking of the actual circle, if it is not a raised traffic island, should be according to the requirements of PAINTED ISLAND marking RM5. Detailed 3.20.5 illustrates painting options.

Checklist

- are control signs actually necessary?
- which sign is most appropriate, R2 or R2.2?
- on larger circles, can the splitter islands accommodate direction signs (see Figure 3.13)?
Fig 3.20
Traffic Circles
3.3.4 Other Traffic Control Situations

1. Figure 3.21 shows a diverse selection of urban road situations which from time to time create some difficulty at the design stage.

2. Detail 3.21.1 covers a typical minor crossroad junction with an urban dual carriageway. The feature of interest is that it is recommended that “stacking lanes” be marked on the dual carriageway approaches to the junction even though traffic in these lanes has priority. The function of this treatment is to increase the awareness of drivers of the existence of the intersecting road and to reduce the likelihood that drivers may change lanes through the junction since this action may affect the judgment of crossing drivers. If the median is very wide a STOP or YIELD condition may be created for crossing or turning traffic within the median opening.

3. Detail 3.21.2 deals with a situation which is not common but does occasionally occur, namely the provision of breaks in the median of a dual carriageway road which are not located at an intersecting side road. The purpose of such breaks is to permit U-turns through the median in a controlled manner. The sequence of median breaks indicated in the detail is recommended to reduce potential conflict situations. Breaks of this nature must be carefully located and well signed. A prohibition on the use of the facility by goods vehicles is recommended and should be signed using the selective restriction sign R123:568. U-turns of this nature should only be considered where visibility of oncoming traffic is of the highest order and the carriageways are wide enough to permit one point turns.

4. Detail 3.21.3 illustrates a Left Turn on Red After Stop (LTORAS) traffic signal installation. The principle features of such junctions, in addition to the provision signal head type S1(L), are that visibility to the right should be good (for a cross street) and pedestrian signal heads should be omitted from the leg of the junction on which LTORAS operates.

5. The detail treatment of bus lanes is covered in Chapter 8. The example covered by Detail 3.21.4 is included to make designers aware of the particular requirements such a situation may have for regulatory and warning signs. Detail 3.21.4 illustrates what is traditionally considered as a “contra-flow” bus lane operating in the opposite direction to a so-called “one-way” flow of normal traffic. The terminology used probably stems from the fact that a previously one-way road (comprising in the example four lanes) has had one lane reversed and reserved for exclusive use by buses. It is common practice under such circumstances to retain ONE WAY signs R4.1 or R4.2 even though the road is operating with two-way traffic. It is not too difficult to make drivers on an intersecting side road aware of the circumstances although careful signing is required.

However, there is evidence to suggest that the practice can be very confusing for pedestrians who may cross the street under the impression that it is a one way street and be unaware that buses are travelling in the opposite direction. Detail 3.21.4 shows a signing treatment which treats the road with the bus lane as a two way road and provides additional signs relating to use of the lane as a “busway”. To enhance awareness of the bus operation it is recommended that the EXCLUSIVE USE LANE marking RM9 be taken through the junction and that EXCLUSIVE USE WORD “BUS” marking RM17.2 and INFORMATION ARROW marking GM4.1 be used extensively in the line of the bus lane to increase awareness of the presence of buses and their direction of travel (for further detail see Chapter 8, Figure 8.29).
Fig 3.21
Other Less Common Junction Details
3.3.5 No Stopping and No Parking Control

1 Figures 3.22 to 3.24 illustrate a range of typical "No Stopping", "No Parking" and combined situations. The details have all been prepared based on sections of one way street since these most commonly have these types of control imposed on them. The principles illustrated are, however, relevant throughout the urban street network.

2 Stopping and parking (or "No Stopping" and "No Parking") are controlled in the general sense by Sections 97 and 98 respectively of Act 29 of 1989. There are several factors which designers should be aware of relating to no stopping and no parking in these "Rules of the Road". In the context of the positions of regulatory signs and markings to control stopping and parking, however, the following comments are relevant:
   (a) as a general rule stopping and parking are prohibited (without the need for signs or markings) within 9m of the approach side of a pedestrian crossing demarcated by a road traffic sign - which means that this applies on the entry side to all signalised junctions with pedestrian crossings marked by PEDESTRIAN CROSSING marking RTM3;
   (b) as a general rule parking is prohibited within 5 m of any intersection, unless permitted by a road traffic sign (such as a PARKING BAY marking RM6); because the definition of an "intersection" specifies that it is the area contained within the extensions of the road reserve or property boundary lines, the requirement of the rule means that parking is prohibited 5m back from such boundaries on all approaches to the junction;
   (c) no person shall park a motor vehicle on a traffic island .......

3 The provision of signs and markings to control stopping and/or parking can therefore be developed around these basic rules although authorities may obviously put signs or markings within such limits for emphasis. Such practices will not, however, represent the most economic approach to the provision of signs and markings.

4 Detail 3.22.1 shows two NO STOPPING conditions. The one side of the street has a permanent (24hr) NO STOPPING control indicated by NO STOPPING signs R217 and NO STOPPING LINE marking RM12. The provision of both signs and markings is for emphasis, either can be provided on its own. The other side of this street has a NO STOPPING control only between 06:30 and 09:00 with an indication of parking restrictions between 09:00 and 18:00. The NO STOPPING prohibition is a selective restriction applying only for the time indicated and signed by signs R217-501. The LIMITED PARKING RESERVATION sign R306-P-501 is also provided. This is also a form of selective restriction sign, which permits parking, but only between the times indicated and with the limitation that parkers may only occupy the space for a maximum period of 120 minutes. Since parking bays are marked, NO STOPPING LINE RM12 should be provided as a broken line across the open side of each parking bay or in a similar manner on the kerb face at the rear of the bays. The maximum distance permitted between signs for this type of application is 150 m.

5 Figure 3.24 shows examples of NO PARKING control similar to those indicated in Figure 3.22 for NO STOPPING. The examples given include a variety of lane configurations including dedicated turn lanes. The recommended treatment of the commencement of such a lane is indicated in Figure 3.24 by the tapering section of standard CONTINUITY LINE marking WM2. This recommended practice is consistent with the practices recommended in Subsection 3.3.2 to inhibit unintended entry into a dedicated turn lane. The relevant road markings are covered in greater detail in Chapter 2.
Fig 3.22
No Stopping Control

**Optional signs and markings**

Typical area within which parking is prohibited (RTA Section 96)
Fig 3.23 No Stopping/No Parking Control

Detail 3.23.1 Selective No Stopping and 24-Hour No Parking Control

Detail 3.23.2 Optional Treatment at Place of Public Assembly

Detail 3.23.3 Optional Treatment at Property Entrance
NOTE:
Kerb markings -
(i) GMB round corner radii and up
   to start of parking - optional.
(ii) RM13 (RM12) - on straight sections
     of kerbface (or between parking bays
     where there is a part-time NO
     PARKING restriction.

Typical area within which parking is prohibited
(RTA Section 98)

Area contained by legally defined "intersection"

Typical road reserve / property boundary lines

* Optional signs and markings

Fig 3.24
Parking Control
### 3.3.6 Signing for Bicycle and Motor-cycle Control

1. Figure 3.25 depicts a selection of cycle facilities including:
   - shared pedestrian and bicycle paths, separated from the roadway;
   - a bicycle lane;
   - parallel pedestrian and bicycle crossings at a signalised junction; and
   - parallel pedestrian and bicycle mid-block signalised crossing.

2. Figure 3.26 gives a higher level of detail for the combined pedestrian/bicycle crossings. It should be noted that BICYCLE Guide LINES GM5 are guidance markings and do not have the same legal force as PEDESTRIAN CROSSING LINES RTM3. It is therefore recommended that where practical both crossing markings be used.

3. Figure 3.27 illustrates two motorcycle control applications. Detail 3.27.1 is likely to have rare application but may occasionally be appropriate. The signs used to require motorcycles to take a specific direction should be mandatory control signs such as R108 and R103. These can be made selective in their restriction by the addition of SECONDARY MESSAGE sign (R)356 depicting that the instruction of signs R108 and R103 applies only to motorcycles. The prohibited movement shall be indicated by NO MOTORCYCLES sign R222 and the NO MOTORCYCLES regulatory road marking RM14, which can be marked in each appropriate lane.

4. Detail 3.27.2 shows how a rank of parking bays can be signed to be restricted to use by motorcycles only.

### 3.3.7 Signing for Concealed Entrances

1. Figure 3.28 shows two typical situations where signing of concealed property accesses or driveways may be warranted. Detail 3.28.1 shows a winding section of roadway with relatively closely spaced entrances. The road curvature can inhibit visibility and judgment of turning or entering traffic.

2. Detail 3.28.2 is very localised but not uncommon. Because of the sharp bend sight distance to the entrances is limited. This example illustrates the option to use the sign design characteristics of CONCEALED DRIVEWAY advance warning signs W216 to W218 with other signs such as SHARP CURVE advance warning signs W204 and W205 (see Volume 1, Chapter 3, Subsection 3.3.10 which allows for variation in the shape of the main arrow in signs W216 to W218).
Fig 3.25
Bicycle Facilities - 1
Fig 3.26

Bicycle Facilities - 2
Fig 3.27
Motor Cycle Facilities and Control
Fig 3.28  Concealed Entrances
3.3.8 Traffic Control at Shopping Centres

1. Figure 3.29 also appears in Chapter 8 as an example of the sort of influence catering for public transport facilities within the shopping centre environment might have on signing. The figure includes signing requirements controlling the movement of goods vehicles within the area and a representative selection of other controls such as NO STOPPING signs R217 for general traffic control. In this way it is representative of an environment which may require a wide selection of regulatory signs. This need places a particular burden on signing designers to know the function of the various regulatory (and selective restriction) signs well and to apply them with care.

2. In the example illustrated the majority of access to and from the site is controlled by traffic signals although one "left in/left out" access is shown to the top section of road. Given the proximity of the mini-bus stop this exit would be controlled by STOP sign R1. Internal junctions may be priority allocated with STOP control on one roadway or they may be controlled by 4-way STOP control. It is traditional to control individual parking aisles using STOP sign R1 and STOP LINE marking RTM1. However, there is no reason why, taking due account of internal parking roadways more use cannot be made of YIELD control in this type of low speed environment. In this regard it should be noted that in terms of Schedule 3 of the Regulations to the Road Traffic Act, Act 29 of 1989, STOP LINE marking RTM1 and YIELD LINE marking RTM2 have the same legal force as signs R1 and R2 respectively. It is therefore not essential in this type of environment that signs and markings be provided.

Fig 3.29
Traffic Control at Shopping Centres
3.4 SIGNING AND MARKING APPLICATIONS FOR PARKING CONTROL

3.4.1 General

1 The examples in this section cover basic applications of regulatory signing appropriate to stopping and parking control. These situations are most commonly found in urban areas but may also occasionally be applicable in other situations.

2 The examples covered in Figures 3.30 to 3.34 can be read in conjunction with many of the figures in Section 3.3, in particular Figures 3.22, 3.23 and 3.24. The detail given in this section tends to be at a larger scale which permits a greater degree of detail. The examples given in Figures 3.33 and 3.34 illustrate additional variations to those already illustrated in Section 3.3.

3 Provision of signs for the control of the parking of vehicles cannot be undertaken without full knowledge of rules applicable to the provision of NO STOPPING sign R217 and/or NO PARKING sign R216. The use of these signs is covered by Regulations 304 and 305, under the "Rules of the Road". In particular these sections detail portions of the public road in relation to intersections or junctions on which stopping or parking are automatically prohibited, unless in the case of parking a parking bay has been marked by PARKING BAY marking RM6 (see Figure 3.2 and Subsection 3.3.5).

4 In addition Regulation 288 contains many detail provision applicable to regulatory signs for the control of parking. It should be noted that "parking" in the context of the regulations includes "no stopping", "no parking" as well as signs indicating one or more restrictions on the way in which parking, which has been provided, may be used. Typical of such restrictions, which may be applied singly or together, are:

(a) parking in the public road must be paid for in the manner provided for, including by parking meter, pay-and-display, or some other form of pre-paid token;

(b) parking, even if paid for, is restricted or limited to a maximum period of time;

(c) parking is restricted to a particular time or times of the day (these times may be different for different days of the week);

(d) parking is restricted to a particular class of vehicle.

5 Regulatory signs relating to the stopping or parking of a vehicle may be displayed in one of two ways as follows:

(a) parallel to the lateral edge of a public road in which case only one sign, or "sign set", is required per sign position;

(b) at right angles to the lateral edge of the road in which case each sign, or "sign set", shall display a similar sign set on the reverse side.

A "sign set" refers to, for example, a NO STOPPING selective restriction sign R217-501 mounted with a PARKING RESERVATION selective restriction sign R306-P-501, each sign applying only for part of the day. Signs displayed in either of the ways detailed above may be supplemented by SUPPLEMENTARY PLATE signs IN11.5 displaying arrows pointing in the direction of applicability of the sign(s).

6 A number of other provisions regarding the display of regulatory parking signs are covered in Section 412. Those officials responsible for the provision of parking signs and their enforcement must be familiar with Section 412 in detail. The most relevant aspects affecting designers are:

(a) parking regulatory signs shall be displayed at each end of a section of public road between junctions and on the side of the road to which they apply;

(b) subject to the provisions of paragraph 3.4.1.5, if the section of public road does not exceed 75m in length, only one parking regulatory sign need be provided;

(c) parking regulatory signs may be placed to be applicable to a portion of public road other than the side of the road - this has the effect that such signs may be located on traffic islands (or other raised areas) to apply to any parking bay adjacent to such islands provided that the sign is not more than 500 mm from the nearest bay - when more than one adjoining bay is provided the sign may apply for 75 m on each side of the sign (in this case bays marked within two and a half metres of each other are deemed to be adjoining bays);

(d) no junction shall be included in any section of public road controlled by regulatory parking signs.

7 It is a general interpretation of the above statements that if a section of public road is longer than 150 m parking regulatory signs should be repeated at regular intervals along the section so that the maximum distance between signs does not exceed 150 m. In terms of the provisions of Regulations 304 and 305 of the "Rules of the Road", a section of public road may commence within 9 m of a pedestrian crossing (on the approach side) so far as NO STOPPING signing is concerned, and 5 m beyond the limits of an intersection so far as parking signs are concerned (see Figure 3.2).

8 It should also be noted that "public road" is defined in the Road Traffic Act, inter alia, to mean "...any road, street or thoroughfare or .... any place (whether a thoroughfare or not) which is commonly used by the public .....".
Fig 3.30 General Parking Control - 1
Fig 3.31  General Parking Control - 2
Fig 3.32 Pay and Display Parking Control
Selective No Stopping/Parking Control
Fig 3.34  Selective No Parking/Parking Control
3.5 TEMPORARY SIGNING APPLICATIONS

3.5.1 General

1 TEMPORARY regulatory and warning signs are commonly perceived to be applicable to roadworks sites only. This perception is not correct, although roadworks applications of temporary signs do certainly constitute the majority of applications. The message which should be inferred by an observer of TEMPORARY signs is that, in some way, normal or anticipated conditions may not apply. To understand what type of situations may be considered PERMANENT and what TEMPORARY is sometimes difficult. This difficulty is most common with non-roadworks applications of TEMPORARY signs. The most common sources of confusion are situations which warrant the placing of PERMANENT regulatory (or occasionally warning) signs but which signs do not apply at all times. This type of situation is generally considered to be “part-time” rather than temporary and is normally identified as such by the provision of PERMANENT regulatory SELECTIVE RESTRICTION signs. These indicate the regular times when the regulation is applicable, commonly on a daily basis. TEMPORARY signs are more commonly superimposed upon an existing sub-system of PERMANENT signs for a short, and often irregular, period of time. Typical of such non-roadworks situations are:

(a) accident scenes;
(b) traffic signals out of order;
(c) traffic control at schools;
(d) traffic control at sporting events;
(e) the movement of livestock.

For further details see Volume 1, Chapter 1, Section 1.3.

2 The applications covered in this section are temporary situations in which regulatory and warning signs, and very occasionally temporary road markings, may be required to be used for regular or irregular short periods of time. The applications are likely to occur in both rural and urban areas.

3 Temporary regulatory and warning signs and markings for roadworks are covered in detail in Chapter 13: Roadworks Signing.

3.5.2 Examples

1 Signing of accident scenes is commonly inhibited by the limited number of signs which the vehicle responding to the accident is able to carry. For this reason it is important that the signs used be maintained in very good condition and it is recommended that they be manufactured from the best quality materials. The details given in Figure 3.35 apply to an immediate action requirement for signing, and are the responsibility of the police or other emergency service vehicle which is first on the scene. If the traffic disruption created by the accident is severe and is likely to last for many hours it is recommended that the signing be converted to that provided by an appropriate roadworks detail given in Chapter 13 i.e. the recommended signing for a lane drop or double lane drop, as soon as is practical.

2 The details given in Figures 3.36 to 3.41 are self-explanatory. There will always be specific situations where some additional signing requirement is necessary but the figure details represent the basic principles which are recommended for the situations concerned. It should be noted that regulatory control signs i.e. STOP R1, YIELD R2, NO ENTRY R3, ONE WAY R4 and PEDESTRIAN PRIORITY R5 and any of their derivatives, do not have temporary versions.

3 Several of the figures show portable TEMPORARY signs. It is a requirement of the road traffic signing system that the reverse side of portable temporary signs be marked in alternating black and yellow stripes 150 mm in width. The yellow stripes shall be retroreflective if the signs are to be used during the hours of dusk, dawn or night-time.
Fig 3.35  Accident Scene

OPTION - Collapsible 3 sided sign frame - flexible signs

or

TRAFFIC CONE TD4 MIN 450mm height

NOTE: Traffic cones TD4 should be closely spaced - 1m to 2m centre to centre.
Fig 3.36 Traffic Signal Out of Order

NOTE:
Before STOP signs are put in place traffic signal heads must be covered - whether part operational or not. Signal heads can be covered by sign TM412, or by a strong canvas bag. The latter may have peep holes to allow technicians to view signal switching before re-commissioning signals.
Fig 3.38 Scholar Patrol
Fig 3.39  Sports Event Traffic Control
Fig 3.40  Traffic Check Point
Fig 3.41  Cattle Crossing/Herding
3.6 ENHANCED STANDARD DETAILS

3.6.1 General

1. The illustrations in this section provide a higher level of detail than is possible in other sections due to the scale of illustration used in those sections. The details may well be applicable in a wide variety of situations illustrated in this and other chapters.

2. Figures 3.42 and 3.43 show enhanced detail of specific restrictions using regulatory signing and warning signing respectively. The principles illustrated may also be used for:
   (a) a mass limit (sign R202) - this may commonly be a temporary application using sign TR202;
   (b) an axle mass limit (signs R203 or TR203);
   (c) a length limit (R205 or TR205).

3. In the cases of the situations listed in paragraph 3.6.1.2 the restricted sections of road are likely to be of some length. The signing technique should therefore be to repeat the message previously given in terms of the procedure recommended in Figure 3.9 in Section 3.2. The repeat message should be in close proximity to the start of the restricted section of road and preferably where a larger vehicle may be turned around if necessary.

3.6.2 Indication of Height Restriction

1. Figure 3.42 should be read in conjunction with Figure 3.9 in Section 3.2. Figure 3.42 supplies the detail of signs and markings appropriate to the specific site where the height restriction applies. Advance warning signs W320 should be placed at a distance from the site as given by Table 3.3, or further. It is recommended that these signs be provided with a SUPPLEMENTARY PLATE sign IN11.2 indicating the distance to the site. A relevant value HEIGHT LIMIT sign R204 shall be displayed on the structure as indicated in the figure with hazard marker signs DANGER PLATE W401 on each side "pointing" downwards. Sign R204 may be repeated at the side of the roadway, preferably at the effective stopping sight distance (for large vehicles) from the site. This sign may be equipped with flashing yellow warning lights if the site has a history of failure to observe the signs provided.

2. Typical situations which may require such signs are low over-bridges, low overhead signs or height gauges used in conjunction with the railway crossings.

3.6.3 Indication of Width Restriction

1. A width restriction may be indicated in terms of two different forms of measurement, either:
   (a) in terms of the limited width of a structure (or roadway) which may be:
      (i) less than anticipated (see Detail 3.43.1);
      (ii) capable of taking any normal vehicle (as different to an "abnormal vehicle") but only in one direction at a time (see Figure 3.44); or
   (b) in terms of the maximum width of vehicle permitted through a structure or along a roadway (see Detail 3.43.2).

2. In Detail 3.43.1 drivers are warned of a narrow structure which can accept two-way traffic of normal legal width but is narrower than might be expected and requires above average caution. This situation is not uncommon and is particularly a potential hazard on the approaches to the structure, on roads with surfaced shoulders on which vehicles are permitted to travel, to the left of EDGE LINE marking RM4.1, whilst being overtaken by faster traffic during the hours of daylight.

3. Detail 3.43.2 illustrates the application of WIDTH LIMIT regulatory sign R239 and WIDTH RESTRICTED warning sign W360 in the immediate vicinity of a narrow structure. This signing application should be used in the manner indicated in Figure 3.9 where early advice is given so that vehicles affected by the limit may follow an acceptable alternative route. It should be noted that signs R239 and W360 could be applied to whole sections of remote narrow rural road to protect them from damage due to wide vehicles regularly running off the edge of the road base. The use of MASS LIMIT sign R202 would probably be equally appropriate in such circumstances.

4. Figure 3.44 shows two ways in which use of a narrow structure can be controlled to operate for traffic in one direction at a time. Detail 3.44.1 illustrates what amounts to a “2-WAY” STOP control whereby all vehicles are required to stop. Vehicles may only proceed when it is safe to do so under such control, which will result in a “first in - first away” operation as is common at 4-WAY STOP junctions. Detail 3.44.2 shows the alternative use of YIELD TO ONCOMING TRAFFIC sign R6 which removes any priority from vehicles travelling in one direction (this form of control is also used at traffic calming installations - see Chapter 12). These forms of control do not require a remote indication such as illustrated in Figure 3.9 unless the site also has a mass, height, width or length limit.
Fig 3.42  Indication of Height Restriction
Fig 3.43 Indication of Width Restriction - 1

Detail 3.43.1 Narrow Structure - Warning of Reduction / Loss of Surfaced Shoulder

Note:
This application to be used in conjunction with Figure 3.9 requirements.

Detail 3.43.2 Narrow Structure - Vehicle Width Limit Signing

Narrow bridge - two way traffic with 2.1m vehicle width limit
Fig 3.44

Indication of Width Restriction - 2