GUIDELINES
FOR SIGNAGE AND
CARRIAGEWAY MARKINGS

September 2004
GUIDELINES FOR SIGNAGE AND CARRIAGeway MARKINGS

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Definition of 85th Percentile Speed
1.0 Stop Sign Controlled Junction

1.1 The STOP sign at a junction is a mandatory sign intended to ensure a controlled and safe movement of traffic at a junction.

1.2 The implementation of a STOP sign is subject to:
   - Traffic volumes on the major and minor roads
   - Gradients on the minor road
   - Accident record
   - Road alignment
   - If the visibility at the junction cannot be improved in other ways

1.3 The standard visibility distances required along the kerb of the major road from the minor road above which a STOP sign will not normally be justified are as follows:

<table>
<thead>
<tr>
<th>85th Percentile Approach Speed of Private Cars on Major Roads (kph)</th>
<th>Major Road Visibility Distance based on 85th Percentile Dry Weather Speed (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>112</td>
<td>120</td>
</tr>
<tr>
<td>96</td>
<td>90</td>
</tr>
<tr>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>64</td>
<td>45</td>
</tr>
<tr>
<td>48</td>
<td>30</td>
</tr>
<tr>
<td>32</td>
<td>15</td>
</tr>
</tbody>
</table>

The visibility distances on the minor road are measured as follows:
   - If minor road has no through-traffic value: measured at 3 m back from the edge of the major road carriageway along the centre line of the minor road
   - If minor road has some through-traffic value: measured at 4.5 m back from the edge of the major road carriageway along the centre line of the minor road
   - Visibility distances are to be measured in both directions, the distance to the right being the most important.

1.4 Sizes of the STOP sign to be as follows:

<table>
<thead>
<tr>
<th>85th Percentile Approach Speed of Private Cars</th>
<th>Typical Roads</th>
<th>Size of STOP Sign (mm)</th>
<th>Size of STOP Carriageway Marking (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 32 kph</td>
<td>Very narrow urban roads</td>
<td>750</td>
<td>1600</td>
</tr>
<tr>
<td>32 kph to 48 kph</td>
<td>Urban and rural roads</td>
<td>750</td>
<td>1600</td>
</tr>
<tr>
<td>48 kph to 64 kph</td>
<td>Urban and rural single carriageway 2-lane roads</td>
<td>750-900</td>
<td>1600-2800</td>
</tr>
<tr>
<td>64 kph to 80 kph</td>
<td>Urban motorways and high standard 2 or 3-lane urban/rural roads</td>
<td>900-1200</td>
<td>2800</td>
</tr>
</tbody>
</table>
1.5 The STOP sign is located on the left-hand-side at 1.5m before the STOP line (but not further than 6m away from it) provided that it does not impair visibility along the major or minor road and it can be seen clearly.

1.6 When the STOP sign is not clearly visible on the minor arm approaching the junction, ADVANCE warning signs are to be placed as follows:

<table>
<thead>
<tr>
<th>85th Percentile Approach Speed of Private Cars</th>
<th>Visibility below which an Advance Sign is necessary (m)</th>
<th>Size of Lockdown Warning Sign (height in mm)</th>
<th>Size of SLOW Carriageway Marking (mm x mm)</th>
<th>Distance of Warning Sign from STOP line (m)</th>
<th>Visibility distance of Warning Sign (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 32 kph</td>
<td>45</td>
<td>600</td>
<td>2280x1600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>32 kph to 48 kph</td>
<td>45</td>
<td>600</td>
<td>2280x1600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>48 kph to 64 kph</td>
<td>60</td>
<td>750</td>
<td>2280x2800</td>
<td>45-100</td>
<td>60</td>
</tr>
<tr>
<td>64 kph to 80 kph</td>
<td>90-150</td>
<td>900-750</td>
<td>2280x2800</td>
<td>100-180</td>
<td>75</td>
</tr>
</tbody>
</table>

1.7 The ADVANCE warning sign is as follows:

![STOP 100m](image)

1.8 Refer Appendix 1 for diagrams.
2.0 Give Way Sign Controlled Junction

2.1 The GIVE WAY sign is a mandatory sign and requires that no vehicle enters into the major road in such a manner to cause danger to the driver of the vehicle on the major road or as to necessitate the driver on the major road to change its speed or course.

2.2 The GIVE WAY sign should be used as follows:
- Rural Areas: all junctions of public roads with primary routes
- Urban Areas: at junctions of public roads with primary routes unless the minor road is a residential road or local street
- At junctions involving one or more roads of distributor or arterial road classification or is a road with linking function
- At other junctions where it is necessary due to traffic speeds and/or traffic volumes
- At roundabouts.

2.3 The GIVE WAY sign is located on the left-hand-side at 1.5m before the STOP line (but no further than 12m away from it) provided that it does not impair visibility along the major of minor road and it can be seen clearly.

2.4 Sizes of the GIVE WAY sign to be as follows:

<table>
<thead>
<tr>
<th>85th Percentile Approach Speed of Private Cars</th>
<th>Typical Roads</th>
<th>Size of GIVE WAY Sign (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 32 kph</td>
<td>Very narrow urban roads</td>
<td>600</td>
</tr>
<tr>
<td>32 kph to 48 kph</td>
<td>Urban and rural roads of local character</td>
<td>600-750</td>
</tr>
<tr>
<td>48 kph to 64 kph</td>
<td>Urban and rural single carriageway 2-land roads</td>
<td>750-900</td>
</tr>
<tr>
<td>64 kph to 80 kph</td>
<td>Urban motorways and high standard 2 or 3-lane urban/rural roads</td>
<td>900-1200</td>
</tr>
</tbody>
</table>

2.5 When the GIVE WAY sign is not clearly visible on the minor arm approaching the junction, ADVANCE warning signs are to be placed as follows:

<table>
<thead>
<tr>
<th>85th Percentile Approach Speed of Private Cars</th>
<th>Visibility below which an Advance Sign is necessary (m)</th>
<th>Size of Avdance Warning Sign (height in mm)</th>
<th>Size of SLOW Carriageway Marking (mm x mm)</th>
<th>Distance of Warning Sign from GIVE WAY line (m)</th>
<th>Visibility distance of Warning Sign (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 32 kph</td>
<td>45</td>
<td>600</td>
<td>2280x1600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>32 kph to 48 kph</td>
<td>45</td>
<td>600</td>
<td>2280x1600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>48 kph to 64 kph</td>
<td>60</td>
<td>750</td>
<td>2280x2800</td>
<td>45-100</td>
<td>60</td>
</tr>
<tr>
<td>64 kph to 80 kph</td>
<td>90-150</td>
<td>900-750</td>
<td>2280x2800</td>
<td>100-180</td>
<td>75</td>
</tr>
</tbody>
</table>
2.6 The ADVANCE warning sign is as follows:

GIVE WAY
100m

2.1.7 Refer Appendix 2 for diagrams.
### 3.0 Regulatory Mandatory Signs

3.1 The following regulatory mandatory movement signs are used to indicate the course which vehicles must take:
- TURN LEFT
- TURN RIGHT
- AHEAD ONLY
- TURN LEFT AHEAD
- TURN RIGHT AHEAD
- KEEP LEFT
- KEEP RIGHT
- MINI ROUNDABOUT

3.2 The mini-roundabout signs are to be placed on each approach at 1.5m back from the transverse line. Where the 85th percentile approach speed does not exceed 48 kph, the 600mm size sign is to be used. If this speed is exceeded, the 750mm size sign should be used.

3.3 Refer Appendix 3 for diagrams.
4.0 Regulatory Prohibitory Signs

4.1 The NO RIGHT TURN and the NO LEFT TURN signs are used to indicate a prohibited right or left turn. Such signs are to be sited on the left-hand side of the road at the junction. Where the sign is likely to be obscured, it should be duplicated on the right-hand side in the case of a one-way road.

4.2 The NO U-TURN sign is used to prohibit U-turn movements. Such sign is usually mounted on the central refuge or reserve as close as practicable to the junction to face approaching traffic. Where there is no central island, the sign should be mounted on the left-hand side of the road and duplicated on the right-hand side.

4.3 The PRIORITY TO sign indicates to drivers that they must give priority to vehicles from the opposite direction. It should be used when the vehicles at the ends of the effected length of road are clearly visible to each other and where the speeds are not high. The sign is to be repeated with an END plate at the end of the effected length along the road. For vehicles coming from the opposite direction the PRIORITY OVER sign is to be fixed. As above, this latter sign is also to be repeated with an END plate at the end of the effected length along the road. Where this priority system is used on a gradient steeper than 2.5%, the PRIORITY TO sign is to be mounted to face descending traffic. Where a road narrows on one side, the PRIORITY TO sign is to be mounted to face traffic approaching on such side of the road.

4.4 The use of a NO ENTRY sign is to give effect to a one-way traffic movement.

4.5 The ALL VEHICLES PROHIBITED sign is usually used in pedestrian zones and should be set up on each side of every entry to a road or area where the pedestrian designation applies. Other signs must also be in place to designate the pedestrian areas.

4.6 The PEDAL CYCLING PROHIBITED sign is used to give effect to a prohibition on cycling and should be erected at each entry to a right of way effected by the prohibition.

4.7 The PEDAL CYCLES ONLY sign is used to give effect to an order for the access of pedal cycles only.

4.8 The WEIGHT LIMIT sign is used to prohibit vehicles and load with a total weight exceeding the indicated weight in tonnes on the sign. The sign should be placed to face approaching traffic where the restriction starts and should be duplicated on both sides of the road. In the case that at the start of the restriction there is no alternative route for such load and vehicle, such sign should be located at the location where an alternative route is possible.
4.9 The AXLE WEIGHT LIMIT sign is used to prohibit vehicles where the axle weight exceed the indicated weight in tonnes on the sign. The sign should be placed to face approaching traffic where the restriction starts and should be duplicated on both sides of the road. In the case that at the start of the restriction there is no alternative route for such load and vehicle, such sign should be located at the location where an alternative route is possible.

4.10 The WIDTH LIMIT sign is used to prohibit the access to vehicles exceeding the indicated width. The maximum width permitted should be 150mm less than the narrowest part of the road rounded to the nearest 10. If the narrowest part is long and not straight, the clearance is to be increased to allow for long vehicles at bends. The sign should be placed to face approaching traffic where the restriction starts and should be duplicated on both sides of the road. In the case that at the start of the restriction there is no alternative route for such load and vehicle, such sign should be located at the location where an alternative route is possible.

4.11 The LENGTH LIMIT sign is used to prohibit the access to vehicles exceeding the indicated length. The sign should be placed to face approaching traffic where the restriction starts and should be duplicated on both sides of the road. In the case that at the start of the restriction there is no alternative route for such load and vehicle, such sign should be located at the location where an alternative route is possible.

4.12 The HEIGHT LIMIT sign is used to prohibit the access to vehicles exceeding the indicated height. The sign should be placed to face approaching traffic where the restriction starts and should be duplicated on both sides of the road. In the case that at the start of the restriction there is no alternative route for such load and vehicle, such sign should be located at the location where an alternative route is possible.

4.13 The NO OVERTAKING sign gives effect to the prohibition of overtaking. Such are adopted where limited forward visibility makes overtaking dangerous. Where such sign is used, the continuous double white lines should not be used. Conversely, where there are a set of continuous double white lines, the NO OVERTAKING sign should not be used. The signs facing traffic entering the restricted length of road should be supplemented by DISTANCE plates and those facing traffic leaving the restricted length of road should be supplemented by END plates.

4.14 Refer Appendix 4 for Diagrams.
5.0 Signs and Road Markings for One-Way Roads

5.1 The signs used for signing one-ways are as follows:
- NO ENTRY
- TURN LEFT
- TURN RIGHT
- AHEAD ONLY
- TURN LEFT AHEAD
- TURN RIGHT AHEAD
- PASS EITHER SIDE
- NO RIGHT TURN
- NO LEFT TURN
- CONTRAFLOW BUS LANE
- TWO-WAY TRAFFIC
- TWO-WAY TRAFFIC ACROSS

5.2 The NO ENTRY sign is used to indicate the prohibition and should be placed on each side of a one-way road at the point where entry is prohibited. Where the prohibition excepts a class of vehicles, the supplementary plate is to be used. Where there are advance direction signs at a junction and entry is not permitted into one of the roads, a NO ENTRY roundel should be used on the advance direction signs.

5.3 The TURN LEFT, TURN RIGHT and AHEAD ONLY signs may only be used where vehicles are required to move into and along a one-way traffic system or to proceed in a single direction. At T-junctions not controlled by signals (traffic lights), the appropriate sign should be sited on the far side of the head of the T, directly opposite and facing the traffic to which it refers.

5.4 The TURN LEFT AHEAD and TURN RIGHT AHEAD signs may be used in advance of junctions at which TURN LEFT or TURN RIGHT signs are set. They should be sited 50m in advance except where there is an intervening turn between the junction and the 50m distance of the sign. In the case of one-way roads, the sign is to be placed on both sides of the road.

5.5 The PASS EITHER SIDE sign is used on traffic islands situated in one-way roads where vehicles may pass on either side without commitment to different directions.

5.6 The NO RIGHT TURN and NO LEFT TURN signs are prohibitory signs and should be used where a road crosses or joins a one-way road where traffic may proceed in more than one direction. Where, at a junction, traffic is in a single direction, the appropriate AHEAD ONLY, TURN LEFT or TURN RIGHT sign should be used. Such are to be sited on the left-hand side of the road at the junction.
5.7 The TWO-WAY TRAFFIC sign is used to indicate the resumption of two-way working on a length of road after a section of one-way and should be sited on both sides of the road as near as possible to the beginning of the two-way section.

5.8 The TWO-WAY TRAFFIC AHEAD ACROSS a one-way carriageway sign is used on a one-way road to indicate that a road it crosses carries two-way traffic. It should be erected on both sides of the road as near as possible to the road carrying two-way traffic.

5.9 The ROAD MARKINGS FOR ONE-WAY ROADS consist of worded road markings and arrows on the road surface to supplement (not replace) the upright signs.

5.10 Refer Appendix 3 and Appendix 5 for Diagrams.
6.0 Other Warning Signs

6.1 Junction Signs

6.1.1 These include:
- CROSS ROADS
- T-JUNCTION
- SIDE ROAD
- STAGGERED JUNCTION

6.1.2 Junction Signs are required when:
- There is no map type advance direction sign
- There is no GIVE WAY or STOP sign
- There are no traffic signals
- The STAGGERED JUNCTION is to be used only when the 85\(^{th}\) Percentile Speed does not exceed 48kph and the stagger does not exceed 60m.

6.2 Merging Traffic Signs

6.1.1 These include:
- MERGING TRAFFIC FROM LEFT
- MERGING TRAFFIC FROM RIGHT

6.1.2 Merging Traffic signs are required when:
- Two physically separated streams of traffic proceeding in the same direction join the same undivided section of the carriageway;
- The joining traffic is to give priority to the major traffic flow.

6.3 Bend Signs

6.3.1 These include:
- BEND
- DOUBLE BEND

6.3.2 Bend signs are required when:
- There is a bend/s in the road which the driver might find difficult to negotiate without slowing down
- The severity of the bend is such that he cannot see either by day or by night
- The sign is to be used sparingly and only to indicate a bend hazard.
6.3.3 Criteria for the Use of DOUBLE BEND Signs:

<table>
<thead>
<tr>
<th>SIGN SIZE</th>
<th>Distance between the Tangent Points from the start of one bend to the end of the other bend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200mm</td>
<td>300m</td>
</tr>
<tr>
<td>900mm</td>
<td>250m</td>
</tr>
<tr>
<td>750mm</td>
<td>200m</td>
</tr>
<tr>
<td>600mm</td>
<td>100m</td>
</tr>
</tbody>
</table>

6.4 Road Narrows Sign

6.4.1 These include:
- ROAD NARROWS ON BOTH SIDES
- ROAD NARROWS ON ONE SIDE

6.4.2 Road narrows signs are required when:
- Road works are being carried out
- A reduction in the carriageway width posing a danger to road users.

6.5 Pedestrian Signs

6.5.1 These include:
- CHILDREN sign
- PEDESTRIAN CROSSING AHEAD
- PEDESTRIANS sign
- ELDERLY or DISABLED PEDESTRIANS sign

6.5.2 Pedestrian signs are required, as appropriate, when:
- There is the likelihood of encountering children on the road ahead, such as in the vicinity of schools and playgrounds (CHILDREN sign)
- Uncontrolled pedestrian crossings (PEDESTRIAN CROSSING AHEAD)
- Where pedestrians regularly use a road without proper footways (PEDESTRIANS sign)
- There is the likelihood of the presence of elderly or disabled persons using the road (ELDERLY or DISABLED PEDESTRIANS sign)

6.6 Road Humps

6.6.1 This is the ROAD HUMP sign.

6.6.2 The ROAD HUMP sign is required to warn of the presence of road humps and it must be used together with the supplementary distance sign plate.
6.7 Other Danger Ahead

6.7.1 This is the DANGER AHEAD sign.

6.7.2 This DANGER AHEAD sign is required to give warning of occasional hazards and it must be used together with the supplementary information sign plate.

6.8 Mounting Heights

6.8.1 Clearance Distance:
   - There is to be a minimum clear distance of 500mm between the overhang of any sign and the outer kerb or carriageway
   - A minimum clear height of 2100 mm is to be allowed above the finished level of the footway.

6.8.2 Supplementary plates are to be separated from the sign or from another plate by a distance equal to the height of the lettering.

6.8.3 Generally not more than two signs should be mounted on one post.

6.8.4 Warning signs are not to be mounted on the same post as a STOP or GIVE WAY sign. When mounted with other types of sign, the triangular warning signs should always be mounted on top.

6.8.5 Where two or more hazard signs are erected together, the sign related to the first encountered hazard should be placed uppermost.

6.8.6 Generally no assembly should exceed 3.75m in height above ground level.

6.9 Refer Appendix 6 for diagrams.
### 7.0 Dimensions of Signs

<table>
<thead>
<tr>
<th>85th Percentile Approach Speed of Private Cars</th>
<th>Typical Roads</th>
<th>ROAD SIGNS</th>
</tr>
</thead>
</table>
| Up to 32 kph                                  | Very narrow urban roads | Turn Left
Turn Right Ahead
Turn Left Ahead
No Left Turn
No Right Turn
Priority To
Axle Load Limit
Weight Limit
Width Limit
Length Limit
No Overtaking | Turn Left Ahead
No Entry |
| 32 kph to 48 kph                              | Urban and rural roads of local character | 600mm |
| 48 kph to 64 kph                              | Urban and rural single carriageway 2-lane roads | 750mm |
| 64 kph to 80 kph                              | Urban motorways and high standard 2 or 3-lane urban/rural roads | 750mm |

**Note:** The 450mm sign size instead of the 600mm sign size is permitted only where there are site limitations.
8.0 Line Markings

8.1 Transverse Line Markings

8.1.1 These include:
- STOP Lines: refer to Chapter 1
- Traffic Signals STOP Line: applicable for arterial and distributor roads
- Junction STOP Line: refer to Chapter 1
- GIVE WAY Line: refer to Chapter 2
- Triangular GIVE WAY Approach Marking: refer to chapter 2

8.2 Longitudinal Line Markings: DOUBLE LINE SYSTEM

8.2.1 Double Line System: prohibits overtaking on lengths of road where visibility is restricted. Double lines consist of a 150mm wide continuous prohibitory line accompanied either by another continuous line or a broken permissive line to provide for different forward visibilities in opposite directions.

8.2.2 Visibility Distances Required are as follows:

<table>
<thead>
<tr>
<th>85% Speed (kph)</th>
<th>60</th>
<th>70</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visibility Distance (m)</td>
<td>90</td>
<td>105</td>
<td>125</td>
</tr>
</tbody>
</table>

8.2.3 Marking of such PROHIBITORY lines is as follows:

<table>
<thead>
<tr>
<th>Line Type Marking</th>
<th>Line Mark (mm)</th>
<th>Gap Spacing (mm)</th>
<th>Line Marking Width (mm)</th>
<th>Cats’Eyes’ Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prohibitory (continuous)</td>
<td>CONTINUOUS</td>
<td>CONTINUOUS</td>
<td>150 (100mm minimum)</td>
<td>4000</td>
</tr>
<tr>
<td>Permissive (broken/dashed)</td>
<td>1000</td>
<td>5000</td>
<td>150 (100mm minimum)</td>
<td>-</td>
</tr>
</tbody>
</table>

8.3 Longitudinal Line Markings: WARNING LINES

8.3.1 Warning Lines: these are broken lines with markings which are twice as long as the gap spacing. They are installed at bends and humps where the visibility is less than the required visibility criteria.

8.3.2 Visibility Distances Required are as follows:

<table>
<thead>
<tr>
<th>85% Speed (kph)</th>
<th>60</th>
<th>70</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visibility Distance (m)</td>
<td>145</td>
<td>175</td>
<td>205</td>
</tr>
</tbody>
</table>
8.3.3 Marking of such WARNING lines is as follows:

<table>
<thead>
<tr>
<th>Type Marking</th>
<th>Line Mark (mm)</th>
<th>Gap Spacing (mm)</th>
<th>Line Marking Width (mm)</th>
<th>Cats’Eyes’ Spacing (mm)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN Up to 60kph</td>
<td>4000</td>
<td>2000</td>
<td>100</td>
<td>6000</td>
<td>Central warning line on two-lane roads</td>
</tr>
<tr>
<td></td>
<td>4000</td>
<td>2000</td>
<td>150</td>
<td>6000</td>
<td>Central warning line on roads of three-lane width</td>
</tr>
<tr>
<td>RURAL exceeds 60kph</td>
<td>6000</td>
<td>3000</td>
<td>100</td>
<td>9000</td>
<td>Central warning line on two-lane roads</td>
</tr>
<tr>
<td></td>
<td>6000</td>
<td>3000</td>
<td>150</td>
<td>9000</td>
<td>Central warning line on roads of three-lane width</td>
</tr>
</tbody>
</table>

8.4 Longitudinal Line Markings: LANE & CENTRE CARRIAGEWAY LINES

8.4.1 Lane and Centre of Carriageway Lines: these are used to guide and confine traffic to its correct lane. Such lines also ensure that the carriageway width is used to its maximum capacity.

8.4.2 Marking of such CARRIAGEWAY LANE lines is as follows:

<table>
<thead>
<tr>
<th>Type Marking</th>
<th>Line Mark (mm)</th>
<th>Gap Spacing (mm)</th>
<th>Line Marking Width (mm)</th>
<th>Cats’Eyes’ Spacing (mm)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN Up to 60kph</td>
<td>1000</td>
<td>5000</td>
<td>100</td>
<td>12000</td>
<td>Division of carriageway into traffic lanes</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>7000</td>
<td>100</td>
<td>18000</td>
<td>Division of carriageway into traffic lanes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(9000 at bends)</td>
<td></td>
</tr>
</tbody>
</table>

8.4.3 Marking of such CENTRE OF CARRIAGEWAY lines is as follows:

<table>
<thead>
<tr>
<th>Type Marking</th>
<th>Line Mark (mm)</th>
<th>Gap Spacing (mm)</th>
<th>Line Marking Width (mm)</th>
<th>Cats’Eyes’ Spacing (mm)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN Up to 60kph</td>
<td>1000</td>
<td>5000</td>
<td>100</td>
<td>12000</td>
<td>Two-lane carriageway not less than 6000 mm width</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>5000</td>
<td>100</td>
<td>-</td>
<td>Two-lane Town Centre</td>
</tr>
<tr>
<td>RURAL exceeds 60kph</td>
<td>2000</td>
<td>7000</td>
<td>100</td>
<td>18000</td>
<td>Two-lane carriageway not less than 5500 mm width</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(9000 at bends)</td>
<td></td>
</tr>
</tbody>
</table>

8.5 Longitudinal Line Markings: EDGE OF CARRIAGEWAY LINES

8.5.1 Edge of Carriageway Lines: these are used to indicate the edge of the carriageway where this may be doubtful.
8.5.2 Marking of such EDGE OF CARRIAGEWAY lines is as follows:

<table>
<thead>
<tr>
<th>Line Mark (mm)</th>
<th>Gap Spacing (mm)</th>
<th>Line Marking Width (mm)</th>
<th>Cats’Eyes’ Spacing (mm)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>1000</td>
<td>100</td>
<td>2000-18000</td>
<td>Edge of carriageway at wide-mouthed junctions and laybys. For roads with a speed greater than 60kph, line marking width is to be 150mm. For unrestricted all purpose roads, line marking width is to be 200mm.</td>
</tr>
<tr>
<td>600</td>
<td>300</td>
<td>100</td>
<td>-</td>
<td>Lines to extend the GIVE WAY or STOP lines across the entry half of the minor road at a junction. For roads with a speed greater than 60kph, line marking width is to be 150mm. For unrestricted all purpose roads, line marking width is to be 200mm.</td>
</tr>
<tr>
<td>1000</td>
<td>3500</td>
<td>100</td>
<td>18000</td>
<td>Rural areas on unlighted primary routes without kerbs</td>
</tr>
<tr>
<td>continuous</td>
<td>continuous</td>
<td>100</td>
<td>9000</td>
<td>At hazardous situations</td>
</tr>
</tbody>
</table>
9.0 Pedestrian Crossings

9.1 Zebra Crossings

9.1.1 The arrangement for a zebra crossing includes:
- alternate black and white stripes
- road studs
- GIVE WAY lines
- Zig-Zag lines including terminal lines
- Advance signage of the crossing
- Orange flashing light mounted on a pole with alternate black and white horizontal stripes.

9.1.2 The minimum width of the zebra crossing is to be of 2.4m and this width is to be increased by 0.5m for each increase of 125 pedestrians per hour taking 600 pedestrians per hour as the baseline value.

9.1.3 Road studs are to be non-reflective and these are to be white, grey or silver. In each case, the maximum height is 16mm and the maximum square/diameter is to be between 95 – 110mm.

9.1.4 The stripes are to be laid across the whole width of the carriageway and are to be located centrally between the road studs. The stripe immediately adjacent to the kerb on both sides of the road is to be black and its width is to be between 500 – 1300mm.

9.1.5 The width of the stripes is to be between 500 – 715mm.

9.1.6 The GIVE WAY line comprises of a single broken line with 500mm marks and 500mm gaps. The marks are to be 200mm wide. The line is laid parallel to the road studs.

9.1.7 The skid resistance of the materials used must not be below a value of 45.

9.1.8 Vehicle speed on the approach is not to exceed 60 kph.

9.1.9 Refer to Appendix 7 for Diagram.
9.2 Pelican Crossings

9.2.1 The arrangement for a pelican crossing includes:
- Aspects and push button
- Advance signage
- Road studs
- STOP lines
- Warning lines

9.2.2 The road studs are to be provided to indicate the limits of the pedestrian crossing. They are to be arranged on two lines for the full width of the carriageway and located at a minimum distance of 2.4m apart.

9.2.3 The minimum width of the pelican crossing is to be of 2.4m and this width is to be increased by 0.5m for each increase of 125 pedestrians per hour taking 600 pedestrians per hour as the baseline value.

9.2.4 Road studs are to be non-reflective and these are to be white, grey or silver. In each case, the maximum height is 15mm and the maximum square/diameter is to be between 95 – 110mm.

9.2.5 Two rows of road studs are also to be provided to warn drivers of the approach to the crossing. The two rows of studs on the approach to the crossing are to be located at a distance between 14m – 16m. The distance between the two rows, measured from centre-to-centre of the studs, is to be between 300 – 410mm.

9.2.6 A 200mm or 300mm wide transverse STOP line is to be placed at a distance of 1.7 to 2.0m from the rows of studs on each approach to the crossing.

9.2.7 Vehicle speed on the approach is not to exceed 60 kph.

9.2.8 Warning lines are to be placed at the centre of the carriageway starting from the transverse STOP line. The warning lines are to be 100mm wide and consist of a total of 3-5 marks. Each mark should be 4.0m long with 2.0m gaps.

9.2.9 Refer to Appendix 8 for Diagram.
10.0 Cats’ Eyes

10.1 Types of Cats’ Eyes are as follows:
- RED: indicates that the line should not be crossed. Used mainly to denote the left-hand edge and are to be omitted where traffic is permitted to cross.
- AMBER: indicates that the line should not be crossed. They are used to denote the edges of central reservations.
- GREEN: indicates a length along the right- or left-hand edge of the road which may be crossed. They are used at lay-bys, across gaps in the central reservations and at the mouth of junctions. They are not to be used on STOP or GIVE WAY transverse lines.
- WHITE: indicates a traffic lane or centre of carriageway marking and may be crossed.

10.2 Cats’ eyes are to be located as follows:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>COLOUR</th>
<th>SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Hazard</td>
<td>White</td>
<td>9.0m</td>
</tr>
<tr>
<td>Urban Hazard</td>
<td>White</td>
<td>6.0m</td>
</tr>
<tr>
<td>Rural Lane</td>
<td>White</td>
<td>18.0m</td>
</tr>
<tr>
<td>Urban Lane</td>
<td>White</td>
<td>12.0m</td>
</tr>
<tr>
<td>Solid Edge Lines</td>
<td>Red</td>
<td>18.0m or 9.0m</td>
</tr>
<tr>
<td>Broken Edge Lines</td>
<td>Green</td>
<td>18.0m</td>
</tr>
<tr>
<td>Double White Line</td>
<td>White</td>
<td>4.0m</td>
</tr>
<tr>
<td>Bus Stops in Lay-Bys</td>
<td>Green</td>
<td>2.0m</td>
</tr>
<tr>
<td>Mini-Roundabouts</td>
<td>White</td>
<td>6 per island</td>
</tr>
<tr>
<td>STOP line</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>GIVE WAY line</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
DEFINITION OF 85<sup>th</sup> PERCENTILE SPEED

This is the speed exceeded by 15% of the vehicles. The 85<sup>th</sup> Percentile Dry Weather Speeds of vehicles is used for determining speed limits and establishing visibility lines required.
APPENDIX 3b
TYPES OF ROUNDBOUTS

CONVENTIONAL ROUNDBOUT

MINI ROUNDBOUT

APPENDIX 3a
DIRECTIONAL SIGNS

CARRIAGEWAY MARKINGS & SIGNS FOR ROUNDBOUT