



SOUTHERN
AFRICAN
DEVELOPMENT
COMMUNITY

GUIDANCE SIGNS

SECTIONS

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SADC RTSM - VOL1

CHAPTER

4

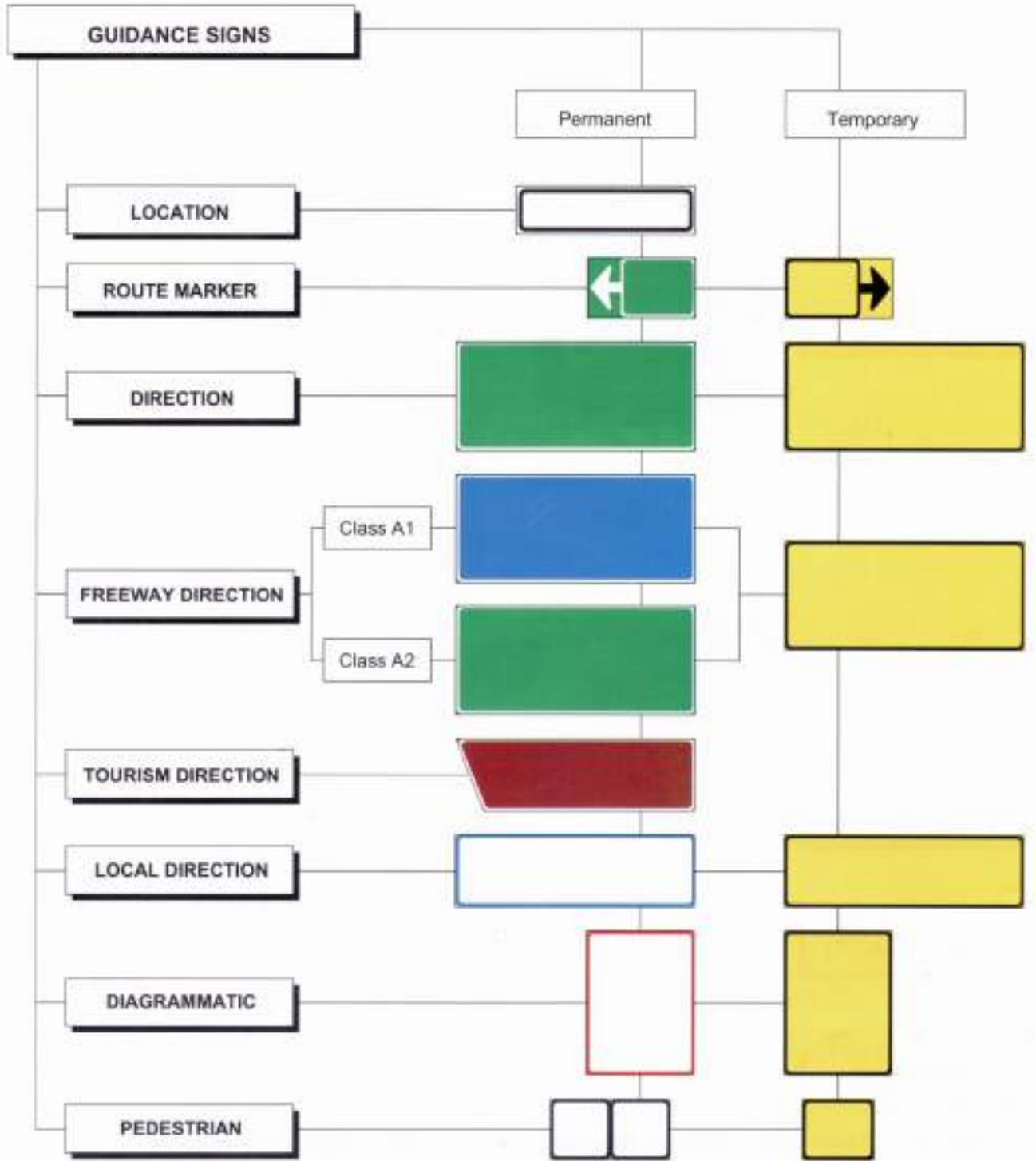
CHAPTER 4: GUIDANCE SIGNS

4.0 CONTENTS

This contents listing illustrates each officially approved type of sign in the guidance sign class with the sign number and name. A page reference is given within this chapter where each sign is discussed and a cross reference is given to Volume 4 where signface dimensional details are covered.

The first few pages of the contents give an overview of guidance signs background colour coding and basic signface layout principles in terms of letter styles and colours, as well as relative sign sizes.

GUIDANCE SIGN BASIC CLASSIFICATION AND BACKGROUND COLOUR CODE



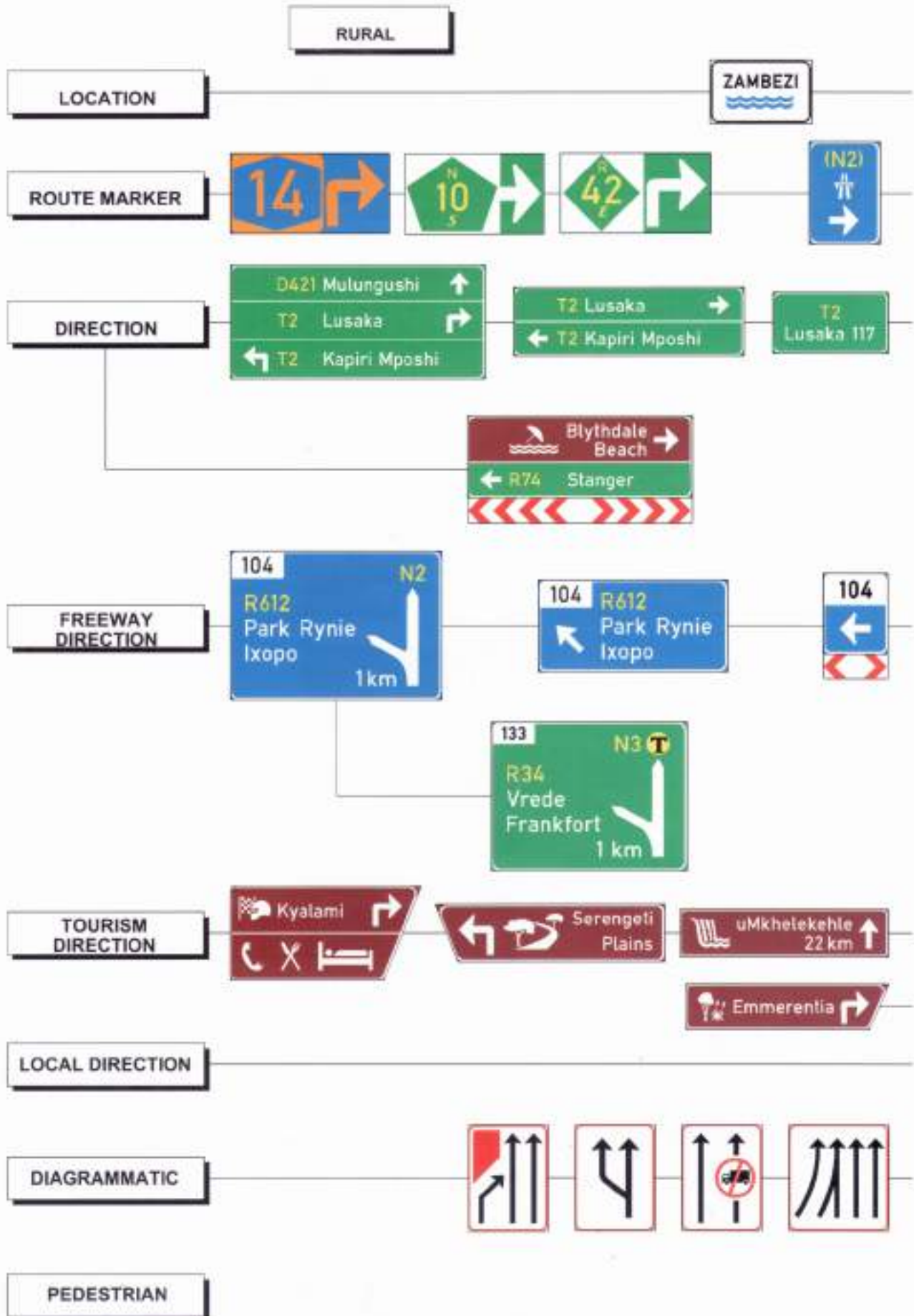


Fig 4.1 Expanded Guidance Sign Classification with Full Colour Code (for Permanent Guidance Signs)

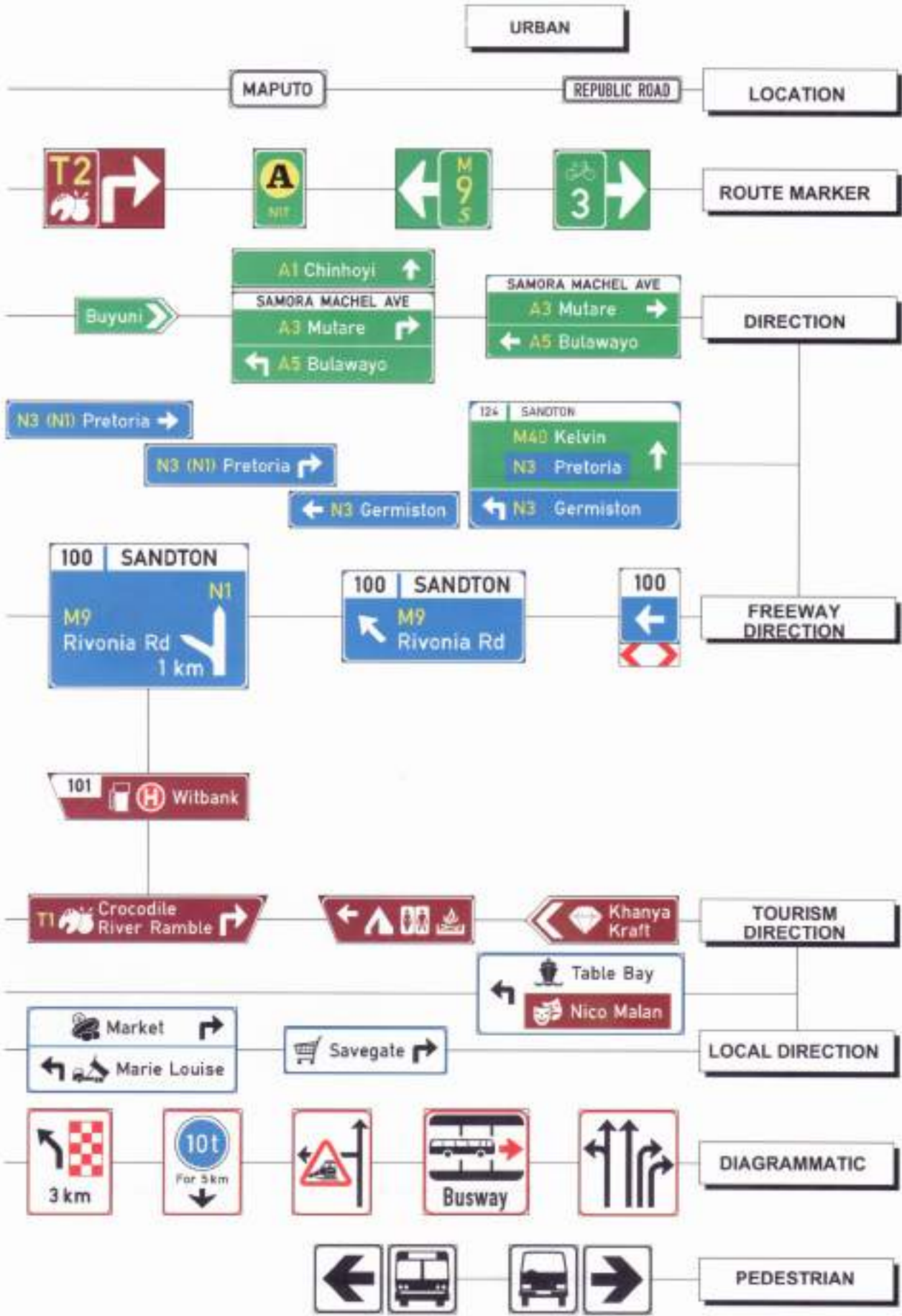
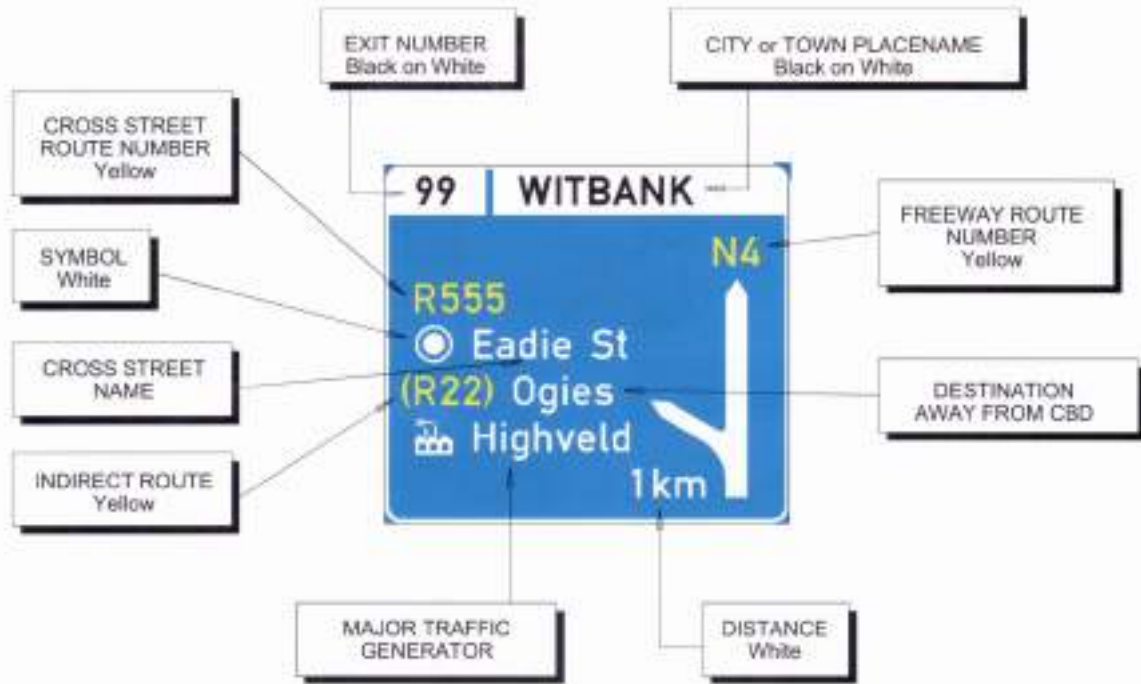
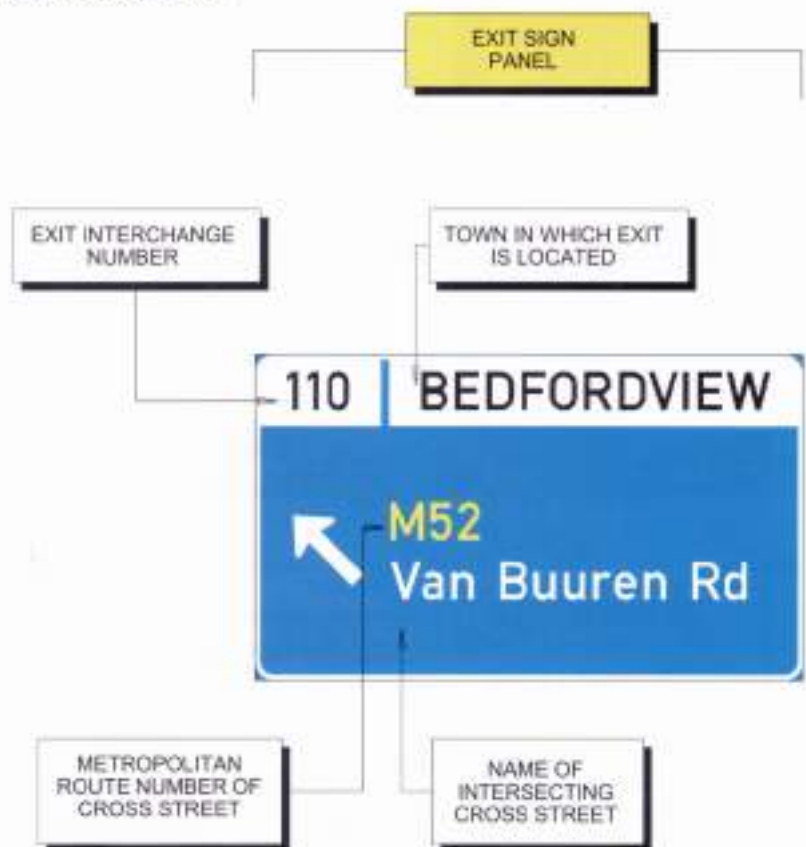


Fig 4.1 Expanded Guidance Sign Classification with Full Colour Code (for Permanent Guidance Signs)



Detail 4.2.1 Ground-Mounted Freeway Direction Sign



Detail 4.2.3 Overhead Freeway Direction Signs

Fig 4.2 Guidance Sign Letter, Number and Symbol Colour Code as Applied to Freeway Signs



NOTES:

- (1) These examples illustrate the complexity of real life signface display on a busy freeway. The information on the example signs is towards the upper limits of driver's abilities to assimilate information and should only be used in exceptional circumstances.
- (2) Details 4.2.1 shows the maximum display of information appropriate to an urban freeway direction sign.
- (3) Detail 4.2.2 illustrates the specific colour code applicable to the three types of number which can appear simultaneously on freeway direction signs.
- (4) Detail 4.2.3 uses an unusual combination of overhead freeway direction signs to illustrate the sort of demand for information which can occur and the scope for catering for this need. The display is unusual because it combines at one point a sign relating to a freeway exit at the point relating to a major interchange 2,5 kilometres beyond the point. This early display is provided to ensure correct and early lane selection on a very busy freeway section with limited place to display signs.

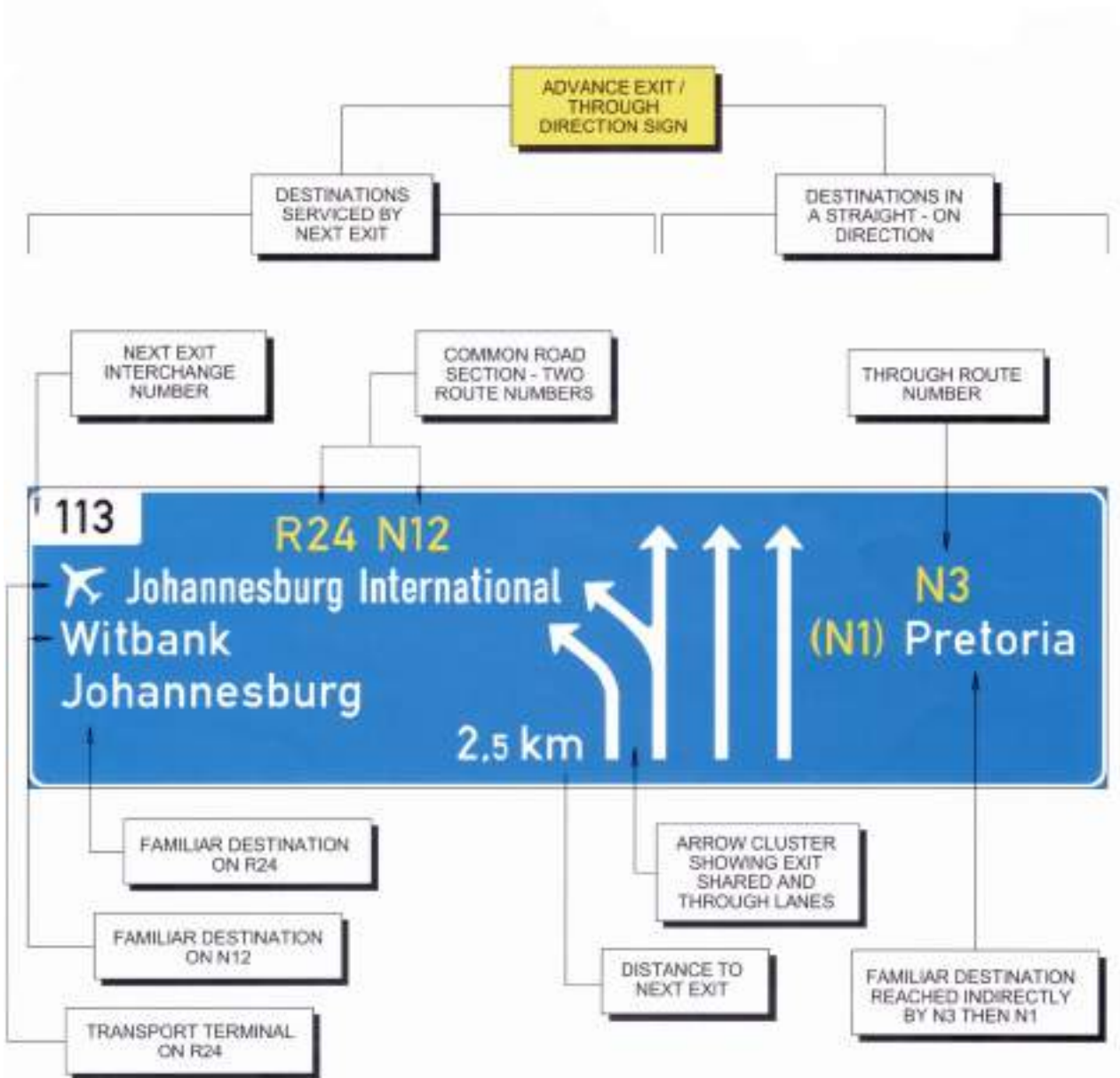



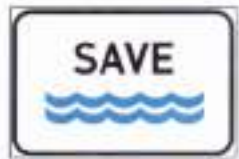













Fig 4.2 Guidance Sign Letter, Number and Symbol Colour Code as Applied to Freeway Signs











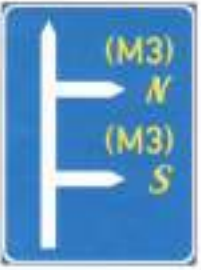












Section 4.6: LOCATION – Guidance Signs

● = See Section 4.15 for variations appropriate to individual countries

<p>GL1</p>  <p>Refer V1 4.6.2 V4 4.2.1 Street Name</p>	<p>GL2</p>  <p>Refer V1 4.6.6 V4 4.2.5 Suburb Name</p>	<p>GL3</p>  <p>Refer V1 4.6.7 V4 4.2.6 Town Name</p>		
<p>GL4</p>  <p>Refer V1 4.6.7 V4 4.2.8 River Name</p>	<p>GL5</p>  <p>Refer V1 4.6.8 V4 4.2.9 National/Provincial Border</p>	<p>GL6</p>  <p>Refer V1 4.6.8 V4 4.2.11 Geographical Location</p>		
<p>GL7</p>  <p>Refer V1 4.6.9 V4 4.2.13 Route Name</p>	<p>GL8 - RSA</p>  <p>Refer V1 4.6.9 V4 4.2.14 Interchange Name</p>			
<p>GLS-1</p>  <p>Refer V4 4.4.1 River Name</p>	<p>GLS-2</p>  <p>Refer V4 4.4.2 Toll Route Name</p>	<p>GLS-3</p>  <p>Refer V4 4.4.2 End of Toll Route</p>	<p>GLS-4</p>  <p>Refer V4 4.4.3 Freeway Name (Class A1)</p>	<p>GLS-5</p>  <p>Refer V4 4.4.3 Freeway Name (Class A2)</p>
<p>GLS-6</p>  <p>Refer V4 4.4.4 Interchange Name</p>	<p>GLS-7</p>  <p>Refer V4 4.4.4 Conservancy Area</p>			

Section 4.7: ROUTE MARKER – Guidance Signs

● = See Section 4.15 for variations appropriate to individual countries





<p>GE1 </p> <p>GE2 </p>		<p>GE3 </p> <p>GE4 </p>		<p>GE5 </p> <p>GE6 </p>		<p>GE7 </p> <p>GE8 </p>	
<p>Freeway Refer V1 4.7.3</p>		<p>Non-Freeway V4 4.3.1/4.3.4</p>		<p>Freeway Refer V1 4.7.4</p>		<p>Non-Freeway V4 4.3.5/4.3.8</p>	
<p>Advance Trailblazer</p>				<p>Trailblazer</p>			
<p>GE9  Refer: V1 4.7.5 V4 4.3.9</p> <p>Advance Transport Trailblazer</p>		<p>GE10  Refer: V1 4.7.5 V4 4.3.10</p> <p>Transport Trailblazer</p>		<p>GE11  Refer: V1 4.7.6 V4 4.3.11</p> <p>Map-Type Advance Trailblazer</p>			
<p>GE12  Confirmation</p>		<p>GE12.1  Direction (Right)</p>		<p>GE12.2  Direction (Left)</p>		<p>●</p>	
<p>GE12.3  Advance Direction (Right)</p>		<p>GE12.4  Advance Direction (Left)</p>		<p>GE12.5  Straight-On</p>		<p>Refer V1 4.7.7 to 4.7.11 V4 4.3.12 to 4.3.25</p> <p>Metropolitan Route Marker</p>	
<p>GE13  Confirmation</p>		<p>GE13.1  Direction (Right)</p>		<p>GE13.2  Direction (Left)</p>		<p>●</p>	
<p>GE13.3  Advance Direction (Right)</p>		<p>GE13.4  Advance Direction (Left)</p>		<p>GE13.5  Straight-On</p>		<p>Refer V1 4.7.7 to 4.7.11 V4 4.3.14 to 4.3.25</p> <p>Tertiary Route Marker</p>	

GE14		GE14.1		GE14.2	
	Confirmation		Direction (Right)		Direction (Left)
GE14.3		GE14.4		GE14.5	
	Advance Direction (Right)		Advance Direction (Left)		Straight-On
Refer V1 4.7.7 to 4.7.11 V4 4.3.15 to 4.3.25 Secondary Route Marker					

GE15		GE15.1		GE15.2	
	Confirmation		Direction (Right)		Direction (Left)
GE15.3		GE15.4		GE15.5	
	Advance Direction (Right)		Advance Direction (Left)		Straight-On
Refer V1 4.7.7 to 4.7.11 V4 4.3.16 to 4.3.25 Primary Route Marker					

GE12.6		GE12.7		GE12.8	
NOTE: Metropolitan examples illustrative only					Refer V1 4.7.12 V4 4.3.26 to 4.3.28

GE16		GE16.1		GE16.2	
	Confirmation		Direction (Right)		Direction (Left)
GE16.3		GE16.4		GE16.5	
	Advance Direction (Right)		Advance Direction (Left)		Straight-On
Refer V1 4.7.13 V4 4.3.30 to 4.3.32 Alternative Route Marker					

<p>GE17</p>  <p>Confirmation</p>	<p>GE17.1</p>  <p>Direction (Right)</p>	<p>GE17.2</p>  <p>Direction (Left)</p>
<p>GE17.3</p>  <p>Advance Direction (Right)</p>	<p>GE17.4</p>  <p>Advance Direction (Left)</p>	<p>GE17.5</p>  <p>Straight-On</p>

Refer V1 4.7.14 V4 4.3.33 to 4.3.35
Bicycle Route Marker

<p>GE18</p>  <p>Confirmation</p>	<p>GE18.1</p>  <p>Direction (Right)</p>	<p>GE18.2</p>  <p>Direction (Left)</p>	<p>GE18.3</p>  <p>Advance Direction (Right)</p>	<p>GE18.4</p>  <p>Advance Direction (Left)</p>			
<p>GE18.5</p>  <p>Straight-On</p>	<p>NOTE: Tourism route markers may be used with or without a route number and/or cardinal directions. This applies to any of the signs GE18 to GE18.5</p>		<p>GE18.E</p>  <p>Route End</p>	<p>GE18</p>  <p>Confirmation</p>	<p>GE18</p>  <p>W</p>	<p>GE18.1</p>  <p>T2 N</p>	<p>GE18.2</p>  <p>T2 S</p>

Refer V1 4.7.15 V4 4.3.36 to 4.3.45
Tourism Route Marker

<p>GE19</p>  <p>Confirmation</p>	<p>GE19.1</p>  <p>Direction (Right)</p>	<p>GE19.2</p>  <p>Direction (Left)</p>
<p>GE19.3</p>  <p>Advance Direction (Right)</p>	<p>GE19.4</p>  <p>Advance Direction (Left)</p>	<p>GE19.5</p>  <p>Straight-On</p>

Refer V1 4.7.16 V4 4.3.46 to 4.3.48
SADC Route Marker

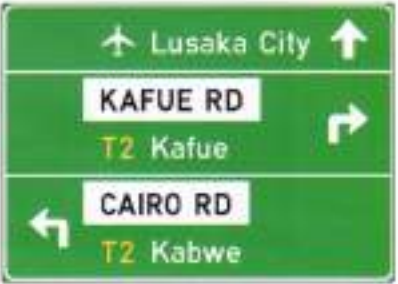
<p>NOTE: Temporary versions of almost all trailblazer and route marker signs may be used - see Section 4.7</p>	<p>TGE6</p> 	<p>TGE12.1</p> 	<p>TGE13.4</p> 
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Temporary Route Marker Signs

Section 4.8: DIRECTION – Guidance Signs and Symbols

● = See Section 4.15 for variations appropriate to individual countries

GD1

 Rural	 Urban one cross street name Stack-Type Advance Direction	 Urban two cross street names
Refer V1 4.8.6 V4 5.2.1 to 5.2.10 and 5.2.34 to 5.2.41		

GD2

 Rural	 Urban one cross street name Stack-Type Direction	 Urban two cross street names
Refer V1 4.8.9 V4 5.2.11 to 5.2.15 and 5.2.34 to 5.2.41		

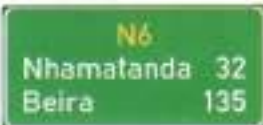
GD1/GD2

 Rural	 Urban one cross street name Stack-Type Composite Direction	 Urban two cross street names
Refer V1 4.8.12 V4 5.2.16 to 5.2.18 and 5.2.34 to 5.2.41		

TGD2-D


Refer V1 4.8.11 V4 5.2.20 Detour Direction

GD3


Refer V1 4.8.14 V4 5.2.21/22 Confirmation

TGD3-D


Refer V1 4.8.14 V4 5.2.23 Detour

GD4


Refer V1 4.8.15 V4 5.2.24 Fingerboard













TGD4


Refer V1 4.8.17 V4 5.2.27 Map-Type Advance Direction High Speed Ext

GD5


Refer V1 4.8.17 V4 5.2.28 Map-Type Advance Direction Crossroad

● = See Section 4.15 for variations appropriate to individual countries

<p>GD7</p>  <p>Refer V1 4.8.17 V4 5.2.28</p> <p>Map-Type Advance Direction Staggered Junction</p>	<p>GD8</p>  <p>Refer V1 4.8.17 V4 5.2.30</p> <p>Map-Type Advance Direction Traffic Circle</p>	
<p>GD9</p>  <p>Refer V1 4.8.17 V4 5.2.29</p> <p>Map-Type Advance Direction Recommended Route</p>	<p>GD10</p>  <p>Refer V1 4.8.19 V4 5.3.1</p> <p>Overhead-Downward Arrows Exit Direction</p>	<p>GD11</p>  <p>Refer V1 4.8.19 V4 5.3.3</p> <p>Overhead-Downward Arrows Exit Direction</p>
<p>GD11</p>  <p>Refer V1 4.8.19 V4 5.3.5</p> <p>Overhead-Downward Arrow Straight-On/Through Direction</p>	<p>GD12</p>  <p>Refer V1 4.8.20 V4 5.3.6</p> <p>Overhead-Upward Arrows Advance Exit/Through Direction</p>	
<p>GD13</p>  <p>Refer V1 4.8.20 V4 5.3.7</p> <p>Overhead-Upward Arrows Advance Exit (High Speed)</p>	<p>GD14</p>  <p>Refer V1 4.8.20 V4 5.3.8</p> <p>Overhead-Upward Arrows Advance Exit (Low Speed)</p>	<p>GD15</p>  <p>Refer V1 4.8.20 V4 5.3.9</p> <p>Overhead-Upward Arrows Straight-On/Through Direction</p>
<p>GD16</p>  <p>Refer V1 4.8.20 V4 5.3.10</p> <p>Overhead-Upward Arrows Exit Direction (Slow Speed)</p>	<p>GD17</p>  <p>Refer V1 4.8.20 V4 5.3.11</p> <p>Overhead-Upward Arrows Exit Direction (High Speed)</p>	

● = See Section 4.15 for variations appropriate to individual countries

<p>GDS-1</p>  <p>Refer V4 5.4.1</p> <p>Railway Station</p>	<p>GDS-2</p>  <p>Refer V4 5.4.1</p> <p>Bus Terminus</p>	<p>GDS-3</p>  <p>Refer V4 5.4.2</p> <p>Airport</p>	<p>GDS-4</p>  <p>Refer V4 5.4.2</p> <p>Freeway (Class A1)</p>	<p>GDS-5</p>  <p>Refer V4 5.4.3</p> <p>Freeway (Class A2)</p>
<p>GDS-6</p>  <p>Refer V4 5.4.3</p> <p>Power Station</p>	<p>GDS-7</p>  <p>Refer V4 5.4.4</p> <p>Industrial Area</p>	<p>GDS-8</p>  <p>Refer V4 5.4.4</p> <p>City Centre/ Business District</p>	<p>GDS-9</p>  <p>Refer V4 5.4.5</p> <p>Toll Route</p>	<p>GDS-10</p>  <p>Refer V4 5.4.5</p> <p>Alternative Route</p>
<p>GDS-11</p>  <p>Refer V4 5.4.6</p> <p>Heliport</p>	<p>GDS-12</p>  <p>Refer V4 5.4.6</p> <p>Mine</p>	<p>GDS-13</p>  <p>Refer V4 5.4.7</p> <p>Harbour</p>	<p>GDS-14</p>  <p>Refer V4 5.4.7</p> <p>Regional Shopping Centre</p>	<p>GDS-15</p>  <p>Refer V4 5.4.8</p> <p>Library</p>
<p>GDS-16</p>  <p>Refer V4 5.4.8</p> <p>Bicycle Route</p>	<p>GDS-17</p>  <p>Refer V4 5.4.9</p> <p>Park 'n Ride (Train)</p>	<p>GDS-18</p>  <p>Refer V4 5.4.10</p> <p>Park 'n Ride (Bus)</p>	<p>GDS-19 - NAM</p>  <p>Refer V4 5.4.11</p> <p>Pick-up Point</p>	
<p>GDS-20</p>  <p>Refer V4 5.4.12</p> <p>Parking</p>	<p>GDS-21 ●</p>  <p>Refer V4 5.4.12</p> <p>Minibus Rank</p>	<p>GDS-22</p>  <p>Refer V4 5.4.13</p> <p>Toll Plaza Ahead</p>	<p>GDS-23</p>  <p>Refer V4 5.4.14</p> <p>Border Post</p>	

Section 4.9: FREEWAY DIRECTION – Guidance Signs

● = See Section 4.15 for variations appropriate to individual countries

<p>GA1</p> <p>Refer V1 4.9.17 V4 6.2.1</p> <p>Pre-Advance Exit Direction</p>	<p>GA2</p> <table border="1"> <tr> <td style="vertical-align: top;"> <p>Rural</p> </td> <td style="vertical-align: top;"> <p>Urban</p> </td> </tr> </table> <p>Refer V1 4.9.18 V4 6.2.2 to 6.2.6</p> <p>Advance Exit Direction</p>	<p>Rural</p>	<p>Urban</p>
<p>Rural</p>	<p>Urban</p>		

<p>GA2/3</p> <table border="1"> <tr> <td style="vertical-align: top;"> <p>Rural</p> </td> <td style="vertical-align: top;"> <p>Urban</p> </td> </tr> </table> <p>Refer V1 4.9.20 V4 6.2.7/6.2.8</p> <p>Supplementary Exit Direction</p>	<p>Rural</p>	<p>Urban</p>	<p>GA3</p> <table border="1"> <tr> <td style="vertical-align: top;"> <p>Rural</p> </td> <td style="vertical-align: top;"> <p>Urban</p> </td> </tr> </table> <p>Refer V1 4.9.21 V4 6.2.9 to 6.2.12</p> <p>Exit Direction</p>	<p>Rural</p>	<p>Urban</p>
<p>Rural</p>	<p>Urban</p>				
<p>Rural</p>	<p>Urban</p>				

<p>GA4</p>	<p>GA4(E)</p>	<p>TGA4(E)</p>	<p>TGA4(V)</p>	<p>GA7</p> <p>Refer V1 4.9.27 V4 6.2.21</p> <p>Confirmation</p>
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Refer V1 4.9.23 V4 6.2.13/6.2.14

Gore Exit

<p>GA5</p> <p>Rural</p>	<p>GA6</p> <p>Rural</p>
<p>Urban</p> <p>Refer V1 4.9.24 V4 6.2.15/6.2.16</p> <p>Advance Off-Ramp Terminal Direction</p>	<p>Urban</p> <p>Refer V1 4.9.25 V4 6.2.17/6.2.20</p> <p>Off-Ramp Terminal Direction</p>

<p>GA8</p> <p>Refer V1 4.9.28 V4 6.2.22/6.2.23</p> <p>Exit Sequence</p>	<p>GA9</p> <p>Refer V1 4.9.29 V4 6.2.24</p> <p>C-D Road Advance Exit Direction</p>	<p>GA10</p> <p>Refer V1 4.9.29 V4 6.2.25</p> <p>C-D Road Exit Direction</p>
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Crossroad Freeway Direction Signs

● = See Section 4.15 for variations appropriate to individual countries

GB1

Refer V1 4.9.31 V4 6.3.1/6.3.2

Cross-Road Advance Direction

GB2

Refer V1 4.9.32 V4 6.3.3

Near Side On-Ramp Direction

GB3

Refer V1 4.9.32 V4 6.3.4

Far Side On-Ramp Advance Direction

GB4

Refer V1 4.9.33 V4 6.3.5

Far Side On-Ramp Direction

Overhead Freeway Direction Signs - Downward Pointing Arrow System

GC1

Refer V1 4.9.17 V4 6.4.1/6.4.2

Pre-Advance Exit Direction

GC2D

Refer V1 4.9.35 V4 6.4.3/6.4.4

Advance Exit Direction

GC3D

Refer V1 4.9.35 V4 6.4.5/6.4.6

Through (Straight-On) Direction

GC4D

Shared Exit Lane Exclusive Exit Lane

Refer V1 4.9.35 V4 6.4.7

Exit Direction

Overhead Freeway Direction Signs - Upward Pointing Arrow System

GC1

Refer V1 4.9.17 V4 6.4.1/6.4.2

Pre-Advance Exit Direction

GC2U

Access Interchange Systems Interchange

Refer V1 4.9.37 V4 6.4.8 to 6.4.11

Advance Exit Direction

GC3U

Systems Interchange
Refer V1 4.9.38 V4 6.4.12 to 6.4.15
Supplementary Advance Exit/Through Direction

GC3U

Access Interchange
Refer V1 4.9.38 V4 6.4.12 to 6.4.15
Supplementary Advance Exit/Through Direction

GC4U

Access Interchange **Systems Interchange Off-Ramp Split**
Refer V1 4.9.40 V4 6.4.15 to 6.4.19
Exit Direction

GC5U

Systems Interchange C-D Road
Refer V1 4.9.41 V4 6.4.20/6.4.21
Advance Off-Ramp Direction

GC6U

Main Line and C-D Road
Refer V1 4.9.42 V4 6.4.22/6.4.23
Through Direction

GC7U

Systems Interchange 1st Exit from C-D Road
Refer V1 4.9.43 V4 6.4.24
C-D Road Exit Direction

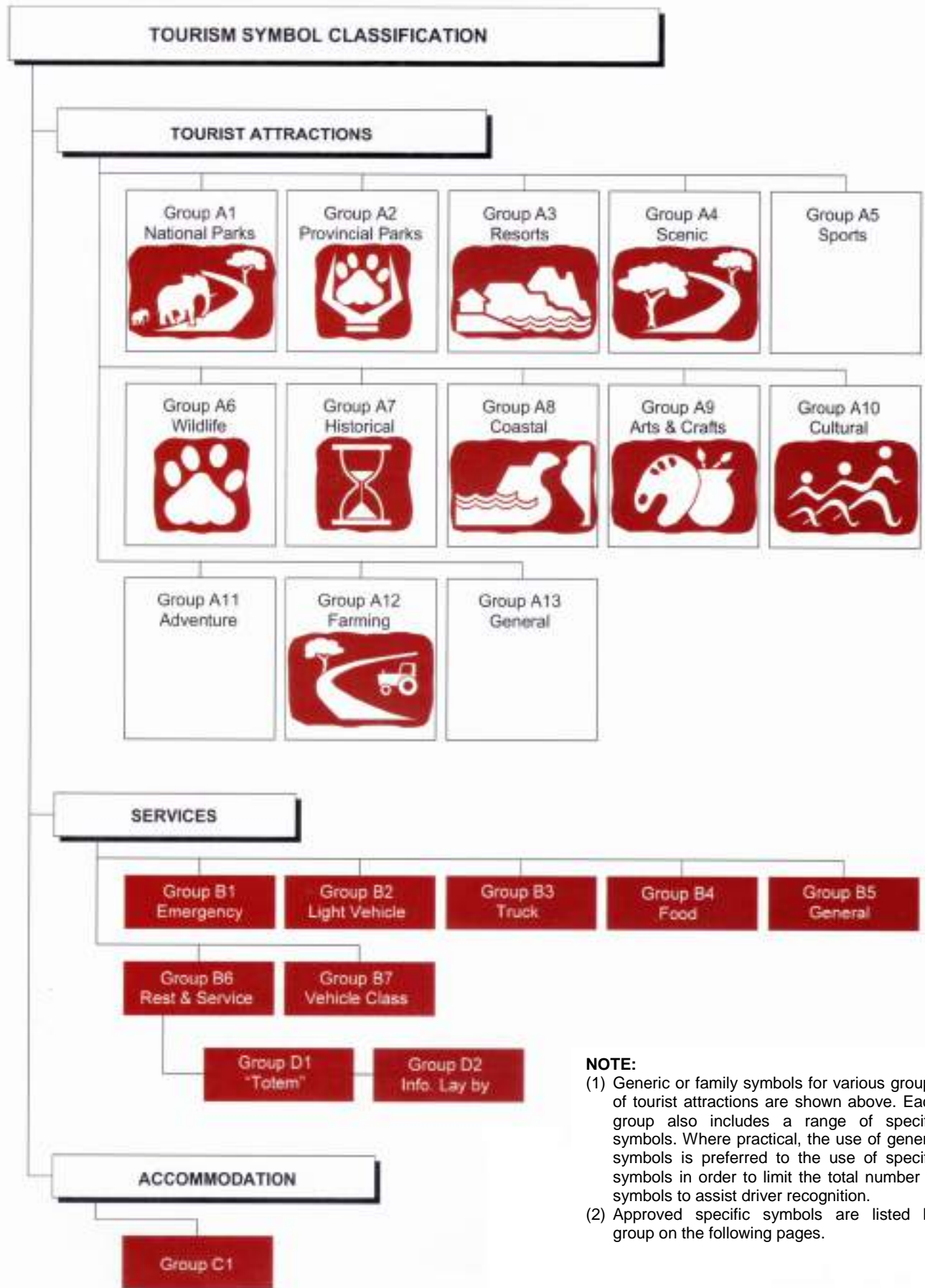
GC8U

Systems Interchange 2nd Exit from C-D Road
Refer V1 4.9.43 V4 6.4.25
C-D Road Advance Exit/Through Direction

Section 4.10: TOURISM DIRECTION – Guidance Signs and Symbols

● = See Section 4.15 for variations appropriate to individual countries

<p>GF1</p> <p>Attractions</p> <p>Services</p> <p>Refer V1 4.10.18 V4 7.2.1 Freeway Advance Exit</p>	<p>GF2</p> <p>Attractions</p> <p>Services</p> <p>Refer V1 4.10.21 V4 7.2.15 Advance Exit</p>	<p>GF3</p> <p>Attractions</p> <p>Services</p> <p>Refer V1 4.10.25 V4 7.2.25 Final Turn</p>		
<p>GF4</p> <p>Refer V1 4.10.27 V4 7.2.31 Gore Exit</p>	<p>GF5</p> <p>Refer V1 4.10.27 V4 7.2.32 Layby Advance</p>	<p>GF6</p> <p>Refer V1 4.10.27 V4 7.2.33 Layby Turn-In</p>	<p>GF7</p> <p>Refer V1 4.10.28 V4 7.2.34 Confirmation</p>	
<p>GF8</p> <p>Service Exit Sequence</p> <p>Refer V1 4.10.29 V4 7.2.35</p>	<p>GF9</p> <p>Rest and Service Sequence</p> <p>Refer V1 4.10.30 V4 7.2.37</p>	<p>GF10</p> <p>"Totem" Service Area</p> <p>Refer V1 4.10.31 V4 7.2.43</p>		
<p>GF11</p> <p>Refer V1 4.10.32 V4 7.2.44 SOS-Service Spacing</p>	<p>GF12</p> <p>Refer V1 4.10.32 V4 7.2.45 Advance SOS Service</p>	<p>GF13</p> <p>Refer V1 4.10.32 V4 7.2.45 SoS Service Turn In</p>	<p>GF14</p> <p>Refer V1 4.10.32 V4 7.2.44 Last SOS Service</p>	<p>GF15</p> <p>Refer V1 4.10.32 V4 7.2.46 Parking Free</p>
<p>GF16</p> <p>Refer V1 4.10.33 V4 7.2.46 Tourist Information</p>	<p>GF17</p> <p>Refer V1 4.10.37 V4 7.2.61 Part-Time Attraction</p>	<p>TGF17</p> <p>Refer V1 4.10.37 V4 7.2.62 Temporary Attraction</p>	<p>GF18 - RSA</p> <p>Refer V1 4.15.3 V4 7.2.63 Emergency Services</p>	



NOTE:

(1) Generic or family symbols for various groups of tourist attractions are shown above. Each group also includes a range of specific symbols. Where practical, the use of generic symbols is preferred to the use of specific symbols in order to limit the total number of symbols to assist driver recognition.

(2) Approved specific symbols are listed by group on the following pages.

● = See Section 4.15 for variations appropriate to individual countries

Group A1 - National Parks Attractions

<p>GFS A1</p>  <p>Refer V4 7.3.1</p> <p>Generic - National Parks</p>	<p>GFS A1-1-RSA ●</p>  <p>Refer V4 7.3.2</p> <p>National Parks (South Africa)</p>	<p>GFS A1-2-Nam ●</p>  <p>Refer V4 7.3.2</p> <p>National Parks (Namibia)</p>
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Group A2 - Provincial / Regional / District Parks Attractions

<p>GFS A2</p>  <p>Refer V4 7.4.1</p> <p>Generic - Provincial Parks</p>	<p>GFS A2-1-RSA ●</p>  <p>Refer V4 7.4.2</p> <p>Provincial Parks Gauteng</p>	<p>GFS A2-2-RSA ●</p>  <p>Refer V4 7.4.3</p> <p>Provincial Parks Free State</p>	<p>GFS A2-3-RSA ●</p>  <p>Refer V4 7.4.4</p> <p>Provincial Parks Western Cape</p>	<p>GFS A2-4-RSA ●</p>  <p>Refer V4 7.4.5</p> <p>Provincial Parks Kwazulu-Natal</p>
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Group A3 - Resorts Attractions

<p>GFS A3</p>  <p>Refer V4 7.5.1</p> <p>Generic - Resorts</p>	<p>GFS A3-1</p>  <p>Refer V4 7.5.2</p> <p>Country Clubs (Golf)</p>	<p>GFS A3-2</p>  <p>Refer V4 7.5.2</p> <p>Hot Springs</p>	<p>GFS A3-3</p>  <p>Refer V4 7.5.3</p> <p>Inland Water</p>	<p>GFS A3-4</p>  <p>Refer V4 7.5.4</p> <p>Seaside/Beach</p>
<p>GFS A3-5</p>  <p>Refer V4 7.5.5</p> <p>Berg/Mountain</p>				

Group A4 - Scenic Attractions

<p>GFS A4</p>  <p>Refer V4 7.6.1</p> <p>Generic - Scenic</p>	<p>GFS A4-1</p>  <p>Refer V4 7.6.2</p> <p>Nature Reserve</p>	<p>GFS A4-2-RSA ●</p>  <p>Refer V4 7.6.2</p> <p>National Heritage Site</p>	<p>GFS A4-3</p>  <p>Refer V4 7.6.3</p> <p>Botanical Gardens</p>	<p>GFS A4-4</p>  <p>Refer V4 7.6.3</p> <p>Gardens (Flower)</p>
<p>GFS A4-5</p>  <p>Refer V4 7.6.4</p> <p>Waterfall</p>	<p>GFS A4-6</p>  <p>Refer V4 7.6.5</p> <p>Lake or Dam (no watersport)</p>	<p>GFS A4-7</p>  <p>Refer V4 7.6.6</p> <p>Caves</p>	<p>GFS A4-8</p>  <p>Refer V4 7.6.6</p> <p>View Point</p>	<p>GFS A4-9</p>  <p>Refer V4 7.6.7</p> <p>Forest (Natural)</p>

● = See Section 4.15 for variations appropriate to individual countries

Group A4 - Scenic Attractions (continued)

<p>GFS A4-10</p>  <p>Refer V4 7.6.5 State Forest</p>	<p>GFS A4-11</p>  <p>Refer V4 7.5.9 Mountain/Berg</p>
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Group A5 - Sports Attractions

<p>GFS A5</p> <p>Refer V4 7.7.1 Generic - Sports</p>	<p>GFS A5-1</p>  <p>Refer V4 7.7.2 Motor Racing Track</p>	<p>GFS A5-2</p>  <p>Refer V4 7.7.3 Golf Course</p>	<p>GFS A5-3</p>  <p>Refer V4 7.7.4 Horse Racecourse</p>	<p>GFS A5-4</p>  <p>Refer V4 7.7.5 Equestrian Events</p>
<p>GFS A5-5</p>  <p>Refer V4 7.7.6 Fishing</p>	<p>GFS A5-6</p>  <p>Refer V4 7.7.7 Cricket Field</p>	<p>GFS A5-7</p>  <p>Refer V4 7.7.7 Swimming Pool</p>	<p>GFS A5-8</p>  <p>Refer V4 7.7.8 Sports Stadium</p>	

Group A6 - Wildlife Attractions

<p>GFS A6</p>  <p>Refer V4 7.8.1 Generic - Wildlife</p>	<p>GFS A6-1</p>  <p>Refer V4 7.8.1 Conservancy Area</p>	<p>GFS A6-2</p>  <p>Refer V4 7.8.2 Game Reserve</p>	<p>GFS A6-3</p>  <p>Refer V4 7.8.2 Bird Park/Sanctuary</p>	<p>GFS A6-4</p>  <p>Refer V4 7.8.3 Zoo</p>
<p>GFS A6-5</p>  <p>Refer V4 7.8.3 Snake Park</p>	<p>GFS A6-6</p>  <p>Refer V4 7.8.4 Crocodile Park</p>	<p>GFS A6-7</p>  <p>Refer V4 7.8.5 Rhino Park</p>	<p>GFS A6-8</p>  <p>Refer V4 7.8.5 Lion Park</p>	

Group A7 - Historical Attractions











<p>GFS A7</p>  <p>Refer V4 7.9.1 Generic - Historical</p>	<p>GFS A7-1-RSA ●</p>  <p>Refer V4 7.9.1 National Monument</p>	<p>GFS A7-1-Nam ●</p>  <p>Refer V4 7.9.2 National Monument</p>	<p>GFS A7-2</p>  <p>Refer V4 7.9.2 Museum</p>	<p>GFS A7-3</p>  <p>Refer V4 7.9.3 Historic Mine</p>
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● = See Section 4.15 for variations appropriate to individual countries

Group A7 - Historical Attractions (continued)

<p>GFS A7-4</p>  <p>Refer V4 7.9.4 Historic Railway Station</p>	<p>GFS A7-5</p>  <p>Refer V4 7.9.5 Historic Battlefield</p>	<p>GFS A7-6</p>  <p>Refer V4 7.9.6 Historic Cemetery</p>	<p>GFS A7-7</p>  <p>Refer V4 7.9.8 Geological Site</p>
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Group A8 - Coastal Attractions

<p>GFS A8</p>  <p>Refer V4 7.10.1 Generic - Coastal</p>	<p>GFS A8-1</p>  <p>Refer V4 7.10.2 Marine Reserve</p>	<p>GFS A8-2</p>  <p>Refer V4 7.10.2 Maritime Museum</p>	<p>GFS A8-3</p>  <p>Refer V4 7.10.3 Aquarium</p>	<p>GFS A8-4</p>  <p>Refer V4 7.10.4 Whales</p>
<p>GFS A8-5</p>  <p>Refer V4 7.10.5 Dolphins</p>	<p>GFS A8-6</p>  <p>Refer V4 7.10.6 Lighthouse</p>	<p>GFS A8-7</p>  <p>Refer V4 7.10.6 Dockyard</p>	<p>GFS A8-8</p>  <p>Refer V4 7.10.7 Boat Launch</p>	<p>GFS A8-9</p>  <p>Refer V4 7.10.8 Fishing</p>
<p>GFS A8-10</p>  <p>Refer V4 7.10.9 Crayfish</p>	<p>GFS A8-11</p>  <p>Refer V4 7.10.10 Oceanarium</p>	<p>GFS A8-12</p>  <p>Refer V4 7.10.11 Beach</p>		

Group A9 - Arts & Crafts Attractions

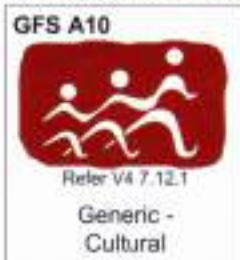
<p>GFS A9</p>  <p>Refer V4 7.11.1 Generic - Arts & Crafts</p>	<p>GFS A9-1</p>  <p>Refer V4 7.11.2 Painting & Drawing</p>	<p>GFS A9-2</p>  <p>Refer V4 7.11.2 Pottery</p>	<p>GFS A9-3</p>  <p>Refer V4 7.11.3 Jewellery</p>	<p>GFS A9-4</p>  <p>Refer V4 7.11.4 Weaving & Knitting</p>
<p>GFS A9-5</p>  <p>Refer V4 7.11.5 Leatherwork</p>	<p>GFS A9-6</p>  <p>Refer V4 7.11.6 African Arts & Crafts</p>	<p>GFS A9-7</p>  <p>Refer V4 7.11.7 Woodwork</p>	<p>GFS A9-8</p>  <p>Refer V4 7.11.8 Metalwork</p>	<p>Refer V4 7.11.9 Sculpting</p>

● = See Section 4.15 for variations appropriate to individual countries

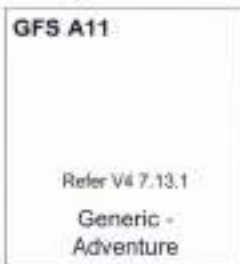
Group A9 - Arts & Crafts Attractions (continued)



Group A10 - Cultural Attractions



Group A11 - Adventure Attractions



● = See Section 4.15 for variations appropriate to individual countries

Group A12 - Farming Attractions

<p>GFS A12</p>  <p>Refer V4 7.14.1</p> <p>Generic - Farming</p>	<p>GFS A12-1</p>  <p>Refer V4 7.14.2</p> <p>Wine Cellar</p>	<p>GFS A12-2</p>  <p>Refer V4 7.14.2</p> <p>Wine Route/ Estate</p>	<p>GFS A12-3</p>  <p>Refer V4 7.14.3</p> <p>Showground</p>	<p>GFS A12-4</p>  <p>Refer V4 7.14.4</p> <p>Cherry Farm</p>
<p>GFS A12-5</p>  <p>Refer V4 7.14.4</p> <p>Ostrich Farm with Riding</p>	<p>GFS A12-6</p>  <p>Refer V4 7.14.5</p> <p>Ostrich Farm</p>	<p>GFS A12-7</p>  <p>Refer V4 7.14.5</p> <p>Fish Farm</p>	<p>GFS A12-8</p>  <p>Refer V4 7.14.6</p> <p>Roadside Stall</p>	<p>GFS A12-9</p>  <p>Refer V4 7.14.7</p> <p>Butterfly Farm</p>

Group A13 - General Attractions

<p>GFS A13</p> <p>Refer V4 7.15.1</p> <p>General Attractions</p>	<p>GFS A13-1</p>  <p>Refer V4 7.15.1</p> <p>Animal Theme Park</p>
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● = See Section 4.15 for variations appropriate to individual countries

Group B1 - Emergency Services

<p>GFS B1-1</p>  <p>Refer V4 7.16.1 Telephone</p>	<p>GFS B1-2</p>  <p>Refer V4 7.16.1 Generic - Police</p>	<p>GFS B1-2-RSA ●</p>  <p>Refer V4 7.16.2 Police South Africa</p>	<p>GFS B1-2-Nam ●</p>  <p>Refer V4 7.16.3 Police Namibia</p>	<p>GFS B1-3</p>  <p>Refer V4 7.16.4 Hospital (with name)</p>
<p>GFS B1-4</p>  <p>Refer V4 7.16.4 First Aid Post</p>	<p>GFS B1-5</p>  <p>Refer V4 7.16.5 SOS Call Station (sign)</p>	<p>GFS B1-6</p>  <p>Refer V4 7.16.6 SOS Call Station (post)</p>	<p>GFS B1-7 ●</p>  <p>Refer V4 7.16.5 NSRI</p>	<p>GFS B1-8</p>  <p>Refer V4 7.16.7 Ambulance/ Medical Services</p>
<p>GFS B1-9</p>  <p>Refer V4 7.16.7 Fire Station/ Services</p>	<p>GFS B1-10</p>  <p>Refer V4 7.16.8 Cell phone Emergency No.</p>			

Group B2 - Light Vehicle Services

<p>GFS B2-1</p>  <p>Refer V4 7.17.1 Filling Station & Workshop</p>	<p>GFS B2-2</p>  <p>Refer V4 7.17.2 Filling Station</p>	<p>GFS B2-3</p>  <p>Refer V4 7.17.2 Workshop</p>	<p>GFS B2-4</p>  <p>Refer V4 7.17.3 Tow-in Service</p>
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Group B3 - Truck Rest & Service












<p>GFS B3-1</p>  <p>Refer V4 7.18.1 Truck Rest & Service Area</p>

Group B4 - Food Services

<p>GFS B4-1</p>  <p>Refer V4 7.19.1 Restaurant</p>	<p>GFS B4-2</p>  <p>Refer V4 7.19.1 Refreshments</p>	<p>GFS B4-3</p>  <p>Refer V4 7.19.2 Take-Away</p>	<p>GFS B4-4</p>  <p>Refer V4 7.19.2 Rural Shop/Cafe/ Corner Shop</p>
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● = See Section 4.15 for variations appropriate to individual countries





Group B5 - General Services

<p>GFS B5-1</p>  <p>Refer V4 7.20.1 Parking Area (free parking)</p>	<p>GFS B5-2</p>  <p>Refer V4 7.20.1 Toilets</p>	<p>GFS B5-3</p>  <p>Refer V4 7.20.2 Shower</p>	<p>GFS B5-4</p>  <p>Refer V4 7.20.2 Drinking Water</p>	<p>GFS B5-5</p>  <p>Refer V4 7.20.3 Fireplace</p>
<p>GFS B5-6</p>  <p>Refer V4 7.20.3 Cooking Facilities</p>	<p>GFS B5-7</p>  <p>Refer V4 7.20.4 Picnic Area</p>	<p>GFS B5-8</p>  <p>Refer V4 7.20.4 Tourist Information</p>	<p>GFS B5-9</p>  <p>Refer V4 7.20.5 Facility for Handicapped</p>	<p>GFS B5-10</p>  <p>Refer V4 7.20.5 Roadside Stall/ Curio Shop</p>
<p>GFS B5-11</p>  <p>Refer V4 7.20.6 Generic - Post Office</p>				

Group B6 - Rest and Service Areas

<p>GFS B6-1</p>  <p>Refer V4 7.21.1 Rest Area - Class 1</p>	<p>GFS B6-2</p>  <p>Refer V4 7.21.2 Rest Area - Class 2</p>	<p>GFS B6-3</p>  <p>Refer V4 7.21.3 Rest Area - Class 3</p>
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Group B7 - Vehicle Class

<p>GFS B7-1</p>  <p>Refer V4 7.22.1 Motor Cars</p>	<p>GFS B7-2</p>  <p>Refer V4 7.22.2 Caravans</p>	<p>GFS B7-3</p>  <p>Refer V4 7.22.3 Buses</p>	<p>GFS B7-4</p>  <p>Refer V4 7.22.4 Trucks</p>	<p>GFS B7-5</p>  <p>Refer V4 7.22.5 Delivery Vehicles</p>
<p>GFS B7-6</p>  <p>Refer V4 7.22.6 Motor Cycles</p>				

● = See Section 4.15 for variations appropriate to individual countries

Group C1 - Accommodation

<p>GFS C1-1</p>  <p>Refer V4 7.23.1 Accommodation (incl. Hotels, Inns etc)</p>	<p>GFS C1-2</p>  <p>Refer V4 7.23.2 Chalet/Self-Catering</p>	<p>GFS C1-3</p>  <p>Refer V4 7.23.3 Caravan Site</p>	<p>GFS C1-4</p>  <p>Refer V4 7.23.4 Camp Site</p>	<p>GFS C1-5</p>  <p>Refer V4 7.23.5 Generic - Guest House</p>
<p>GFS C1-6</p>  <p>Refer V4 7.23.6 Bed & Breakfast</p>	<p>GFS C1-7</p>  <p>Refer V4 7.23.7 Rooms (Bed only)</p>	<p>GFS C1-8</p>  <p>Refer V4 7.23.7 Youth Hostel/ Centre/Camp</p>	<p>GFS C1-9</p>  <p>Refer V4 7.23.8 Trail Shelter</p>	<p>GFS C1-10</p>  <p>Refer V4 7.23.9 Guest Farm</p>
<p>GFS C1-11</p>  <p>Refer V4 7.23.10 Ethnic (Zulu)</p>				

Group D1 - "Totem" Signs for Rest & Service Areas

<p>GFS D1-1</p>  <p>Refer V4 7.24.1 Motor Cars</p>	<p>GFS D1-2</p>  <p>Refer V4 7.24.1 Caravans</p>	<p>GFS D1-3</p>  <p>Refer V4 7.24.2 Buses</p>	<p>GFS D1-4</p>  <p>Refer V4 7.24.2 Trucks</p>	<p>GFS D1-5</p>  <p>Refer V4 7.24.3 Motor Cycles</p>
<p>GFS D1-6</p>  <p>Refer V4 7.24.3 Take Away</p>	<p>GFS D1-7</p>  <p>Refer V4 7.24.4 Restaurant</p>	<p>GFS D1-8</p>  <p>Refer V4 7.24.4 Refreshments</p>	<p>GFS D1-9</p>  <p>Refer V4 7.24.5 Shop</p>	<p>GFS D1-10</p>  <p>Refer V4 7.24.5 Facility for the Handicapped</p>
<p>GFS D1-11</p>  <p>Refer V4 7.24.6 Toilets</p>	<p>GFS D1-12</p>  <p>Refer V4 7.24.6 Telephone</p>	<p>GFS D1-13</p>  <p>Refer V4 7.24.7 Straight-On Arrow</p>	<p>GFS D1-14</p>  <p>Refer V4 7.24.7 Left/Right Arrow</p>	<p>GFS D1-15</p>  <p>Refer V4 7.24.8 Diagonal Left/ Right Arrow</p>

● = See Section 4.15 for variations appropriate to individual countries

Group D1 - "Totem" Signs (continued)

<p>GFS D1-16</p>  <p>Refer V4 7.24.8 Advance Left/ Right Arrow</p>	<p>GFS D1-17</p>  <p>Refer V4 7.24.9 Exit (Route Number)</p>	<p>GFS D1-18</p>  <p>Refer V4 7.24.9 Parking</p>	<p>GFS D1-19</p>  <p>Refer V4 7.24.10 Filling Station & Workshop</p>	<p>GFS D1-20</p>  <p>Refer V4 7.24.10 Filling Station</p>
<p>GFS D1-21</p>  <p>Refer V4 7.24.11 Picnic Area</p>	<p>GFS D1-22</p>  <p>Refer V4 7.24.11 Tourist Information</p>	<p>GFS D1-23</p>  <p>Refer V4 7.24.12 Motor Car Wash</p>	<p>GFS D1-24</p>  <p>Refer V4 7.24.12 Truck Wash</p>	<p>GFS D1-25</p>  <p>Refer V4 7.24.13 Drinking Water</p>
<p>GFS D1-26</p>  <p>Refer V4 7.24.13 Fireplace</p>	<p>GFS D1-27</p>  <p>Refer V4 7.24.14 Cooking Facilities</p>	<p>GFS D1-28</p>  <p>Refer V4 7.24.14 Shower</p>		

Group D2 - Off Road Tourism Information

<p>GFS D2-1 RSA</p>  <p>Refer V4 7.25.1 North & Central Drakensberg Resorts</p>	<p>GFS D2-2 RSA</p>  <p>Refer V4 7.25.1 Southern Drakensberg Resort</p>	<p>GFS D2-3 RSA</p>  <p>Refer V4 7.25.2 Midlands Meander (kwaZulu-Natal)</p>	<p>GFS D2-4 RSA</p>  <p>Refer V4 7.25.3 Highlands Tourism (Free State)</p>
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Section 4.11: LOCAL DIRECTION – Guidance Signs and Symbols

● = See Section 4.15 for variations appropriate to individual countries

<p>GDL1</p>  <p>Refer V1 4.11.12 V4 13.2.1 Advance Local Direction</p>	<p>GDL2</p>  <p>Refer V1 4.11.14 V4 13.2.10 Local Direction</p>	<p>GDL3</p>  <p>Refer V1 4.11.17 V4 13.2.17 Local Fingerboard</p>
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Group A1 - Major Traffic Generators - High Use Level

<p>GDLS A1-1</p>  <p>Refer V4 13.3.1 Central Business Area</p>	<p>GDLS A1-2</p> <p>Refer V4 13.3.1 University</p>	<p>GDLS A1-3</p> <p>Refer V4 13.3.2 Technicon</p>	<p>GDLS A1-4</p> <p>Refer V4 13.3.2 Education College</p>	<p>GDLS A1-5</p>  <p>Refer V4 13.3.3 Shopping Centre</p>
<p>GDLS A1-6</p>  <p>Refer V4 13.3.3 Railway Station</p>	<p>GDLS A1-7</p>  <p>Refer V4 13.3.4 Airport</p>	<p>GDLS A1-8</p>  <p>Refer V4 13.3.4 Bus Station</p>	<p>GDLS A1-9</p>  <p>Refer V4 13.3.5 Minibus Rank</p>	<p>GDLS A1-10</p>  <p>Refer V4 13.3.5 Harbour</p>
<p>GDLS A1-11</p>  <p>Refer V4 13.3.6 Parking</p>	<p>GDLS A1-12</p>  <p>Refer V4 13.3.6 Parking Garage</p>	<p>GDLS A1-13</p> <p>Refer V4 13.3.7 Modal Transfer Station</p>	<p>GDLS A1-14</p>  <p>Refer V4 13.3.7 Mine</p>	

Group A2 - Major Traffic Generators - Regular Use Level

<p>GDLS A2-1</p>  <p>Refer V4 13.4.1 Information Centre/Layby</p>	<p>GDLS A2-2</p>  <p>Refer V4 13.4.1 Post Office</p>	<p>GDLS A2-3</p> <p>Refer V4 13.4.2 Automatic Teller</p>	<p>GDLS A2-4</p>  <p>Refer V4 13.4.2 Industrial Area</p>	<p>GDLS A2-5</p> <p>Refer V4 13.4.3 Park 'n Ride</p>
<p>GDLS A2-6</p>  <p>Refer V4 13.4.3 Waste Disposal Site</p>	<p>GDLS A2-7</p>  <p>Refer V4 13.4.4 Produce Market</p>	<p>GDLS A2-8</p> <p>Refer V4 13.4.4 Abattoir</p>	<p>GDLS A2-9</p>  <p>Refer V4 13.4.5 Conference Facilities</p>	<p>GDLS A2-10</p> <p>Refer V4 13.4.5 Research Organisation</p>

● = See Section 4.15 for variations appropriate to individual countries

Group A2 - Major Traffic Generator - Regular Use Level (continued)

<p>GDLS A2-11</p>  <p>Refer V4 13.4.5 Power Station</p>	<p>GDLS A2-12</p>  <p>Refer V4 13.4.6 School</p>	<p>GDLS A2-13</p>  <p>Refer V4 13.4.7 Library</p>	<p>GDLS A2-14</p>  <p>Refer V4 13.4.7 Swimming Pool</p>	<p>GDLS A2-15</p>  <p>Refer V4 13.4.8 Border/Customs Post</p>
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Group A3 - Minor Traffic Generator - Irregular Use Level

<p>GDLS A3-1</p> <p>Refer V4 13.5.1 Cemetery</p>	<p>GDLS A3-2</p> <p>Refer V4 13.5.1 Garden Refuse</p>	<p>GDLS A3-3</p> <p>Refer V4 13.5.2 Places of Worship</p>	<p>GDLS A3-4</p> <p>Refer V4 13.5.2 Broadcast Station</p>	<p>GDLS A3-5</p> <p>Refer V4 13.5.3 Drive-In Theatre</p>
<p>GDLS A3-6</p> <p>Refer V4 13.5.3 Nursery (Plants)</p>	<p>GDLS A3-7</p> <p>Refer V4 13.5.4 Sports Club</p>	<p>GDLS A3-8</p> <p>Refer V4 13.5.4 Traffic Department</p>	<p>GDLS A3-9</p> <p>Refer V4 13.5.5 Electricity Department</p>	<p>GDLS A3-10</p> <p>Refer V4 13.5.5 Testing Grounds</p>
<p>GDLS A3-11</p> <p>Refer V4 13.5.5 Licence Offices</p>				

Group A4 - Minor Traffic Generator - Low Use Level

<p>GDLS A4-1</p> <p>Refer V4 13.6.1 Clinic</p>	<p>GDLS A4-2</p> <p>Refer V4 13.6.1 Medical Centre</p>	<p>GDLS A4-3</p>  <p>Refer V4 13.6.2 Fire Station</p>	<p>GDLS A4-4</p> <p>Refer V4 13.6.2 Community Centre</p>	<p>GDLS A4-5</p>  <p>Refer V4 13.6.3 Heliport</p>
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● = See Section 4.15 for variations appropriate to individual countries

Group A4 - Minor Traffic Generator - Low Level Use



Section 4.12: DIAGRAMMATIC – Guidance Signs and Symbols

= See Section 4.15 for variations appropriate to individual countries

GS100 Series - Traffic Movement Affected by Obstructions

<p>GS101 TGS101</p> <p>Refer V1 4.12.9 V4 8.2.1</p>	<p>GS102 TGS102</p> <p>Refer V1 4.12.9 V4 8.2.1</p>	<p>GS103 TGS103</p> <p>Refer V1 4.12.9 V4 8.2.3</p>	<p>GS104 TGS104</p> <p>Refer V1 4.12.9 V4 8.2.3</p>
<p>GS105 TGS105</p> <p>Refer V1 4.12.9 V4 8.2.4</p>	<p>GS106 TGS106</p> <p>Refer V1 4.12.9 V4 8.2.4</p>	<p>TGS107</p> <p>Refer V1 4.12.9 V4 8.2.5</p>	<p>TGS108</p> <p>Refer V1 4.12.9 V4 8.2.5</p>
<p>TGS109</p> <p>Refer V1 4.12.9 V4 8.2.7</p>	<p>TGS110</p> <p>Refer V1 4.12.9 V4 8.2.7</p>	<p>TGS111</p> <p>Refer V1 4.12.9 V4 8.2.8</p>	<p>TGS112</p> <p>Refer V1 4.12.9 V4 8.2.9</p>
<p>TGS113</p> <p>Refer V1 4.12.10 V4 8.2.8</p>	<p>TGS114</p> <p>Refer V1 4.12.10 V4 8.2.9</p>	<p>TGS115</p> <p>Refer V1 4.12.10 V4 8.2.11</p>	<p>TGS116</p> <p>Refer V1 4.12.10 V4 8.2.11</p>
<p>TGS117</p> <p>Refer V1 4.12.10 V4 8.2.13</p>	<p>TGS118</p> <p>Refer V1 4.12.10 V4 8.2.13</p>	<p>TGS119</p> <p>Refer V1 4.12.10 V4 8.2.14</p>	<p>TGS120</p> <p>Refer V1 4.12.10 V4 8.2.14</p>
<p>TGS121</p> <p>Refer V1 4.12.10 V4 8.2.15</p>	<p>TGS122</p> <p>Refer V1 4.12.10 V4 8.2.17</p>	<p>GS123 TGS123</p> <p>Refer V1 4.12.10 V4 8.2.18</p>	<p>GS124 TGS124</p> <p>Refer V1 4.12.10 V4 8.2.19</p>

● = See Section 4.15 for variations appropriate to individual countries

GS100 Series - Traffic Movement Affected by Obstructions (continued)

<p>TGS125</p> <p>Refer V1 4.12.11 V4 8.2.21</p>	<p>TGS126</p> <p>Refer V1 4.12.11 V4 8.2.23</p>	<p>TGS127</p> <p>Refer V1 4.12.11 V4 8.2.25</p>	<p>TGS128</p> <p>Refer V1 4.12.11 V4 8.2.26</p>
<p>TGS129</p> <p>Refer V1 4.12.11 V4 8.2.27</p>	<p>TGS130</p> <p>Refer V1 4.12.11 V4 8.2.29</p>	<p>TGS131</p> <p>Refer V1 4.12.11 V4 8.2.29</p>	<p>TGS132</p> <p>Refer V1 4.12.11 V4 8.2.30</p>
<p>TGS133</p> <p>Refer V1 4.12.11 V4 8.2.31</p>	<p>TGS134</p> <p>Refer V1 4.12.11 V4 8.2.31</p>	<p>TGS135</p> <p>Refer V1 4.12.11 V4 8.2.32</p>	<p>TGS136</p> <p>Refer V1 4.12.11 V4 8.2.33</p>
<p>TGS137</p> <p>Refer V1 4.12.12 V4 8.2.34</p>	<p>TGS138</p> <p>Refer V1 4.12.12 V4 8.2.34</p>	<p>TGS139</p> <p>Refer V1 4.12.12 V4 8.2.35</p>	<p>TGS140</p> <p>Refer V1 4.12.12 V4 8.2.37</p>
<p>TGS141</p> <p>Refer V1 4.12.12 V4 8.2.37</p>	<p>TGS142</p> <p>Refer V1 4.12.12 V4 8.2.38</p>	<p>TGS143</p> <p>Refer V1 4.12.12 V4 8.2.39</p>	<p>TGS144</p> <p>Refer V1 4.12.12 V4 8.2.40</p>
<p>GS145 TGS145</p> <p>Refer V1 4.12.12 V4 8.2.41</p>	<p>GS146 TGS146</p> <p>Refer V1 4.12.12 V4 8.2.42</p>	<p>GS147 TGS147</p> <p>Refer V1 4.12.12 V4 8.2.43</p>	<p>GS148 TGS148</p> <p>Refer V1 4.12.12 V4 8.2.44</p>

● = See Section 4.15 for variations appropriate to individual countries

GS100 Series - Traffic Movement Affected by Obstructions (continued)

<p>GS149 TGS149</p> <p>Refer V1 4.12.13 V4 8.2.45</p>	<p>GS150 TGS150</p> <p>Refer V1 4.12.13 V4 8.2.47</p>	<p>GS151</p> <p>Refer V1 4.12.13 V4 8.2.49</p>	<p>GS152</p> <p>Refer V1 4.12.13 V4 8.2.51</p>
<p>GS153 TGS153</p> <p>Refer V1 4.12.13 V4 8.2.52</p>	<p>GS154 TGS154</p> <p>Refer V1 4.12.13 V4 8.2.52</p>	<p>GS155 TGS155</p> <p>Refer V1 4.12.13 V4 8.2.54</p>	<p>GS156 TGS156</p> <p>Refer V1 4.12.13 V4 8.2.55</p>
<p>GS157</p> <p>Refer V1 4.12.13 V4 8.2.56</p>	<p>GS158</p> <p>Refer V1 4.12.13 V4 8.2.57</p>		

GS200 Series - Additional Lane

<p>GS201</p> <p>Refer V1 4.12.15 V4 8.3.1</p>	<p>GS202</p> <p>Refer V1 4.12.15 V4 8.3.1</p>	<p>GS203</p> <p>Refer V1 4.12.15 V4 8.3.1</p>	<p>GS204</p> <p>Refer V1 4.12.15 V4 8.3.1</p>
<p>GS205</p> <p>Refer V1 4.12.15 V4 8.3.3</p>	<p>GS206</p> <p>Refer V1 4.12.15 V4 8.3.3</p>	<p>GS207</p> <p>Refer V1 4.12.15 V4 8.3.4</p>	<p>GS208</p> <p>Refer V1 4.12.15 V4 8.3.4</p>

● = See Section 4.15 for variations appropriate to individual countries

GS200 Series - Additional Lane (continued)

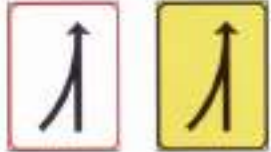

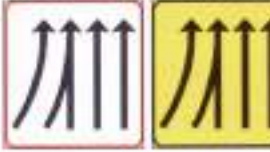
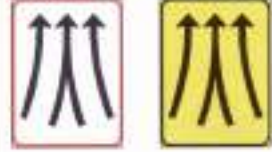
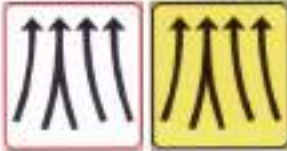
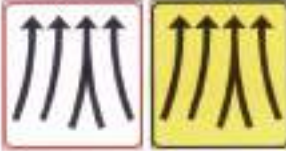
<p>GS209</p> <p>Refer V1 4.12.15 V4 8.3.5</p>	<p>GS210</p> <p>Refer V1 4.12.15 V4 8.3.5</p>	<p>GS211</p> <p>Refer V1 4.12.15 V4 8.3.6</p>	<p>GS212</p> <p>Refer V1 4.12.15 V4 8.3.7</p>
<p>GS213</p> <p>Refer V1 4.12.16 V4 8.3.9</p>	<p>GS214</p> <p>Refer V1 4.12.16 V4 8.3.11</p>		

GS300 Series - Lane Use Control by Regulation

<p>GS301</p> <p>Refer V1 4.12.18 V4 8.4.1</p>	<p>TGS301</p> <p>Refer V1 4.12.18 V4 8.4.1</p>	<p>GS302</p> <p>Refer V1 4.12.18 V4 8.4.1</p>	<p>TGS302</p> <p>Refer V1 4.12.18 V4 8.4.1</p>	<p>GS303</p> <p>Refer V1 4.12.18 V4 8.4.3</p>	<p>TGS303</p> <p>Refer V1 4.12.18 V4 8.4.3</p>	<p>GS304</p> <p>Refer V1 4.12.18 V4 8.4.3</p>	<p>TGS304</p> <p>Refer V1 4.12.18 V4 8.4.3</p>
<p>GS305</p> <p>Refer V1 4.12.18 V4 8.4.4</p>	<p>TGS305</p> <p>Refer V1 4.12.18 V4 8.4.4</p>	<p>GS306</p> <p>Refer V1 4.12.18 V4 8.4.4</p>	<p>TGS306</p> <p>Refer V1 4.12.18 V4 8.4.4</p>	<p>GS307</p> <p>Refer V1 4.12.18 V4 8.4.5</p>	<p>TGS307</p> <p>Refer V1 4.12.18 V4 8.4.5</p>	<p>GS308</p> <p>Refer V1 4.12.18 V4 8.4.7</p>	<p>TGS308</p> <p>Refer V1 4.12.18 V4 8.4.7</p>
<p>GS309</p> <p>Refer V1 4.12.18 V4 8.4.7</p>	<p>GS310</p> <p>Refer V1 4.12.18 V4 8.4.8</p>	<p>TGS310</p> <p>Refer V1 4.12.18 V4 8.4.8</p>	<p>GS311</p> <p>Refer V1 4.12.18 V4 8.4.10</p>	<p>TGS311</p> <p>Refer V1 4.12.18 V4 8.4.10</p>	<p>GS312</p> <p>Refer V1 4.12.18 V4 8.4.12</p>	<p>TGS312</p> <p>Refer V1 4.12.18 V4 8.4.12</p>	

● = See Section 4.15 for variations appropriate to individual countries

GS400 Series - Lanes Merge

<p>GS401 TGS401</p>  <p>Refer V1 4.12.20 V4 8.5.1</p>	<p>GS402 TGS402</p>  <p>Refer V1 4.12.20 V4 8.5.2</p>	<p>GS403 TGS403</p>  <p>Refer V1 4.12.20 V4 8.5.3</p>	<p>GS404 TGS404</p>  <p>Refer V1 4.12.20 V4 8.5.5</p>
<p>GS405 TGS405</p>  <p>Refer V1 4.12.20 V4 8.5.7</p>	<p>GS406 TGS406</p>  <p>Refer V1 4.12.20 V4 8.5.7</p>		

GS450 Series - Lanes Converge

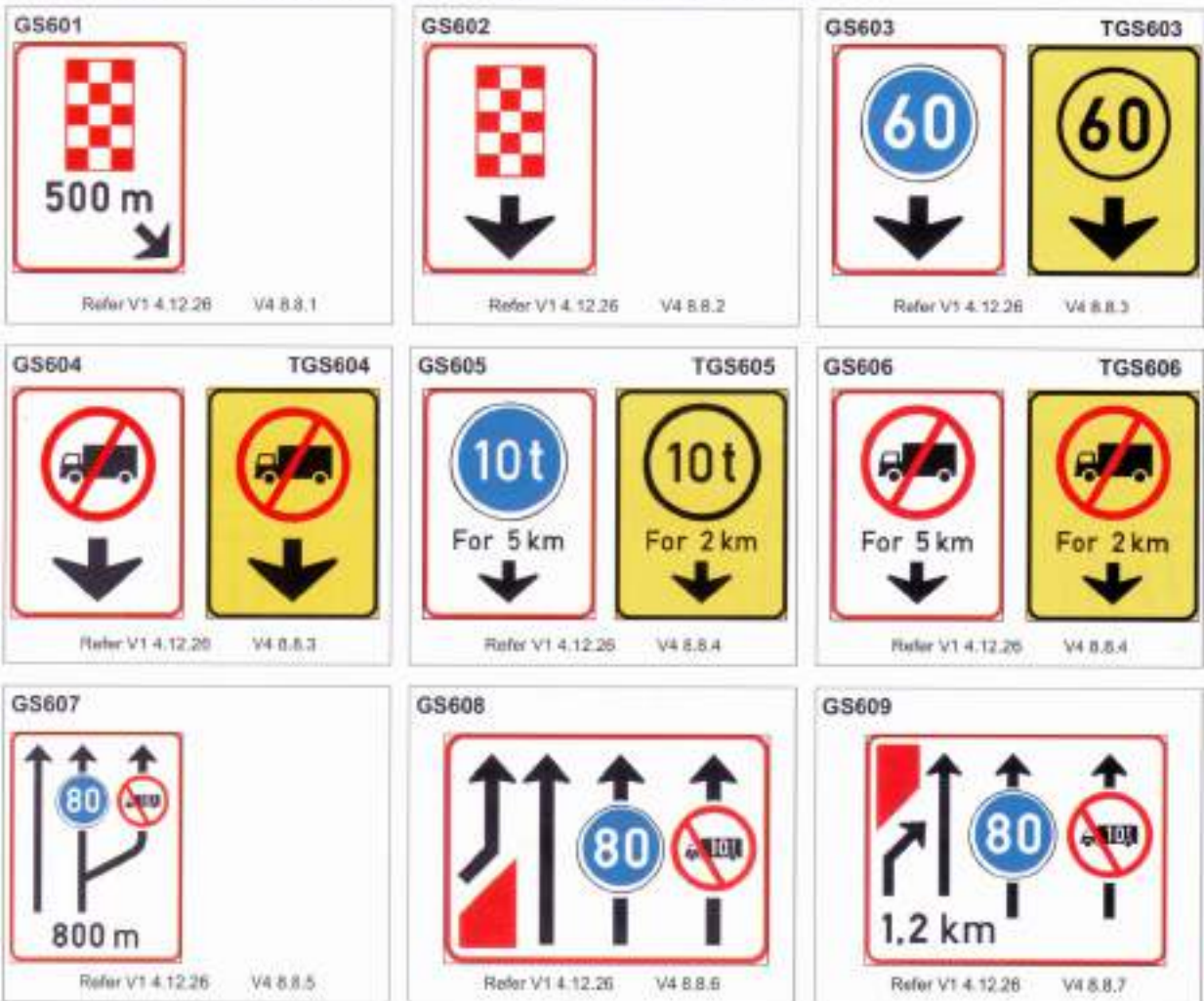
<p>GS451</p>  <p>Refer V1 4.12.22 V4 8.6.1</p>	<p>GS452</p>  <p>Refer V1 4.12.22 V4 8.6.1</p>	<p>GS453</p>  <p>Refer V1 4.12.22 V4 8.6.3</p>	<p>GS454</p>  <p>Refer V1 4.12.22 V4 8.6.3</p>
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● = See Section 4.15 for variations appropriate to individual countries

GS500 Series - Heavy Vehicle Control

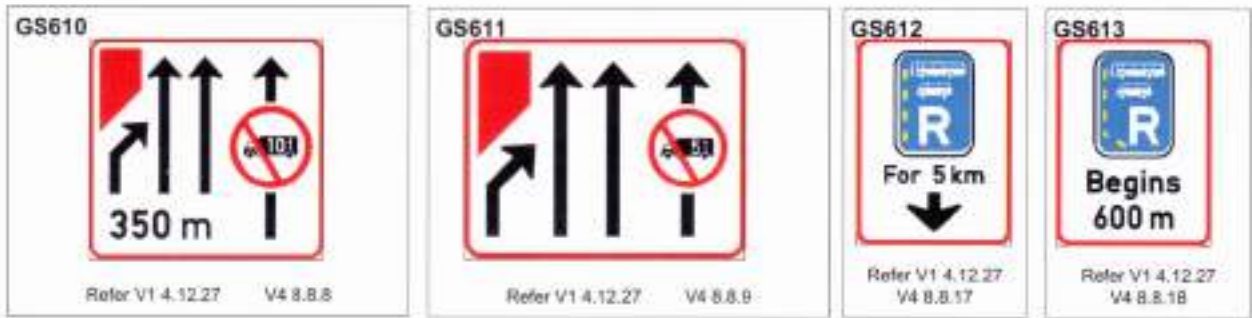


GS600 Series - Overhead - Specific Situations / Lane Use Control

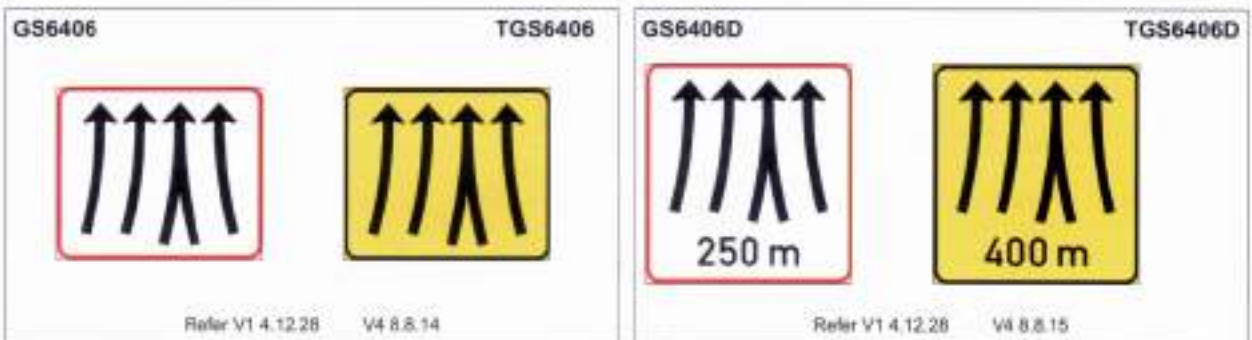
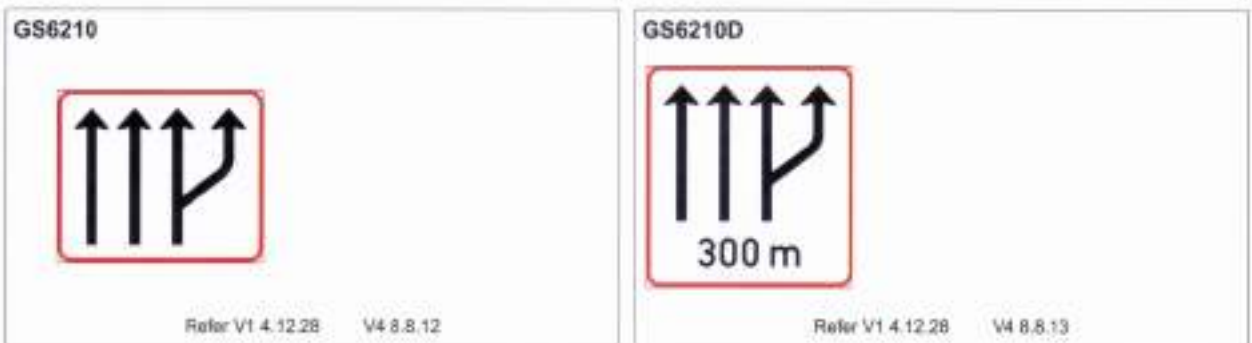
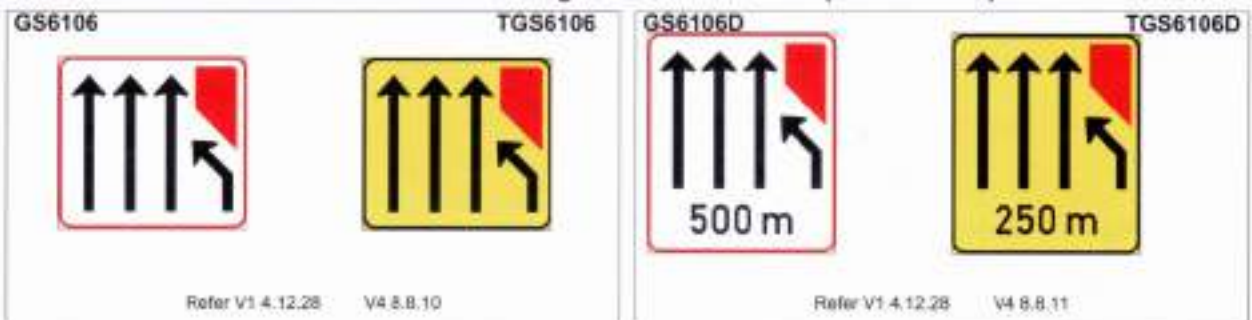


● = See Section 4.15 for variations appropriate to individual countries

GS600 Series - Overhead - Specific Situations / Lane Use Control (continued)



GS6000 Series - Overhead Versions of Signs in Other Series (EXAMPLES)



● = See Section 4.15 for variations appropriate to individual countries

GS6000 Series - Overhead Versions of Signs in Other Series (continued)



GS700 Series - Public Transport






















GS800 Series - At - Grade Lane Layout



● = See Section 4.15 for variations appropriate to individual countries

GS800 Series - At - Grade Lane Layout (continued)












































<p>GS805</p>  <p>Refer V1 4.12.32 V4 8.10.4</p>	<p>GS806</p>  <p>Refer V1 4.12.32 V4 8.10.5</p>	<p>GS807</p>  <p>Refer V1 4.12.32 V4 8.10.5</p>	<p>GS808</p>  <p>Refer V1 4.12.32 V4 8.10.6</p>
<p>GS809</p>  <p>Refer V1 4.12.32 V4 8.10.7</p>	<p>GS810</p>  <p>Refer V1 4.12.32 V4 8.10.7</p>	<p>GS811</p>  <p>Refer V1 4.12.32 V4 8.10.8</p>	<p>GS812</p>  <p>Refer V1 4.12.32 V4 8.10.8</p>
<p>GS813</p>  <p>Refer V1 4.12.33 V4 8.10.9</p>	<p>GS814</p>  <p>Refer V1 4.12.33 V4 8.10.9</p>	<p>GS815</p>  <p>Refer V1 4.12.33 V4 8.10.10</p>	<p>GS816</p>  <p>Refer V1 4.12.33 V4 8.10.10</p>
<p>GS817</p>  <p>Refer V1 4.12.33 V4 8.10.11</p>	<p>GS818</p>  <p>Refer V1 4.12.33 V4 8.10.11</p>	<p>GS819</p>  <p>Refer V1 4.12.33 V4 8.10.12</p>	<p>GS820</p>  <p>Refer V1 4.12.33 V4 8.10.12</p>
<p>NOTE Numbers GS821 to GS860 not allocated</p>	<p>TGS861</p>  <p>Refer V1 4.12.33 V4 8.10.13</p>	<p>TGS862</p>  <p>Refer V1 4.12.33 V4 8.10.14</p>	<p>TGS863</p>  <p>Refer V1 4.12.33 V4 8.10.15</p>

GS900 Series - Junction with Warning

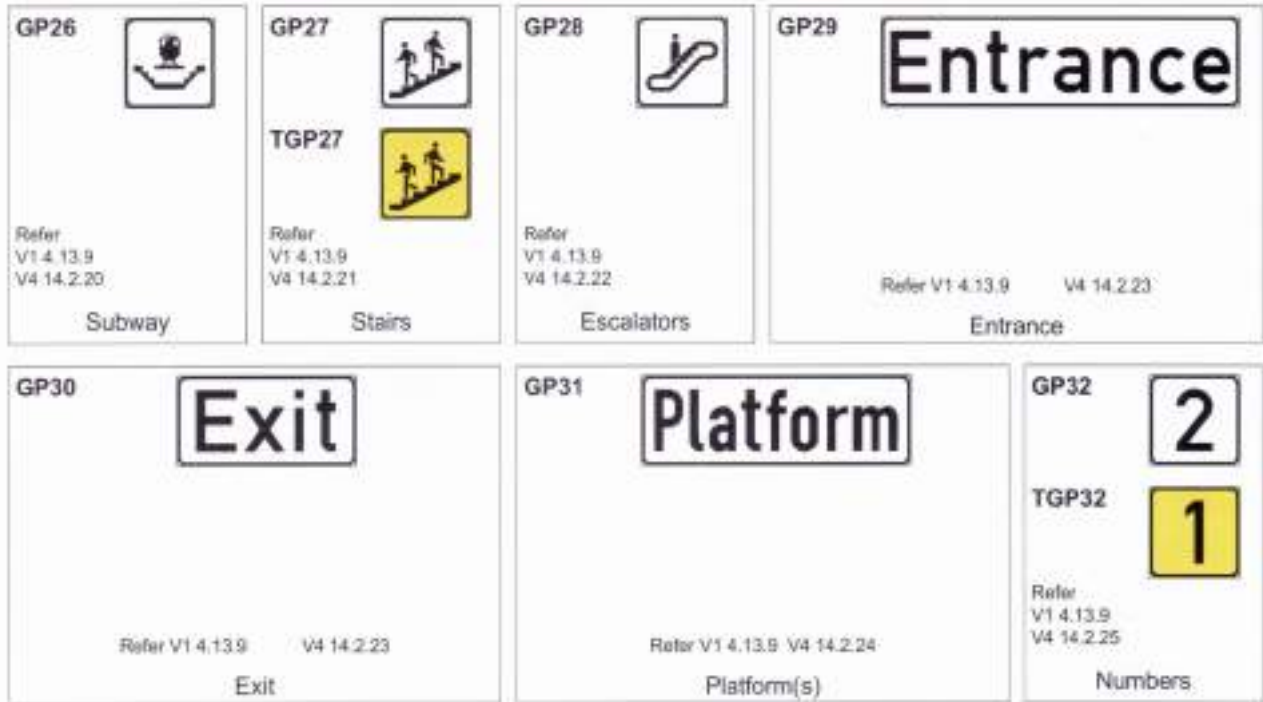
<p>GS901</p>  <p>Refer V1 4.12.35</p>	<p>TGS901</p>  <p>V4 8.11.1</p>	<p>GS902</p>  <p>Refer V1 4.12.35</p>	<p>TGS902</p>  <p>V4 8.11.1</p>
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Section 4.13: PEDESTRIAN DIRECTION – Guidance Signs

● = See Section 4.15 for variations appropriate to individual countries

<p>GP1</p>  <p>TGP1</p>  <p>Refer: V1 4.13.6 V4 14.2.1</p> <p>Arrow-Straight/Up</p>	<p>GP2</p>  <p>TGP2</p>  <p>Refer: V1 4.13.6 V4 14.2.1</p> <p>Arrow-Down</p>	<p>GP3</p>  <p>TGP3</p>  <p>Refer: V1 4.13.6 V4 14.2.1</p> <p>Arrow-Right</p>	<p>GP4</p>  <p>TGP4</p>  <p>Refer: V1 4.13.6 V4 14.2.1</p> <p>Arrow-Left</p>	<p>GP5</p>  <p>TGP5</p>  <p>Refer: V1 4.13.6 V4 14.2.2</p> <p>Arrow-Half Right</p>
<p>GP6</p>  <p>TGP6</p>  <p>Refer: V1 4.13.6 V4 14.2.2</p> <p>Arrow-Half Right</p>	<p>GP7</p>  <p>TGP7</p>  <p>Refer: V1 4.13.6 V4 14.2.2</p> <p>Arrow-Half Left</p>	<p>GP8</p>  <p>TGP8</p>  <p>Refer: V1 4.13.6 V4 14.2.2</p> <p>Arrow-Half Left</p>	<p>GP9</p>  <p>TGP9</p>  <p>Refer: V1 4.13.6 V4 14.2.3</p> <p>Pedestrian(s)</p>	<p>GP10</p>  <p>TGP10</p>  <p>Refer: V1 4.13.8 V4 14.2.4</p> <p>Toilets</p>
<p>GP11</p>  <p>Refer: V1 4.13.8 V4 14.2.5</p> <p>Toilets (Women)</p>	<p>GP12</p>  <p>Refer: V1 4.13.8 V4 14.2.6</p> <p>Toilets (Men)</p>	<p>GP13</p>  <p>TGP13</p>  <p>Refer: V1 4.13.8 V4 14.2.7</p> <p>Disabled</p>	<p>GP14</p>  <p>Refer: V1 4.13.8 V4 14.2.8</p> <p>Keep Tidy</p>	<p>GP15</p>  <p>Refer: V1 4.13.8 V4 14.2.9</p> <p>Information</p>
<p>GP16</p>  <p>TGP16</p>  <p>Refer: V1 4.13.8 V4 14.2.10</p> <p>Telephone</p>	<p>GP17</p>  <p>TGP17</p>  <p>Refer: V1 4.13.8 V4 14.2.11</p> <p>Buses</p>	<p>GP18</p>  <p>TGP18</p>  <p>Refer: V1 4.13.8 V4 14.2.12</p> <p>Minibuses</p>	<p>GP19</p>  <p>TGP19</p>  <p>Refer: V1 4.13.8 V4 14.2.13</p> <p>Taxis</p>	<p>GP20</p>  <p>TGP20</p>  <p>Refer: V1 4.13.8 V4 14.2.14</p> <p>Trains</p>
<p>GP21</p>  <p>Refer: V1 4.13.8 V4 14.2.15</p> <p>Refreshments</p>	<p>GP22</p>  <p>Refer: V1 4.13.8 V4 14.2.16</p> <p>Restaurant</p>	<p>GP23</p>  <p>TGP23</p>  <p>Refer: V1 4.13.8 V4 14.2.17</p> <p>Hawkers</p>	<p>GP24</p>  <p>TGP24</p>  <p>Refer: V1 4.13.8 V4 14.2.18</p> <p>Hawkers (Permit)</p>	<p>GP25</p>  <p>Refer: V1 4.13.9 V4 14.2.19</p> <p>Footbridge</p>

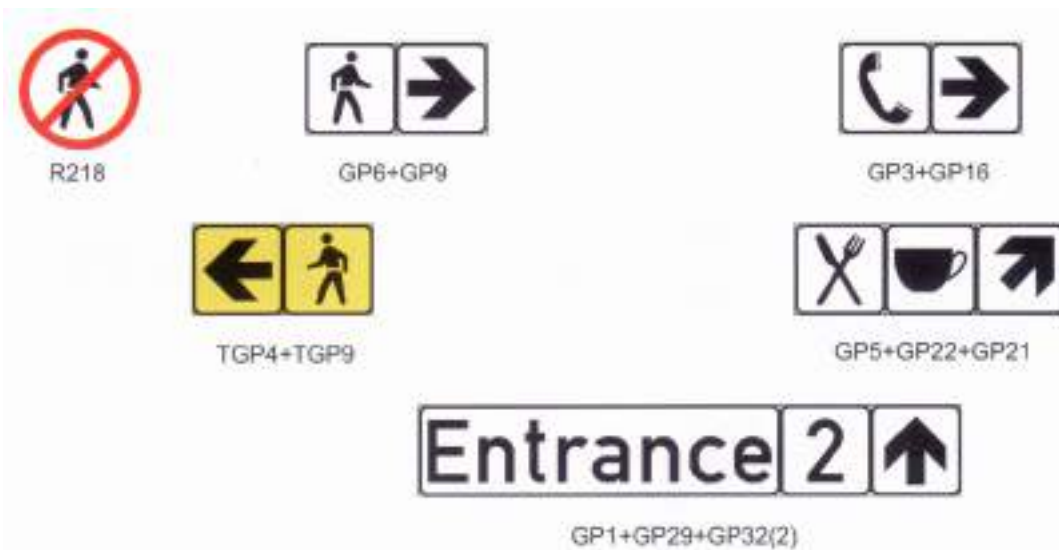
● = See Section 4.15 for variations appropriate to individual countries



Modular Pedestrian Guidance Sign Combinations

The majority of PEDESTRIAN guidance signs are square in shape and can be assembled into modular message combinations. A variety of text signs may be relevant in

Some pedestrian environments when used in combination with other symbol, number and arrow signs.





Section 4.14: TOLL DIRECTION – Guidance Signs

Toll guidance signs are variations of types of guidance sign covered in other sections of this chapter. The most frequently used sign variations are dealt with in this section to illustrate the extent of the differences in signface

Layout and the principles involved. The sign types covered do not represent a full set of signs from other sections and are primarily freeway examples since this is representative of the types of toll road in use at the time of publishing

● = See Section 4.15 for variations appropriate to individual countries

<p>GA1</p>  <p>Refer V1 4.14.9 V4 15.2.2 15.2.4 15.4.1</p> <p>Pre-Advance Exit Direction (Class A1 Freeway)</p>	<p>GA2</p>  <p>Refer V1 4.14.9 V4 15.2.2 15.2.4</p> <p>Advance Exit Direction (Class A1 Freeway)</p>	
<p>GA2/3</p>  <p>Refer V1 4.14.10 V4 15.2.4</p> <p>Supplementary Exit Direction (Class A1 Freeway)</p>	<p>GA3</p>  <p>Refer V1 4.14.11 V4 15.2.4</p> <p>Exit Direction (Class A1 Freeway)</p>	
<p>GA5</p>  <p>Refer V1 4.14.12 V4 15.2.4</p> <p>Advance Off-Ramp Terminal Direction (Class A1 or Class A2 Freeway)</p>	<p>GA6</p>  <p>Refer V1 4.14.12 V4 15.2.4</p> <p>Off-Ramp Terminal Direction (Class A1 or Class A2 Freeway)</p>	
<p>GA7A</p>  <p>Refer V1 4.14.13 V4 15.2.5</p> <p>Confirmation-Alternative Route (Class A1)</p>	<p>GA7R</p>  <p>Refer V1 4.14.13 V4 15.2.7</p> <p>Confirmation-Toll Route Ahead (Class A1)</p>	<p>GA7P</p>  <p>Refer V1 4.14.13 V4 15.2.8</p> <p>Confirmation-Toll Plaza Ahead (Class A2)</p>

● = See Section 4.15 for variations appropriate to individual countries

GA8P

Refer V1 4.14.13 V4 15.2.9

Toll Plaza Sequence
(Class A2 Freeway)

GB1

Refer V1 4.14.14 V4 15.2.3

Cross-Road Advance Direction

GB3(+IN24)

	R 10.00
	25.00
	39.00
	63.50

including VAT

Refer V1 4.14.15 V4 15.2.3

Near Side Advance Direction / Toll
Tariff Combination

GB2

Refer V1 4.14.14 V4 15.2.3

Near Side On-Ramp
Direction

GB3(+IN1125)

	R 3.50
	8.20
	11.00
	16.50

including VAT

Refer V1 4.14.15 V4 15.2.3

Far Side Advance Direction
Toll Tariff Combination

GB4

Refer V1 4.14.16 V4 15.2.3/15.3.1

Far Side On-Ramp / Straight On
Direction Combination

GE2

Refer V1 4.14.15 V4 4.3.1 to 4.3.4

Trailblazer (to
Class A1 Freeway)

GE16.4

Refer V1 4.14.16 V4 4.3.30 to 4.3.32

Alternative Route Marker
Advance Direction

CHAPTER 4 : GUIDANCE SIGNS

4.1 INTRODUCTION

4.1.1 General

- 1 Guidance signing should be provided in a safe and efficient manner to complement a complex and developing road network, and to satisfy the expectations of the users of the network. It is important that road users travelling to different parts of the region receive guidance from road traffic signs, and guidance signs in particular, in a uniform and consistent manner throughout the area. In order to achieve the necessary levels of uniformity guidance signs should conform to the requirements of policies and practices covered in this chapter and Chapter 8: *Navigational Aids*. The approach adopted for the design and provision of the necessary signs should be one of positive guidance. The principles of positive guidance are embodied in the "toolbox" of techniques covered in the subsequent sections of this chapter. Further factors relevant to positive guidance and the road traffic signing system as a whole are given in Chapter 1.
 - (b) the use of route numbers as a primary source of information (see Sections 4.7 and 8.4);
 - (c) limits on the amount of legend or "bits" of information displayed (see Section 4.3);
 - (d) the development of principles of "navigational aids" allowing a consistent approach to the selection of destinations, graded as familiar, control or service, throughout the region (see Chapter 8);
 - (e) the recognition of the need for adequate orientation at decision points, including the use of cardinal directions when space precludes the display of destination names;
 - (f) the recognition of the fact that the final destination in the great majority of trips is a street address;
 - (g) the decision-making process of drivers, particularly when on high speed roads (see Chapter 1 and Section 4.8).
- 2 Increasing complexities in the road network and in the geometric treatment used to design the various parts of the network increase the pressures on drivers when they negotiate the network. As the network expands so does the demand for information needed to travel safely and successfully from one point to another. Policies and practices have therefore been evolved with the express purpose of containing the information explosion to manageable proportions.
- 3 **The fact that there are very definite limits to the ability of any guidance signing system to offer, and transfer, information to road users must be recognised by road designers in their determination of geometric design solutions to complex road junction requirements. No geometric design should be finalised without a draft design being prepared of the required guidance signs. This draft design should include the selection of destinations and the testing of intended positioning of the signs for adequate visibility, legibility and reading time in terms of the decisions required of drivers by the geometric design (see Figure 1.23).**
- 4 In general, all principles relating to sign function, use and design given in this chapter apply equally to guidance signs provided in urban areas and rural areas. The provision of guidance signs in urban areas is subject to particular constraints and parameters. These are dealt with in Section 4.5.
- 5 **It is a fundamental principle that the amount of information given at one time on a guidance sign should be kept to the minimum consistent with the actions required of drivers at a specific point in the road network.** Basic factors which are therefore embodied in the wide range of policies and practices covered in this chapter are:
 - (a) recommended minimum signing levels for rural and urban road junctions related to the classes of intersecting road (see Figures 4.56 and 4.57 and Figures 4.61 to 4.68);
- 6 Many guidance signs include on their signface an arrow, or arrows, indicating the direction to be taken in order to proceed towards the destination or cardinal direction displayed in conjunction with the arrow. Many other signs in this class, however, offer their guidance in the form of reassurance or confirmation that the driver is in fact on the route, or travelling towards the destination, intended. These do not display an arrow. Reassurance or confirmation can also take the form of an indication of the "location" reached by the driver. The fact that this is so has been recognised to the extent that signs offering locational information are classified as guidance signs. These signs do not normally display an arrow since their message is not normally of a directional nature. Information of this type may also be incorporated into the signface of a directional guidance sign, in a panel which does not include an arrow.
- 7 All signs covered in this chapter utilize DIN 1451 Part2 lettering in either Style "A" or Style "8". The use of Style "B" is recommended for all normal guidance sign applications unless space to accommodate the sign is extremely limited. When space is limited the use of Style "A", which has a more condensed design, may be considered subject to the criteria covered in Sections 4.3 and 4.4. The relatively common use of black letters or numerals on a white retroreflective back-ground has required the development of a letter style with a 20% broader stroke width in order to reduce the likely effects of "overflow" with this colour and material combination. This style has been designated "8 MOD" and uses the same letter spacing as DIN 1451 Style "B".
- 8 Guidance signs are generally rectangular in shape. The rectangle may be aligned vertically or horizontally according to sign type, and in some instances the message display requirements may result in a sign which is square or very nearly so. A number of TOUR-ISM signs are trapezoidal in shape, having one vertical side cut back at a rate of 2 in 5, to "point" in the direction of the tourist facility. Smaller types of guidance sign are not normally subdivided in any way. The smallest direction signs, whilst still basically rectangular, may use a "fingerboard" shape which provides a pointed end to the sign in the appropriate direction, instead of an arrow. If the need arises to indicate two messages, either by name

(STREET NAME signs) or by route number or direction (ROUTE MARKER signs), two small, often standard sized signs are displayed. These may be positioned either together or separately for best effect. The larger guidance signs may take a STACK form or a MAP form, either of which may incorporate colour coded panels (see Figures 4.1 and 4.2 in Section 4.0).

- 9 There is a wide range of minimum and preferred sign sequences appropriate to different types of junction and classes of road. Since these represent applications of the various types of guidance sign detailed in this chapter these sequences will be covered in Volume 2. A limited number of guidance sign sequences are given in the relevant sections of this chapter, in order to establish basic principles of sign sequence.

4.1.2 System Objectives

- 1 Guidance signs form an integral part of the navigational system provided for road users to assist them in undertaking their journey in safety from its initial stages, through the main part of the trip, until they reach their final destination. It is therefore a fundamental objective of the guidance signing system that the chances that drivers may make navigational errors be reduced to an absolute minimum. In order to perform their task guidance signs shall:
 - (a) be conspicuous and legible;
 - (b) be classified by colour code for rapid class recognition;
 - (c) simplify a driver's search for information by consistent positioning of this information;
 - (d) simplify a driver's reading process by limiting legend display to the minimum.
- 2 To achieve these objectives effective guidance signs should incorporate the following functional requirements:
 - (a) **conformity** involving disciplined compliance with nationwide policies so that road users may be assured of the same signing principles and standards wherever they may be in the system;
 - (b) **accuracy** of signface display to eliminate confusion which may be experienced by road users if sign messages do not relate to what can be seen on the road ahead;
 - (c) **uniformity** of signface layout, colour code and sign display sequence to enhance road users' abilities to get the best from the system by reducing reading times;
 - (d) **consistency** of signing practice so that like situations are signed in a like manner;
 - (e) **continuity** of message display until the information is no longer relevant.
- 3 Circumstances are likely to occur, particularly in urban areas, whereby the guidance signing of a particular route may require changes in standard from a minimum level to a preferred level and back again. This may occur a number of times along a route. In such circumstances care shall be exercised to ensure a minimum level of basic message continuity by, for instance, the consistent display of a route number through all sign sequences.

4.1.3 Guidance Sign Classification

- 1 The guidance sign class has been subdivided into functional groups. All signs in the class are numbered with a letter/number combination starting with the letter "G". The various guidance sign groups, with their numbering letter group are:

(a) LOCATION signs group	- GL;
(b) ROUTE MARKER signs group	- GE;
(c) DIRECTION signs group	- GD;
(d) FREEWAY DIRECTION signs group	
(Ground mounted)	- GA;
(Cross road)	- GB;
(Overhead)	- GC;
(e) TOURISM signs group	- GF;
(f) LOCAL DIRECTION signs group	- GD/L;
(g) DIAGRAMMATIC signs group	- GS;
- 2 ROUTE MARKER signs are further subdivided by function as follows:
 - (a) TRAILBLAZER signs;
 - (b) TRANSPORT TRAILBLAZER signs;
 - (c) ROUTE MARKER signs.
- 3 All guidance sign groups other than the LOCATION and TOURISM groups may require temporary versions of signs in the group. These versions shall be numbered as for the PERMANENT version but the numbers shall carry the prefix "T", e.g. TGE, TGD, TGA, TGB, TGC, TGD/L and TGS. There is no general provision for temporary TOURISM signs with the exception of a specific sign TGF17 for short term temporary events.

4.1.4 Guidance Sign Information "Layers"

The scope to display information on GUIDANCE signs is wide, particularly when all the different sign groups in the class are taken into account. One reason for developing the different sign groups has been to make provision for specific types of guidance information at specific times, or places in the road network. In this way the amount of information at any one time, or place, can be controlled in terms of the ability of drivers to absorb the information and their actual expectation of being offered it (see Subsection 4.1.1).

- 2 The information given on guidance signs can rarely satisfy all the needs of all drivers. In order for the information that is provided to be as effective as possible, drivers need to know how the information will be provided and what the limitations may be. For the guidance sign system to achieve its objectives drivers need to be made aware, through promotional, educational and training processes, of the following characteristics of the system, particularly with regard to longer journeys:
 - (a) that navigational information must be obtained both before the journey (from sources outside the road environment) and also during the journey from within the road environment; and
 - (b) that the information provided within the road environment is provided at different levels of importance to the navigational process; and
 - (c) that many items of information provided within the road on guidance signs are coded either by colour or by use of a number, or by both, in order to reduce search and reading times.

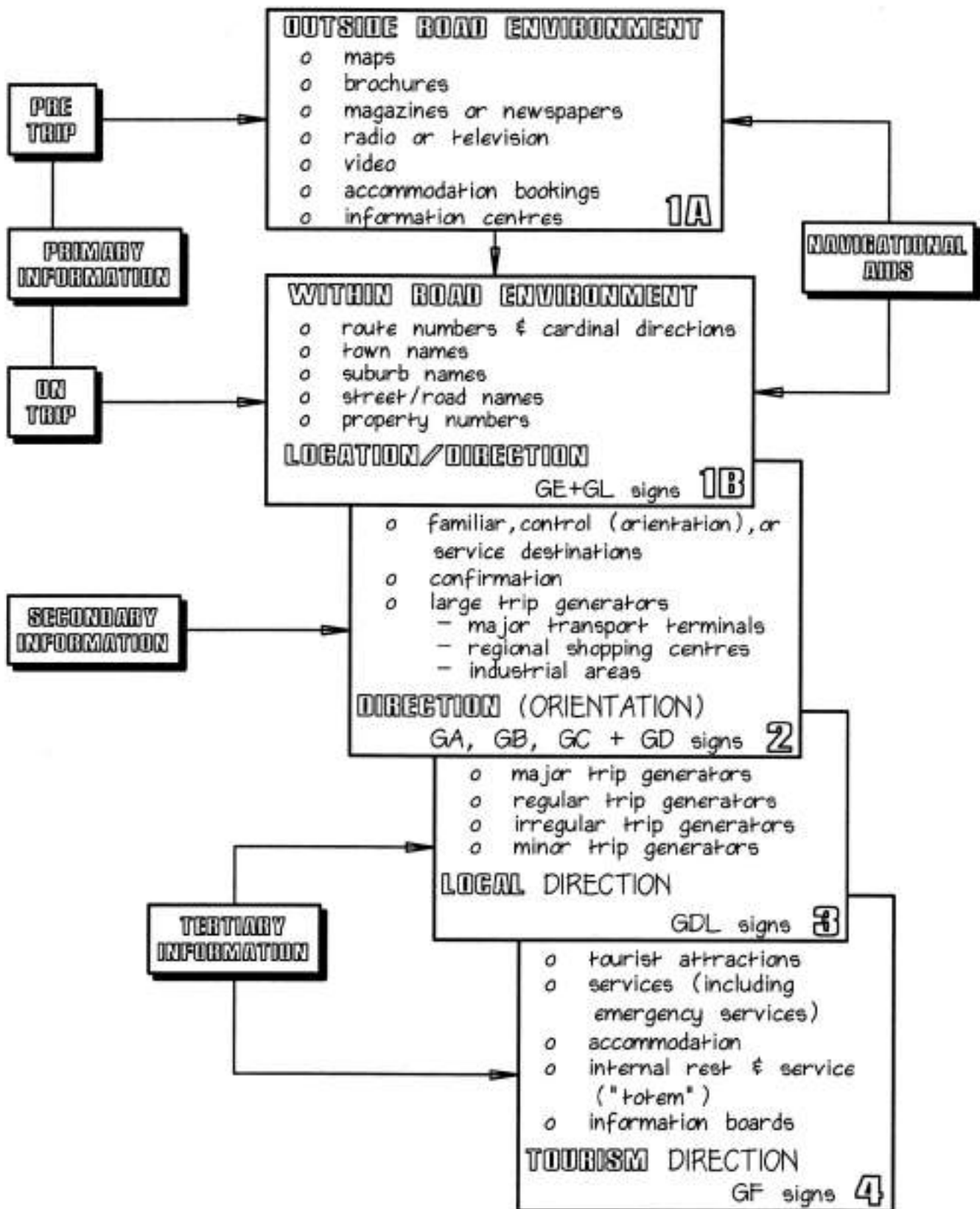


Fig 4.3 Guidance Sign Information "Layers"

- 3 The systematic organisation of guidance information can be considered as forming a number of levels, or "layers", as illustrated in Figure 4.3. These layers can be described as follows:
- Layer 1 includes all information outside the road environment (but co-ordinated with that within the road environment) which constitutes the primary information or navigational aids e.g. maps, information centres, route numbers, street names, etc.;
 - Layer 2 includes secondary level, but still important, orientational destination names which correlate with information received from maps;
 - Layers 3 and 4 include tertiary information to supplement the orientational information, when warranted, such as local destinations (Layer 3) and tourist destinations (Layer 4)- for more details see Sections 4.10 and 4.11.

4.1.5 Colour Code

- As a basic principle all LOCATION and LOCAL DIRECTION signs, and all permanent DIAGRAMMATIC signs display dark coloured letters, numbers, symbols, borders or arrows, as appropriate, on a white background.
- All permanent ROUTE MARKER, DIRECTION, FREEWAY DIRECTION, and TOURISM DIRECTION signs display light coloured letters, numbers, symbols, borders or arrows, as appropriate, on a dark coloured background. Temporary versions of ROUTE MARKER, DIRECTION, FREEWAY DIRECTION, LOCAL DIRECTION and DIAGRAMMATIC signs conform to the basic black-on-yellow temporary sign colour code (see Section 1.4).
- The standard permanent colours for LOCATION signs are BLACK letters, numbers and border, on a WHITE background. However other dark colours may be used (see Section 4.5).
- The permanent colours for TRAILBLAZER, ROUTE MARKER, DIRECTION, and FREEWAY (Class A2) DIRECTION signs are YELLOW route numbers and WHITE for all other legend, borders or arrows on a GREEN background.
- The permanent colours for FREEWAY (Class A1) TRAILBLAZER, FREEWAY (Class A1) DIRECTION signs are YELLOW route numbers and WHITE for all other legend, borders or arrows on a BLUE background.
- TOURISM signs utilize a unique BROWN background colour irrespective of the class of road, with WHITE for letters, numbers, borders or arrows. Symbols are normally WHITE although a small number are displayed in colour.
- The permanent colours for LOCAL DIRECTION signs are BLACK letters and symbols on a WHITE background with a BLUE border.
- The permanent colours for DIAGRAMMATIC signs are RED for the border and any "hazard" indication on the sign, BLACK for the arrows and any symbols used, on a WHITE background (see Section 4.12).
- Basic examples of signs in the different sign groups together with their permanent colour codes are illustrated in Section 4.0.
- Occasionally a guidance sign may comprise a combination of two or more of the groups identified. The group colour code shall be maintained within the combination sign, e.g. blue insert panels and stacks indicating freeway destinations appear on the basic green background of a direction sign on the cross-road approach to freeway on-ramps (see individual sign examples in Sections 4.8 to 4.11).

4.1.6 Basic Signface Design Principles

- A guidance sign background may be subdivided into a number of PANELS or STACKS by changes to the background colour or by horizontal internal border lines. The background carries the message to be displayed which may include arrow(s) and/or legend in addition to vertical and horizontal edge border lines. The legend may consist of the following:
 - letters;
 - numerals;
 - symbols;
 - punctuation marks.
 (See Section 4.2 for full details of available arrows and Section 4.3 for details relating to the display of legend.)
- The layout and sizing of all guidance signs is based on the dimensional characteristics of the DIN 1451 Part 2 letter style. DIN uppercase letters have a height of "7d", where "d" is the stroke width of the letter. All arrows, symbols and fixed spaces on the signface are specified as multiples of "d". In this way one signface layout can serve as a design base for any size of letter. These principles are illustrated in Figure 4.4. A full range of dimensioned guidance sign examples are given in Volume 4, Chapters 4 to 8 and 13 to 15. It should be noted that the "B MOD" letter style does not have a **stroke width** equal to "d". All other aspects of the "B MOD" lettering conform to the use of factor "d".
- A number of specific sign designs may require the use of more than one letter size or symbol size. In such instances the sizes are related to "d" by a factor which is given with each typical design. Such situations are identified in the illustrations by "d*" or "d***".
- The vertical and horizontal spaces between various components on LOCAL and TOURISM DIRECTION signfaces (but NOT letter spacings) have been specified with lower values than for DIRECTION or FREEWAY DIRECTION signs to limit the overall sizes of LOCAL and TOURISM DIRECTION signs.
- It is considered necessary to contain the demand for information on signfaces and to thereby reduce the reading time required by drivers to make basic decisions, such as which lane to select on the approach to a junction, or whether to exit a freeway or not. The increased use of colour coding and numbers to highlight specific aspects of information is symptomatic of the need to transfer the minimum primary information to drivers as quickly and as clearly as possible. The number types and their colour codes are:
 - the **distance** to the point of turn, or exit, displayed in WHITE on GREEN, BLUE, or BROWN;
 - the **route numbers** of the roads which are intersecting (Class "A", Class "B" or tourist numbered route roads only), displayed in YELLOW on GREEN, BLUE and very occasionally BROWN;
 - the **interchange (EXIT) or junction number** displayed in BLACK on WHITE.

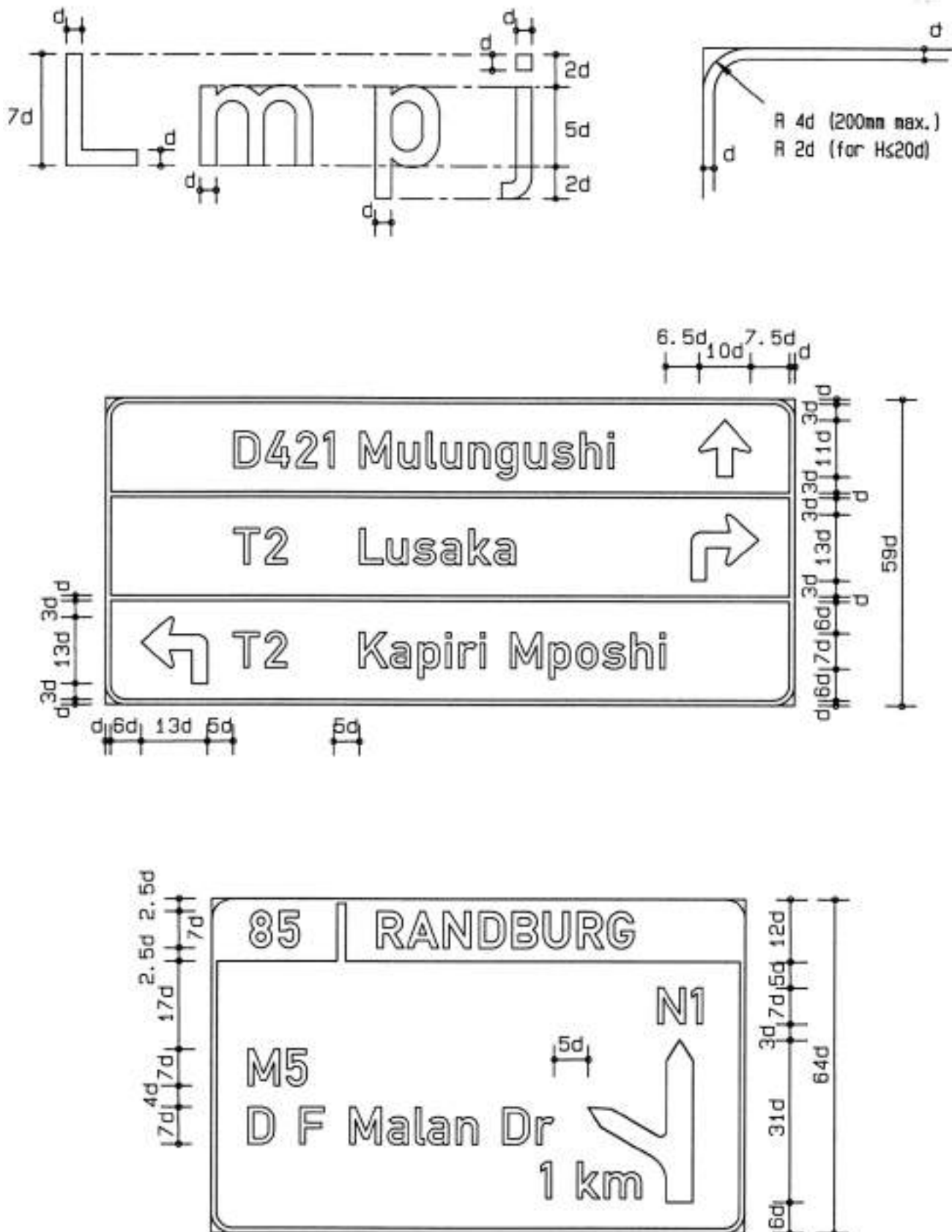


Fig 4.4 Basic Aspects of Guidance Signface Design

The first two of these numbers have been in use for some considerable time whereas the use of interchange (EXIT) or junction numbers is a recent innovation. It is important to the efficient operation of the guidance signing system that the function of these numbers be understood by road authority personnel and road users. Active steps should be taken by all authorities responsible for the operation of the various levels of the road network to promote an awareness and understanding of the functions and specific allocations of route numbers and interchange (EXIT) or junction numbers (see Subsections 4.1.7, 4.1.8 and Section 4.1.16).

- 6 All guidance signs shall be provided with a border of width equal to "d". A border line shall also be provided between STACKS which refer to different directions, but shall NOT be provided around "insert" PANELS superimposed on the basic sign background. The border on LOCATION signs should be set in from the edge of the sign (see Subsection 4.6.3).
- 7 The border shall be placed on a circular arc on all outer corners of a guidance sign. If a PANEL is located on the upper or lower extremities of the sign the outer corners of such a panel shall also have a circular arc. The sign background colour shall be taken outside the radiused border to the "fillet" between the border and the corner of the sign. **The maximum value of the corner radius on any guidance sign shall be 200 mm.** For letter sizes of "d" = 50 mm and less the corner radius should equal "4d". If the total height of the guidance sign is "20d" or less and "d" = 30 mm or less the appearance will be improved by reducing the corner radius to "2d".
- 8 The use of the factor "d" only applies in a limited form to the design of DIAGRAMMATIC signs due to the almost complete absence of legend from such signs (see Section 4.12).

4.1.7 Route Numbers

- 1 Route numbers, with the exception of SADC routes, comprise a route identification letter and the specific number allocated to the route. SADC inter-state routes have been allocated a number only. The function of the route number is to simplify the navigation process by reducing the amount of information which a driver may need to read in order to make a navigational decision.
- 2 The decision to allocate a number to a route is based on various measures of the importance of the route and the orientation points which it connects. Criteria used to determine whether a route warrants a number are:
 - (a) population level of orientation points;
 - (b) the route hierarchy (e.g. Inter-state, Primary, etc.);
 - (c) route length;
 - (d) surface condition.

Route numbering is covered in depth in Chapter 8.

4.1.8 Interchange (EXIT) or Junction Numbers

- 1 Interchange (EXIT) or junction numbers are widely used on all freeways and certain other important routes in Southern Africa. The concept of interchange or junction numbers may be applied in almost any situation as a "tool" to assist navigation. However, it is recommended that they be used either throughout a certain class of route or very locally,

such as at a city by-pass.

- 2 The use of interchange or junction numbers must be by mutual agreement of the relevant road authorities. Road authorities shall take steps to advise map makers and publicity organisations of numbers which have been allocated. The application of the number on the signface is covered in various parts of this chapter, but in particular in Section 4.9.

4.1.9 Overhead Signs - Warrants

- 1 In the majority of situations an effective ground-mounted guidance sign display can be designed for an interchange or junction. Occasionally the additional cost of mounting guidance signs in an overhead position can be justified as a result of an engineering assessment. Due to the wide range of factors involved it is difficult to develop specific warrants for the use of overhead signs. This subsection provides a number of general warrants which may assist the process of engineering assessment.
- 2 Overhead signs may be provided on multi-lane freeways, or arterials with at-grade junctions, or even in busy central business districts based on the analysis of a number of factors. Any of the guidance sign types covered by this chapter can be mounted in an overhead position, from STREET NAME LOCATION signs to DIAGRAMMATIC signs. In addition, if it is required to control the use of a multi-lane roadway on a lane-by-lane basis the use of ROUTE MARKER, DIAGRAMMATIC or VARIABLE MESSAGE signs which may incorporate a regulatory message, may be warranted.
- 3 Situations which can lead to the need for overhead guidance signs are:
 - (a) when ground-mounted signs located to the side of the roadway would be obscured for a significant portion of a drivers' reading time and decision making time (this condition is most likely to occur when traffic volumes are high and when the proportion of buses and heavy vehicles is high; the need is also a function of the width of the roadway since the driver in the extreme right lane of a multi-lane roadway has the highest probability of his visibility of ground-mounted signs being obscured by traffic in other lanes);
 - (b) when the demands on drivers' concentration are such that it becomes unreasonable and possibly dangerous to divert their attention away from the traffic ahead and behind (this condition is likely to occur at junctions where the number of lanes reduces beyond the junction, when junctions are closely spaced and/or when weaving movements are common);
 - (c) when it is difficult to mount signs economically on the left side of the roadway.
- 4 Factors which will normally warrant the use of overhead signs on freeways to avoid the obscuring of ground-mounted signs are:
 - (a) carriageways with three or more lanes per direction;
 - (b) all freeways with traffic volumes exceeding 50 000 vehicles/day;
 - (c) all system interchanges between freeways irrespective of the numbers of lanes per direction;
 - (d) high percentages of buses and heavy vehicles.

- 5 The above factors may also result in situations which place potentially dangerous demands on drivers' concentration. The following conditions may singly, or collectively warrant the use of overhead signs on freeways or other roads for the same reason:
- where a series of junctions are spaced at an average distance of less than 2 km apart;
 - off-ramps with two or more lanes leaving the freeway;
 - where the number of lanes reduces beyond the junction;
 - where weaving and/or merging movements occur in close succession;
 - when sight distance to a ground-mounted sign would be restricted;
 - at right side exits (or left side in Angola).
- 6 Other factors which may warrant the use of overhead signs are:
- when insufficient space is available to locate ground-mounted signs;
 - to avoid the detrimental effects of street lighting and/or competition from advertisements;
 - on off-ramps with three or more lanes;
 - on urban arterials and one-way roadways where the correct early selection of a lane is essential in heavy traffic conditions.

4.1.10 Overhead Sign Structures

- Sign support structures, both ground-mounted and overhead, may be designed using nomograms and standard procedures developed for the South African National Department of Transport and detailed in South African Roads Board Standard Plans in the "SP-8" Series. Alternatively the publication "*Standard Specifications for Structural Support for Highway Signs, Luminaires and Traffic Signs*", AASHTO (1976) may be used.
- Site conditions will obviously have an influence on the choice of overhead sign structure type. Overhead signs may be mounted on cantilever or portal gantry supports, or on custom designed supports which are part of other structures such as over-bridges or retaining walls. In terms of the overhead sign sequence display policies the signface display required on pre-advance, advance and exit positions will normally not require a full portal support, subject to other structural design and cost constraints. **The use of double-cantilever or "butterfly" supports is not recommended.**
- The aesthetic treatment of overhead sign support structures should be borne in mind by designers. Where possible a single tube structure is recommended.
- Alternative solutions to the problems of overhead signing should be considered. In urban situations the possibility of using innovative techniques to reduce cost and space requirements are worth investigating. However, overhead and ground-mounted signs should not be mixed on an approach to an interchange or junction.
- Where overhead sign supports are near the edge of the roadway shoulder guardrails should be installed in advance of and opposite the supports with due regard to the undesirability of installing short sections of guardrail. In exposed positions such as off-ramp gore areas guardrail should be provided on both sides of a support. Impact tests have shown that at least six guardrail posts should be placed in advance of the sign support. A minimum length of guardrail of 18 m to 23 m for a single line shoulder application should be provided in advance of the support.

4.1.11 Illumination of Signs

- Studies in South Africa have shown that the luminance levels from the retroreflective white legend on FREEWAY DIRECTION signs is commonly as low as 2 cd/m². This may be attributed to the ageing of the retroreflective material. However, a major factor is that headlamp light distribution patterns are such that, particularly on dipped beam, very low luminance values result from headlamp illumination of signfaces. This condition is especially relevant to the legibility of overhead sign messages.
- In order to achieve adequate direction sign legibility the following limits of luminance from the signface are recommended:
 - maximum luminance : 350 cd/m²;
 - minimum luminance : 7 cd/m²;
 - a limiting contrast ratio of 7 to 1 between maximum luminance (light coloured legend or background) and minimum luminance (dark coloured background or legend) should be maintained; a preferred contrast ratio between the luminance of legend and background is 10 to 1;
 - this contrast ratio may be reduced to a minimum of 3.5 to 1 for large areas of colour display such as are used on DIAGRAMMATIC signs and the sign back-ground (see Section 1.5 and Table 1.2).
- Normal street lighting is not considered satisfactory for the illumination of road traffic signs. Street lighting may in fact cast spurious specular reflections on non-illuminated signs to the extent that the sign or large areas of it may become totally illegible. This is particularly the case when such lighting is mounted less than 12m above roadway level.
- It may become necessary to provide signs with either internal or external illumination. Owing to the variations in legend and overall sign sizes each FREEWAY DIRECTION sign to be illuminated requires a separate lighting design. A satisfactory luminance level for legibility shall be provided. Higher levels of luminance than the maximum indicated in paragraph 4.1.11.2 will significantly improve the attention conspicuity of the sign without being detrimental to the legibility. As a general rule the larger the sign the closer the luminance levels can tend towards the minimum levels.
- round-mounted or overhead DIRECTION signs may require illumination when:
 - there is likely to be background lighting interference; and
 - the signs do not receive sufficient illumination from vehicle headlamps.
- Sign lighting should be provided by lamps of the discharge type with a colour rendering index greater than 0,45.
- Fluorescent tubes are suitable for use with internally

illuminated signs. Due to their relatively low wattages and lumen output they are generally only suitable for external lighting of signs that are less than 2 m high.

- 8 For external illumination the lighting source should be mounted at least one-third of the sign height away from the lower edge of the sign. Lighting fixtures should, however, not be mounted so far away from the signface as to obstruct the line of sight from the driver to the sign. For design purposes the maximum inclination of the drivers sight line should be approximately 10°. Illumination from below prevents daylight shadows of the lighting fixture from being cast on the signface. The lighting fixture should be mounted so that no direct light is visible from the roadway in either direction of travel, and the vertical clearance below the fitting complies with applicable minimum standards.
- 9 Designers of direction sign illumination are referred to the following documents for further reading:
 - (a) Bureau Central de la CIE, Lighting of Traffic Signs, CIE Publication No 35 (TC-4.6) 1978, Paris;
 - (b) Bureau Central de la CIE, Surface Colour for Visual Signalling, CIE Publication No 39 (TC-1.6) 1978, Paris;
 - (c) Bureau Central de la CIE, Road signs, CIE Publication No 74, 1988;

and the following older publications

- (d) T M Allen and A L Straub, Sign Brightness and Legibility, HRB Bulletin No 127;
- (e) A L Straub and T M Allen, Sign Brightness in Relation to Position Distance and Reflectorisation, HRB Bulletin No 146;
- (f) T M Allen, Night Legibility of Highway Signs, HRB Bulletin No 191;
- (g) The Association of Public Lighting Engineers, The Lighting of Traffic Signs;
- (h) J A Reid, The Lighting of Traffic Signals and Associated Traffic Control Devices, Public Lighting Vol 29, No 127, December 1964.

NOTE: "CIE" stands for "Commission Internationale de l'Eclairage" or "The International Commission on Illumination".

4.1.12 Materials of Manufacture

- 1 Due to their relatively large area compared to regulatory and warning signs, fully retroreflective guidance signs are costly. This cost is generally justified for freeways in order to achieve the necessary conspicuity and to maintain colour codes under all conditions. At lower levels in the road network hierarchy, however, careful consideration should be given when specifying large fully retroreflective signs. When there is significant competition for drivers' attention from advertising and other forms of background interference the use of retroreflective backgrounds is recommended. Fully retroreflective finishes are also recommended for the smaller guidance signs such as LOCATION signs, ROUTE MARKER signs, FINGERBOARD direction signs and for DIAGRAMMATIC signs which commonly have a "hazard" connotation (see Chapter 1 for details of retroreflective materials).
- 2 Efforts have been made to develop methods of manufacture for large guidance signs which provide a signface clear of any bolts, rivets or other extrusions or projections, because the holes in the signface necessary for such projections tend to result in early failure of the sign substrate and retroreflective materials due to the intrusion of moisture and other weathering agents. This requirement for a smooth signface may be achieved using extruded aluminium planks or "chromadek" planks of a similar profile which are pressed.
- 3 Indications are that, although more costly, such methods of manufacture will allow the full long-life benefits of high quality retroreflective materials to be realised with attendant cost benefits. Research and development into further ways of containing the cost of large signs is continuing.
- 4 It is recommended that all designers and authorities specifying guidance signs for manufacture do so in accordance with the South African standard specification SABS 1519 - Parts 1 and 2 -1997, *Road Signs*.

4.2 ARROWS

4.2.1 General

1 Arrows used on guidance signs are categorised as follows:

- (a) STACK-TYPE arrows (Figure 4.5);
- (b) MAP-TYPE arrows (Figure 4.6);
- (c) DOWNWARD-POINTING arrows (Figure 4.7);
- (d) UPWARD-POINTING arrows (Figures 4.9 to 4.14).

It should be noted that the arrows used on REGULATORY and WARNING signs are dimensioned differently to guidance sign arrows. The dimensions of regulatory and warning signs are given in Volume 4, Chapters 2 and 3. The dimensions of guidance sign arrows are given in Volume 4, Chapters 5 and 6.

- 2 The dimensions of all arrows are specified in terms of "d", where "d" is the stroke width of the letter size with which the arrow is to be used. The overall arrow dimensions are also whole number values of "d" to simplify signface design.
- 3 There are a number of unique, or modified, arrows with limited applications. These include the ROUTE MARKER DIRECTION sign arrow, the FINGERBOARD sign arrow, minor arrows on STREET NAME signs and various adaptations of other arrows to include regulatory signs (see Figure 4.8).
- 4 Subsection 4.2.7 and Figure 4.15 give details of a specific range of arrows, adapted from several groups, for use on toll roads by the inclusion of PAY TOLL regulatory sign R132.

4.2.2 Stack-Type Arrows

- 1 The principal applications of STACK-TYPE arrows are those on STACK-TYPE DIRECTION signs, TOURISM signs, TRAILBLAZER signs, and ROUTE MARKER ADVANCE DIRECTION signs.
- 2 Only one STACK-TYPE arrow shall appear on a single stack sign, or on each stack of a STACK-TYPE DIRECTION sign comprising more than one stack.
- 3 Stack-type arrows used on DIRECTION signs are available for a range of applications. Apart from left and right handed versions of most arrows several types may be used in a number of ways. The various applications are illustrated in Figure 4.5.
- 4 A Type 4 arrow should be used in place of a Type 1 arrow when the information displayed in a DIRECTION sign stack exceeds one line of text, and a Type 3 arrow should replace a Type 1 arrow when the display in a stack exceeds two lines of text. Similarly a Type 6 advance turn arrow should be used in place of a Type 5 arrow when information exceeds two lines of text in the one stack. If a DIRECTION sign has an advance right turn stack and an advance left turn stack, and the one stack requires the use of a Type 6 arrow consideration should be given to balancing the arrow display by using a Type 6 arrow in both stacks. This will result in an increase in the depth of a stack with only one line of text. It should be noted that the above recommendations apply only to DIRECTION sign applications since particular arrow types are specified for use on TRAILBLAZER, ROUTE MARKER and TOURISM signs.

5 The applications of STACK-TYPE arrows may be summarised as follows:

- (a) **Type 1:** horizontal arrow for one or two destinations in one stack, OR vertical or sloping arrow for one destination in one stack;
- (b) **Type 2:** sloping arrow for one or more destinations in one stack at a high speed exit point (freeway off-ramp or sliproad on a high speed at-grade roadway.);
- (c) **Type 3:** horizontal arrow for more than two destinations in one stack;
- (d) **Type 4:** vertical arrow for more than one destination in one stack;
- (e) **Type 5:** horizontal advance turn arrow for one or two destinations in one stack (subject to the proviso given in paragraph 4.2.2.4);
- (f) **Type 6:** horizontal advance turn arrow for more than two destinations in one stack;
- (g) **Type 7 and higher:** STACK-TYPE arrows which have limited applications of a specialised nature and may be used as appropriate irrespective of the number of destinations included in the relevant stack.

4.2.3 Map-Type Arrows

- 1 MAP-TYPE arrows are most commonly used on ADVANCE DIRECTION signs on Class A1 or Class A2 freeways. Their use is not generally recommended on Class B or lower classes of road due to the large sign size required to display them. However, when a junction on a Class B or lower class road has an unexpected geometric layout which a STACK-TYPE DIRECTION sign will not adequately portray, the use of MAP-TYPE arrows/signs should be considered.
- 2 MAP-TYPE arrows do not depict the number of lanes at the junction ahead but portray the "map" or "plan" view of the junction and the general traffic flow arrangement and potential conflict situation of the junction.
- 3 MAP-TYPE arrows are also specified in terms of "d", where "d" is the stroke width of the letter size with which the arrows are to be used. The range of arrows available is illustrated in Figure 4.6. The arrow used should accurately portray the junction layout.
- 4 MAP TYPE 13 arrow illustrates one type of staggered junction configuration. Such arrows must accurately represent the real configuration of a staggered junction within the limits of the design criteria given in Volume 4 (see Figure 4.8 for other examples).
- 5 The design of the various MAP-TYPE arrows is based on the expectation of more-or-less straight road alignment at a junction. If the alignment of a junction is not adequately portrayed by a standard MAP-TYPE arrow consideration should be given to modifying the arrow to indicate the divergence from the normal. Such variations need only relate to the approach on which the sign is located, i.e. the intersecting crossroad is not, per se, relevant to the traffic approaching the sign in question (see Figure 4.8).
- 6 The inclusion of a distance with all map-type arrows is recommended.

(continued on page 4.2.6)

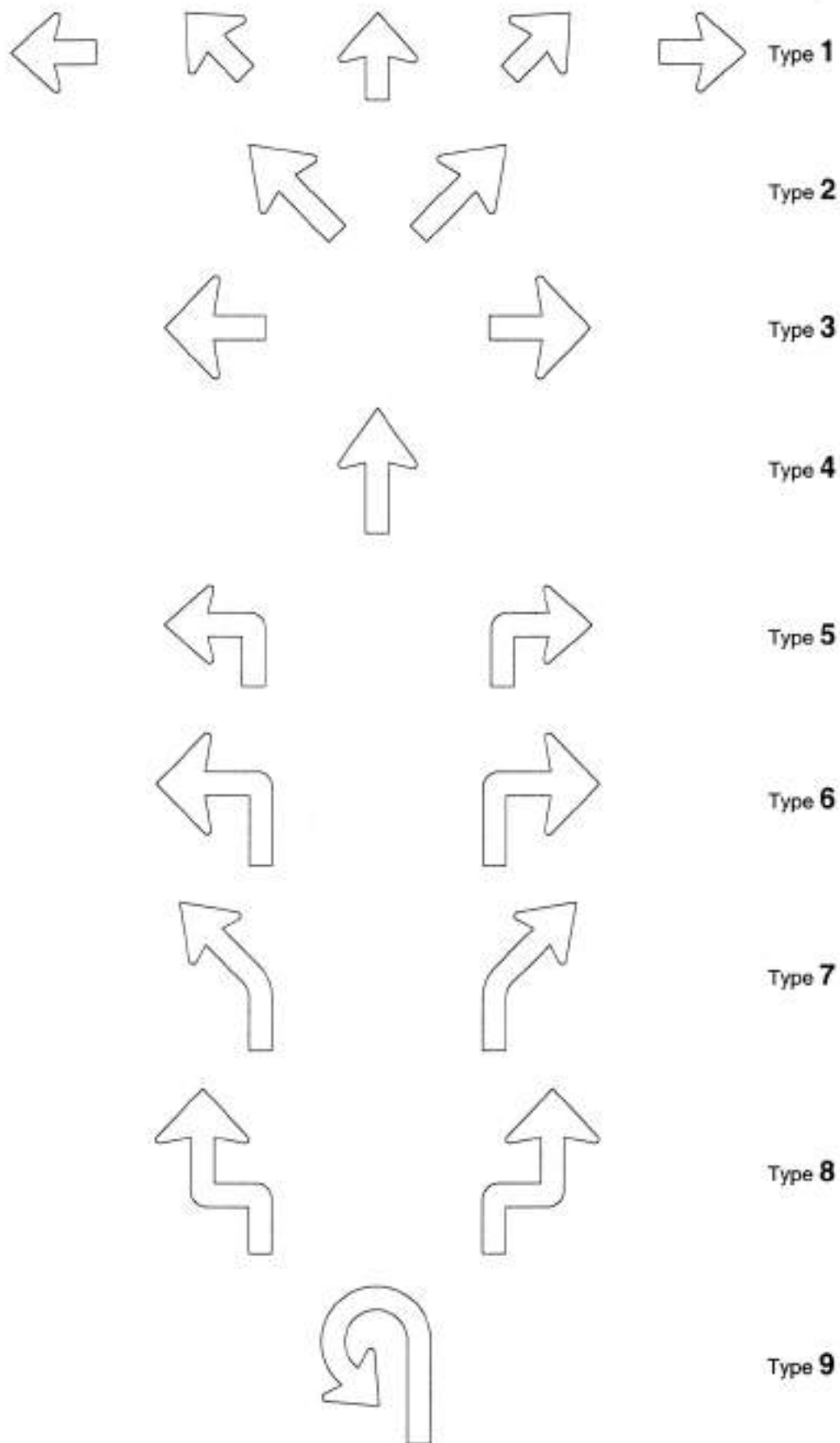


Fig 4.5

Stack-Type Arrows

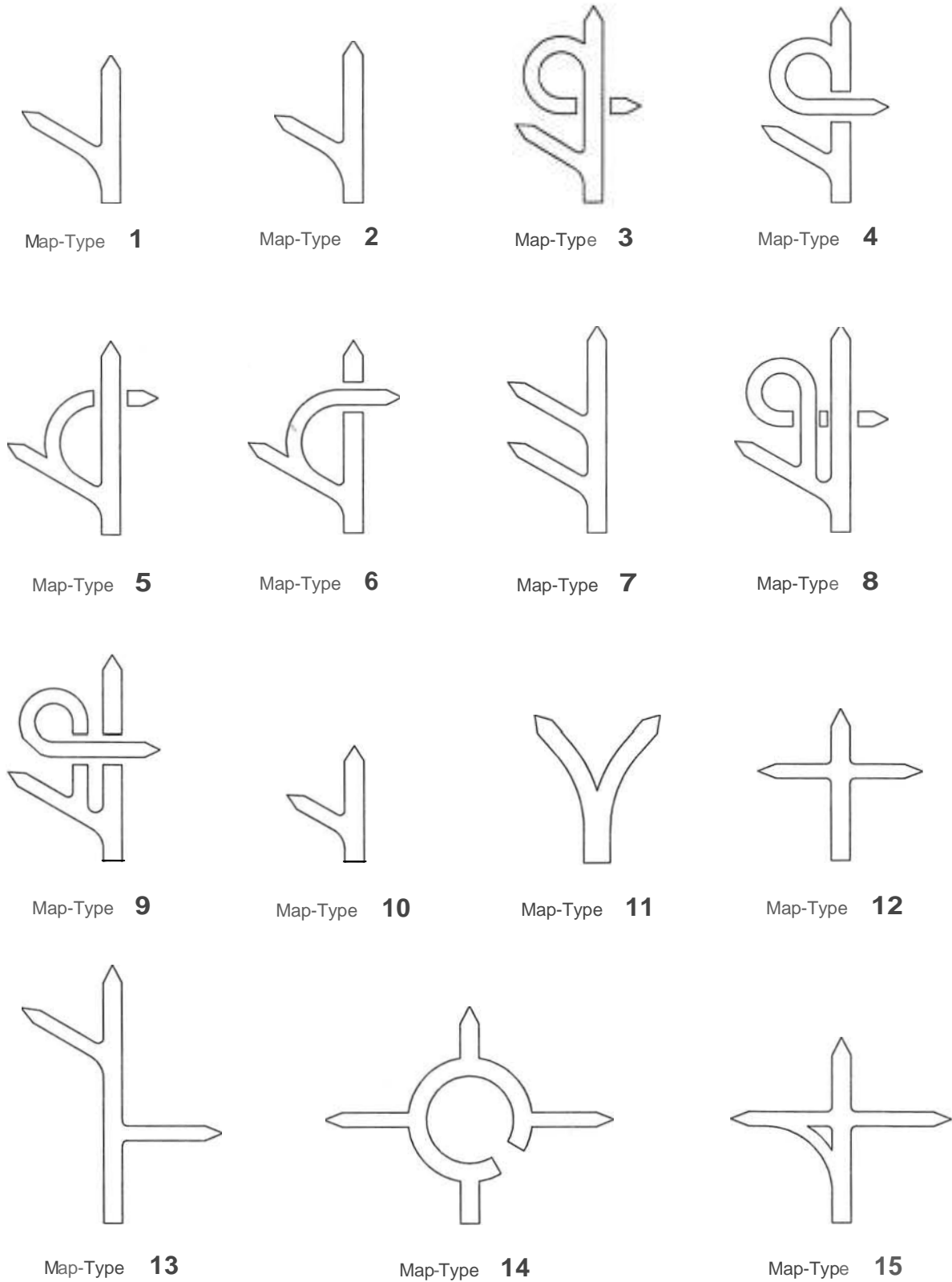


Fig 4.6

Map-Type Arrows

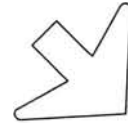
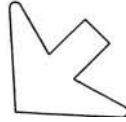
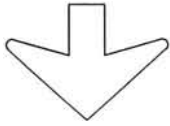
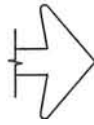


Fig 4.7

Downward-Pointing Arrow Type



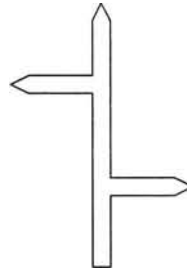
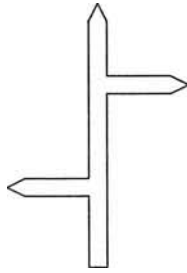
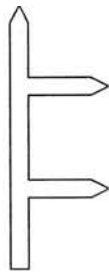
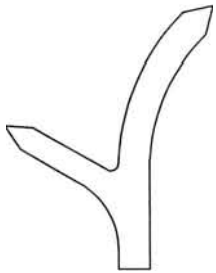
Street-Name Sign



Direction Route Marker Sign



Fingerboard Sign



Map-Type Arrows Modified to Indicate Road Layout



Upward Pointing Diagrammatic Arrows for Use with Regulatory Signs

Fig 4.8

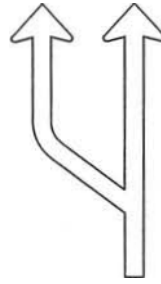
Selected Unique or Modified Arrow Types



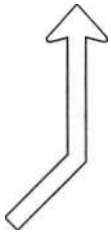
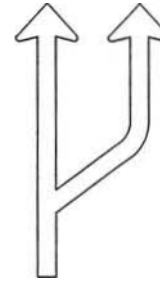
Diagrammatic Type **A**



Diagrammatic Type **B**



Diagrammatic-Type **C**



Diagrammatic-Type **D**



Diagrammatic-Type **E**



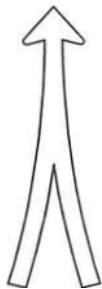
Diagrammatic-Type **F**



Diagrammatic-Type **G**



Diagrammatic-Type **H**



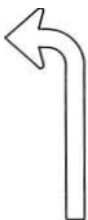
Diagrammatic-Type **J**



Diagrammatic-Type **K**



Diagrammatic-Type **L**



Diagrammatic-Type **M**



Diagrammatic-Type **N**

Fig 4.9 Upward-Pointing Arrow Types - Diagrammatic Signs

(continued from page 4.2.1)

4.2.4 Downward-Pointing Arrows

- 1 DOWNWARD-POINTING arrows have been used in the past on overhead DIRECTION and FREEWAY DIRECTION signs to indicate, on a lane-by-lane basis, the lane which may be used to reach the destination or destinations displayed above the arrows. It is a basic characteristic of this system of arrow display that there shall be one arrow for each lane on the roadway. No indication is given of traffic travelling in the opposite direction, either on the same roadway or on a separate roadway. There are a number of junction or interchange characteristics for which downward-pointing arrows are NOT ideal in that they may not impart enough information, or may under some circumstances even give an erroneous display relating to the road ahead. Typical examples of such situations are:
 - (a) the indication of lanes, normally at multi-lane off ramps or turning roadways, which are shared by through AND exiting traffic (this condition may result in through traffic, particularly slow-moving through traffic, moving out of the lane in question to the general detriment of the safe and smooth flow of traffic);
 - (b) the indication over lanes on a curving road alignment may be sufficiently inaccurate from the normal viewing distance as to result in incorrect lane selection by drivers.
- 2 Although the use of UPWARD-POINTING arrows is recommended for overhead signs, particularly on freeways, the use of DOWNWARD-POINTING arrows in uncomplicated situations on non-freeway roads should not be precluded. However, it is not recommended that the use of UPWARD and DOWNWARD-POINTING arrows be mixed either on one approach to an interchange or junction, or on a section of freeway or other high traffic volume roadway which warrants the use of overhead signs, subject to the economics of programmed sign replacement as part of a system maintenance plan.
- 3 The arrow type has been retained in the Manual to cover maintenance requirements and for use on individual lane control signs which normally display some regulatory or warning message e.g. MASS LIMIT sign R202, or the ARRESTOR BED symbol.

4.2.5 Upward-Pointing Arrows - Diagrammatic Signs

- 1 UPWARD-POINTING arrows may be used on overhead DIRECTION and FREEWAY DIRECTION signs, and on DIAGRAMMATIC signs. The characteristics of the two applications are, however, quite different.
- 2 The UPWARD-POINTING arrows used on DIAGRAMMATIC signs shall indicate the number of lanes of traffic travelling in the direction to which the sign applies. Opposing traffic may also be indicated by reversed arrows but this technique is more common with TEMPORARY applications than PERMANENT ones.
- 3 The principal function of a DIAGRAMMATIC sign message is to convey by means of the arrow configuration on the sign a message relating to ONE single change in the lane configuration or roadway alignment, or a complex or unexpected lane configuration, any of which are commonly hazard related. Since these conditions may have an effect on traffic behaviour in adjacent lanes,

carrying traffic in the same direction, all lanes for the direction of travel to which the sign applies SHALL be indicated. The indication of an opposing flow is optional, and should be reserved for situations where this opposing flow represents a degree of hazard to drivers travelling in the direction for which the sign has been provided. Typical examples of the arrow types unique to DIAGRAMMATIC signs are illustrated in Figure 4.9.

- 4 Upward-pointing arrows on DIAGRAMMATIC signs may thus be used to impart the following basic types of message regarding the lane configuration on the road ahead:
 - (a) lane drop from left or right;
 - (b) lane (or lanes) alignment change to left or right (this indication may involve a gradual but unexpected or temporary change in alignment, a relatively sudden or sharp change in alignment, or an "S"-bend reversal in alignment);
 - (c) reduced roadway width;
 - (d) the addition of a lane (since this condition is not normally hazard related it may be combined with a lane alignment change and is the ONLY acceptable arrow for this type indicating two coincident changes in lane circumstance);
 - (e) lane use control by regulation incorporating the display of a regulatory sign superimposed upon one or more arrows;
 - (f) lanes merge;
 - (g) lanes converge but do not merge;
 - (h) exclusive turn lanes;
 - (i) diagrammatic junction layout.
- 5 DIAGRAMMATIC sign arrows are specified in terms of "d" for convenience although few DIAGRAMMATIC signs display any text to which sizes can be related. Values of "d" are specified instead for the three fixed sign sizes. **It should be noted that the arrow shaft widths on this arrow set are different to other applications of the same arrow head style, on a size for size basis.**
- 6 Upward-pointing arrow applications on DIAGRAMMATIC signs are equally appropriate in rural and urban situations.
- 7 Arrow groupings used are shown on the various DIAGRAMMATIC sign examples in Section 4.12. If it is necessary to design an additional DIAGRAMMATIC sign every effort should be made to do so using arrows already detailed. It should be noted also that there are several DIAGRAMMATIC signs which use arrow types other than upward-pointing arrows.

4.2.6 Upward-Pointing Arrows - Direction and Freeway Direction Signs

- 1 The range of arrows and arrow combinations which may be used on overhead DIRECTION and FREEWAY DIRECTION signs is vast. The arrows may be used singly or in CLUSTERS. It is the range of arrow combinations which may appear in CLUSTERS which makes the recording and detailing of all possible variations almost impossible. The very flexibility of the CLUSTER system allows it to adapt to wide variations in interchange or junction geometry and lane configurations.

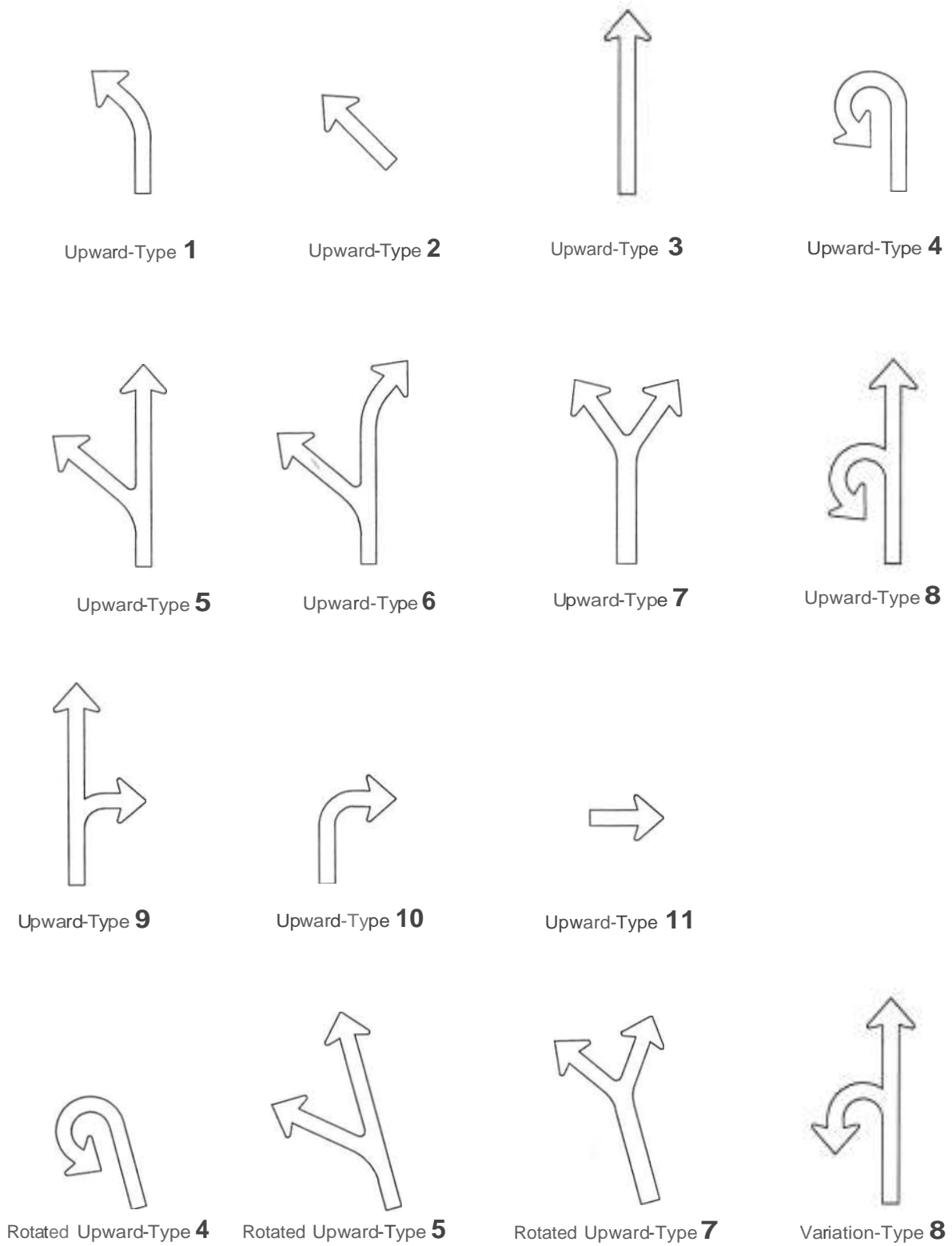


Fig 4.10 Upward-Pointing Arrow Types- Direction and Freeway Direction Signs

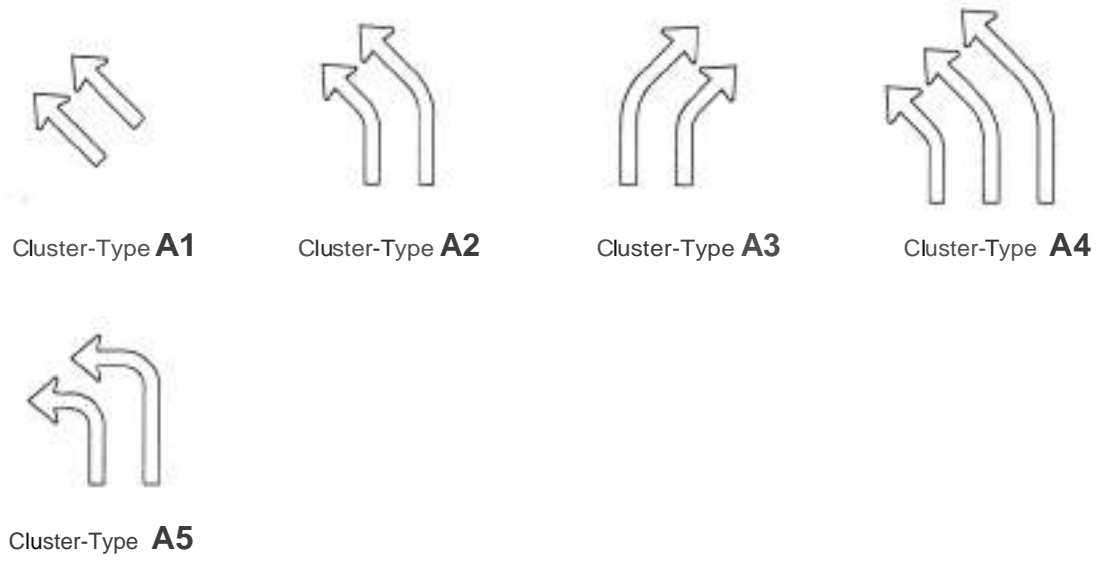


Fig 4.11 Upward Pointing Arrows – Exit Lane Clusters Direction and Freeway Direction Signs

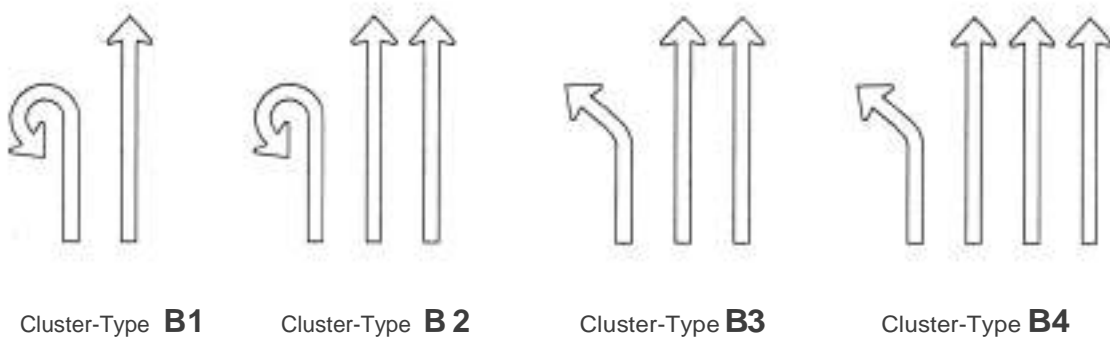
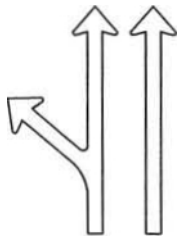
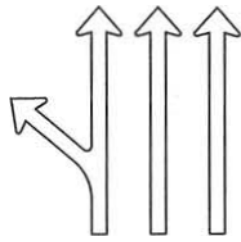


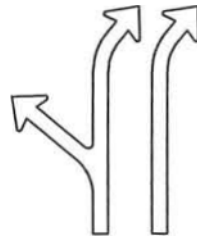
Fig 4.12 Upward Pointing Arrows – Dedicated Exit and Through Lane Clusters Direction and Freeway Direction Signs



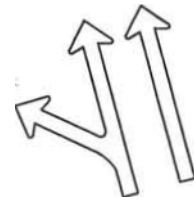
Cluster-Type **C1**



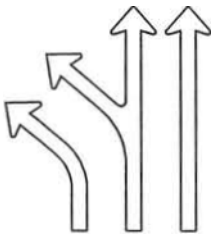
Cluster-Type **C2**



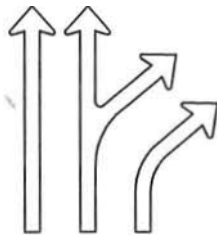
Cluster-Type **C3**



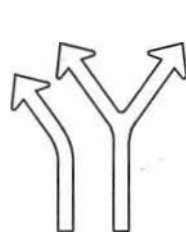
Cluster-Type **C4**



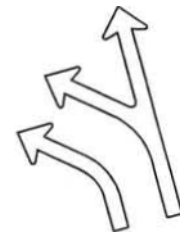
Cluster-Type **C5**



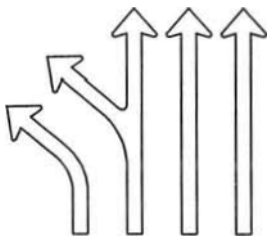
Cluster-Type **C6**



Cluster-Type **C7**



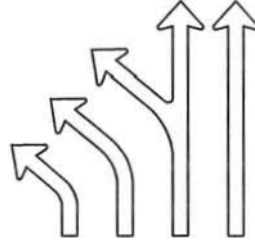
Cluster-Type **C8**



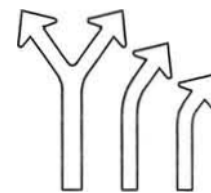
Cluster-Type **C9**



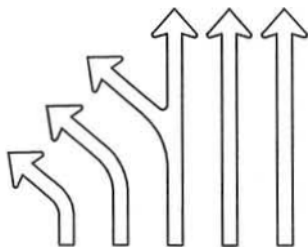
Cluster-Type **C10**



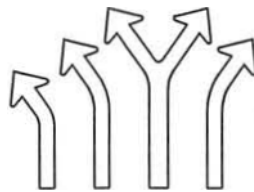
Cluster-Type **C11**



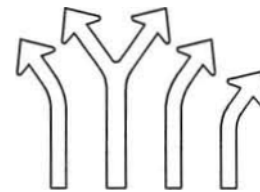
Cluster-Type **C12**



Cluster-Type **C13**



Cluster-Type **C14**



Cluster-Type **C15**

Fig 4.13

Upward-Pointing Arrows - Dedicated Exit/Shared Exit and Through-lane Clusters Direction and Freeway Direction Signs

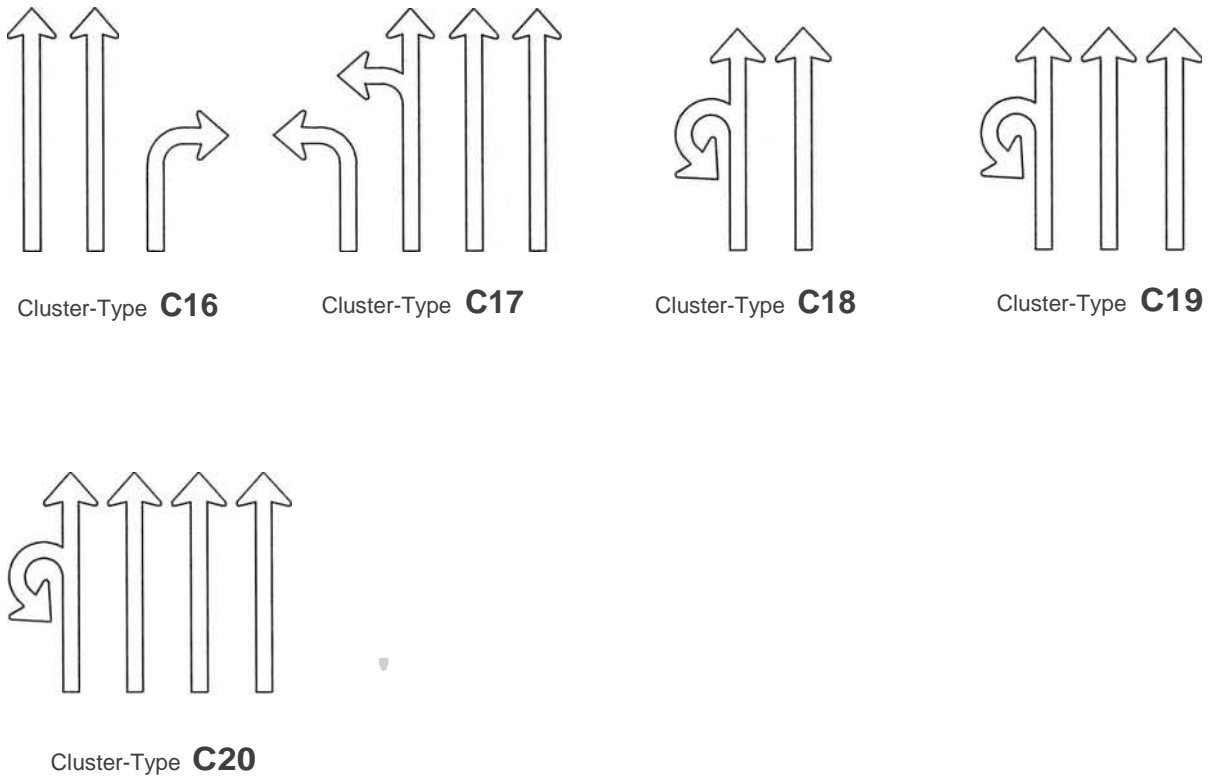


Fig 4.13 Upward-Pointing Arrows - Dedicated Exit/Shared Exit and Through Lane Clusters Direction and Freeway Direction Signs
Continued

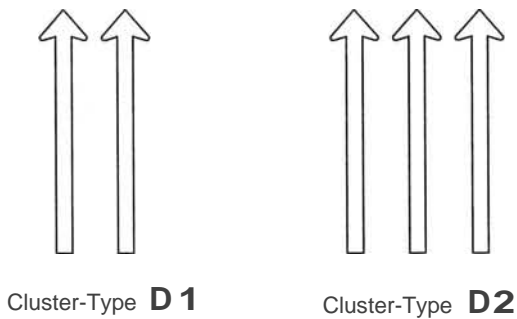
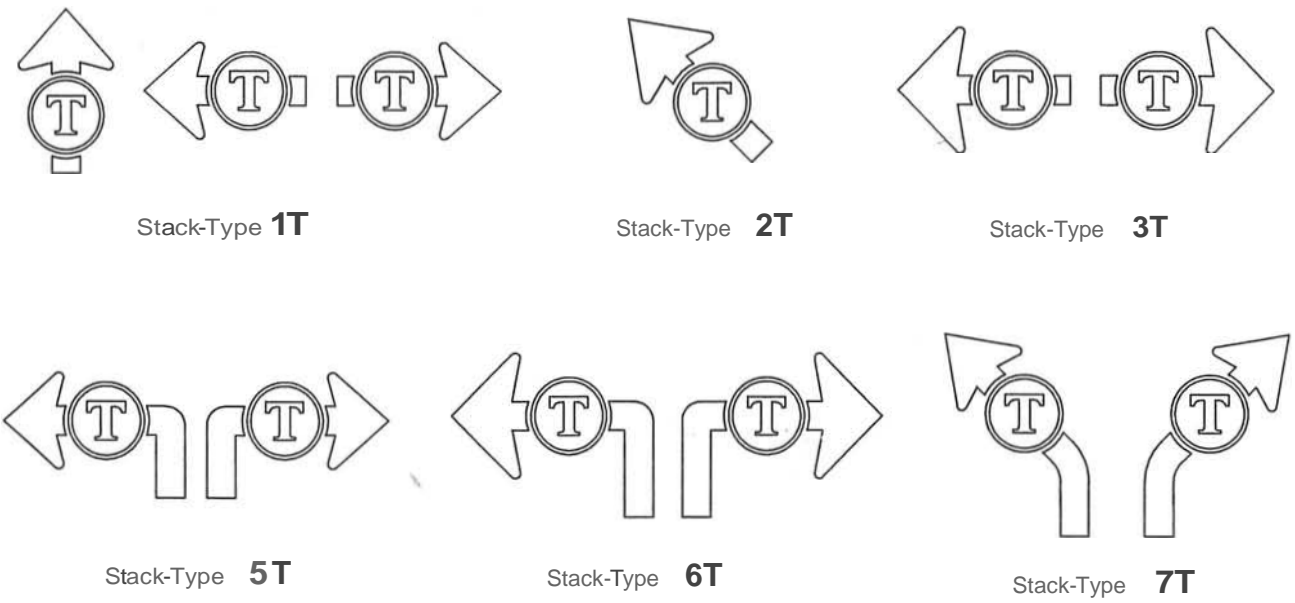


Fig 4.14 Upward Pointing Arrows – Through Lane Clusters Direction and Freeway Direction Signs

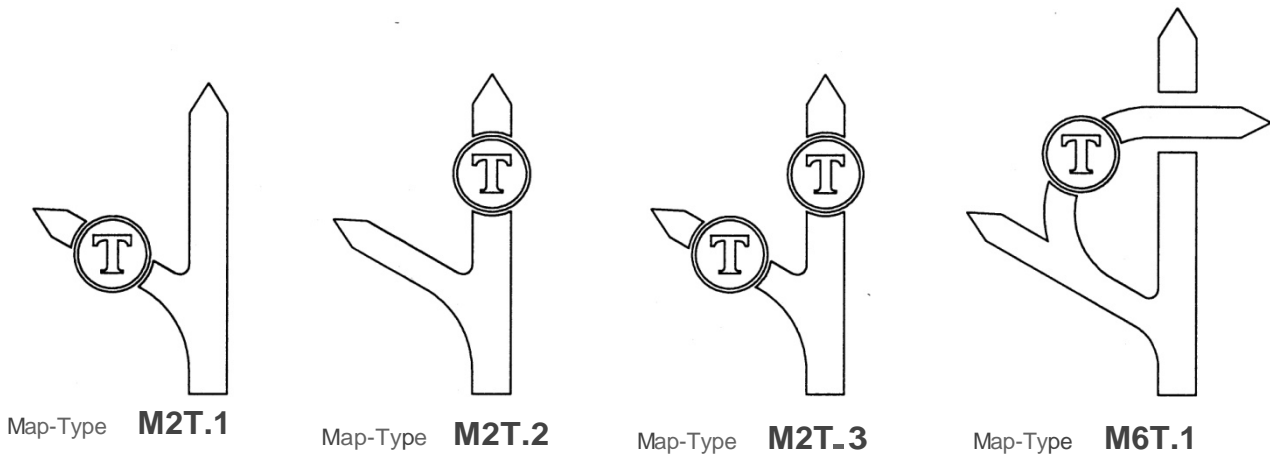
- 2 In basic terms upward pointing arrows may be related to the following roadway conditions:
 - (a) exit lanes;
 - (b) shared exit and through lanes;
 - (c) dedicated exit/shared exit and through lanes;
 - (d) through lanes.
 - 3 The basic arrow types used to make up CLUSTERS of upward-pointing arrows are illustrated in Figure 4.10. These arrows can be grouped as follows:
 - (a) arrows appropriate to high speed exits on freeways or at-grade roads;
 - (b) arrows appropriate to low speed turns on at-grade roads.
 - 4 Where the roadway varies from the indication of a specific arrow type to a relatively minor extent the arrow may be varied to indicate as closely as possible the actual roadway alignment. Aspects of individual arrow design which may be varied, within limits, are:
 - (a) the shaft length below a junction;
 - (b) the shaft length above a junction;
 - (c) the angle of rotation of the whole arrow(or cluster) (normally from 15° to 30°);
 - (d) the size of the included angle for turns of more than 90° (normally from 135° to 225°).
 - 5 Any of the basic UPWARD-POINTING arrow types may be used in a mirror-imaged form, either individually, or as part of a cluster in order to accurately portray the lane configuration ahead.
 - 6 A range of arrow CLUSTERS combining various arrow types for exit lane only displays (NO shared lane), shared exit and through lane displays and through lane only displays is given in Figures 4.11 to 4.14. Upward-pointing arrows used on overhead signs displayed over at-grade roads may indicate turning lanes in a manner similar to freeway exit lanes.
 - 7 In designing new arrow CLUSTERS a number of design characteristics should be maintained, namely:
 - (a) arrow shafts relating to a specific direction of travel SHALL be parallel to each other (this requirement, when applied to curved arrows means that both straight sections of shaft, above and below the curved section, shall be parallel; the result of this requirement is that the radius for the curves portion of each parallel arrow will be different; this requirement alone generates a large number of arrows which are different in sufficient dimensional detail as to represent virtually unique applications);
 - (b) the spacing between parallel arrow shafts should be equal and constant (these spaces are commonly dictated by the space needed to accommodate the arrow heads required in the specific cluster);
 - (c) the internal "v" of shared exit and through lane arrows should be rounded;
 - (d) the number of arrows in a cluster used on an overhead DIRECTION or FREEWAY DIRECTION sign shall be the same as the number of lanes existing at the point to which the sign applies (overhead direction signs displaying upward-pointing arrow clusters may apply to some point up ahead and will therefore include a distance to that point, or they can apply to the point over which they are located).
- Full dimensional design parameters for arrows and arrow clusters are given in Volume 4, Chapter 6.
- 8 It should be noted that the principles used to evolve the sequence of signs utilizing UPWARD-POINTING arrows differ significantly from the principles used in the sequence of signs displaying DOWNWARD-POINTING arrows. These principles are covered in Section 4.9. Refer also to paragraph 4.1.1.3.

4.2.7 Arrows Adapted for Toll Route Use

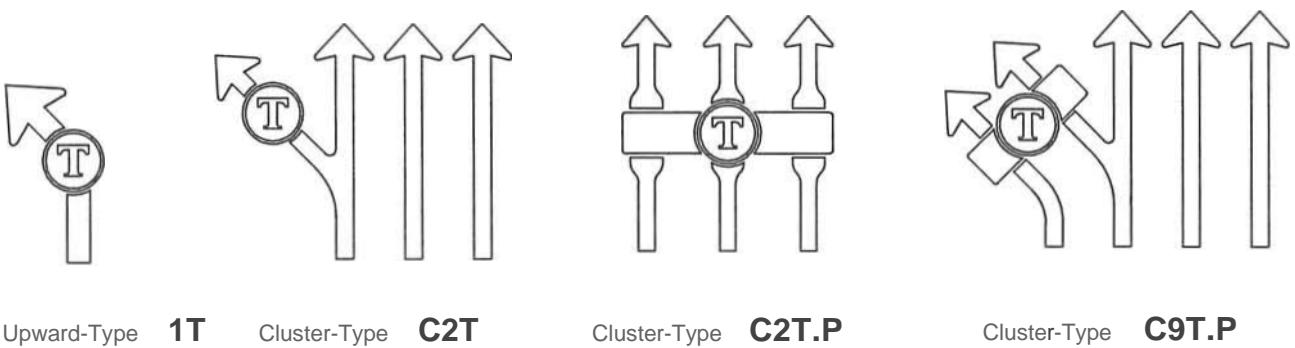
- 1 The direction signing system developed for toll routes includes an indication to drivers that, on entering the toll route, they will be required to pay toll. This indication is achieved by the inclusion of the mandatory regulatory PAY TOLL sign R132 which is superimposed upon the appropriate arrow or arrows. (Sign R132 is also erected separately at the start of the toll section as a free-standing regulatory sign.)
- 2 Figure 4.15 shows a range of typical examples of such arrows, including STACK-TYPE, MAP-TYPE and UPWARD-POINTING arrows. It is not uncommon for a toll plaza to be integrated into a freeway interchange. In such situations it may be necessary to include a representation of the toll plaza, as well as sign R132, within an upward-pointing arrow cluster.
- 3 If it is necessary to provide an arrow, modified to include sign R132, which is not detailed in Volume 4 the basic principles given in Volume 4 should be adhered to. For further details on the signing of toll routes see Section 4.14 and Volume 2, Chapter 6.



Detail4.15.1 Typical Stack-Type Toll Route Arrows



Detail 4.15.2 Typical Map-Type Toll Route Arrows



Detail4.15.3 Typical Upward-Pointing Toll Route Arrows

Fig 4.15 Adaptation of Arrow Types for Use on Toll Route Signs

4.3 LEGEND

4.3.1 General

- 1 The main function of guidance signs is to provide locational or directional information to enable road users to safely reach their intended destinations. This information is displayed as a legend on the signface. The legend may comprise one or all of the following components:
 - (a) letters;
 - (b) numerals;
 - (c) symbols;
 - (d) punctuation marks.
- 2 The letters, numerals and punctuation marks used on any new guidance sign shall be those contained in the DIN 1451 Part 2 letter set in Styles "A" or "B", or in the "B MOD" style. The range of upper and lower case letters, numerals and punctuation marks available in Styles "A", "B" and "B MOD" is illustrated in Figure 4.16. Upper case and numerals ONLY are available in the "B MOD" style which has been specifically created for use in DARK colours on a LIGHT colour background (most commonly BLACK on WHITE) to limit the possible effects of "overflow" due to the high contrast ratio between the letters and the background. As such "B MOD" lettering is primarily used for "LOCATION" message components. The "B MOD" style is similar to the DIN 1451 Style "B" in that each letter or numeral occupies the same space as in the Style "B" and is placed according to the same spacing rules. The "B MOD" letter stroke width is greater than the Style "B" letter stroke width, by approximately 20%. The stroke width of Style "A" and "B" letters and numerals is denoted by "d". Details of the letter dimensioning characteristics and design are given in Figure 4.4 and in Volume 4, Chapter 11.
- 3 All LOCATION sign or panel messages are indicated in upper case letters only. All other guidance sign messages are indicated in upper and lower case letters according to normal writing conventions of the various languages, EXCEPT that a cardinal direction or area is always indicated in upper case letters.
- 4 LOCATION signs should only display one message per sign. If more than one message is required, such as two street names it is recommended that two signs be used. The message on ROUTE MARKER signs is displayed in a number and/or symbol form only. DIRECTION, FREEWAY DIRECTION, TOURISM and LOCAL DIRECTION guidance signs may all display multiple messages which may comprise a combination of letters, numerals, symbols and/or punctuation marks.
- 5 The spatial layout of all guidance signs has been designed around the letter stroke width factor "d". In order to promote conformity, accuracy, and uniformity of signface layout characteristics a number of recommendations relating to the placement of different message components have been evolved. These recommendations are covered in Subsections 4.3.2 and 4.3.3. In certain cases there are different options available.
- 6 **It is generally recommended that guidance signs should not display more than 10 "bits" of information.** Further detail on how the number of "bits" of information may be derived is given in Section 4.4.
- 7 DIAGRAMMATIC signs, as the group name implies, rarely incorporate any legend. In addition to the arrows,

blocks, symbols or other incorporated sign types displayed on a DIAGRAMMATIC sign the only legend normally used is that displayed if a SUPPLEMENTARY PLATE sign IN11 is specified.

4.3.2 Language

- 1 Under normal circumstances any place name appearing on a DIRECTION, FREEWAY DIRECTION, TOURISM or LOCAL DIRECTION sign, or any other guidance sign, shall be displayed in the language of origin. Any other information given on a guidance sign should normally be displayed in English. If an Anglicised form of a place name is in popular use this may be used on guidance signs at the discretion of the road authority and after local consultation. The display of place names in two, or more, languages is not recommended.
- 2 **The use of abbreviations is not normally recommended although they may be considered in exceptional cases. Destination names should not be abbreviated.** If an abbreviation is used, however, it should be easily identifiable as a derivation of its full-length form. If a long name belonging, for instance, to an organisation the premises of which are to be accorded destination status, and this name has a commonly used acronym, the acronym should be used on guidance signs e.g. "Nasrec" for the "National Sport and Recreational Centre". The abbreviation of adjuncts used on STREET NAME signs is permitted (see Section 4.6).
- 3 Wherever practical all normal language rules shall apply to displays on guidance signs. It is common practice in many African languages, for instance, to start a destination name with a lower case letter.

4.3.3 Text

- 1 The space occupied by the text on a guidance signface, and ultimately the overall sign size, are affected by three factors, namely:
 - (a) the letter size to be used;
 - (b) the inter-letter spacing;
 - (c) the spacing standards between arrows, text, symbols and various punctuation marks, both horizontally and vertically, and the spaces between these components and the edges of the sign.
- 2 Inter-letter spacings are tabulated in Volume 4, Chapter 11. The spacings given in these tables relate to a base letter size of 112 mm (upper case)/ 80 mm (lower case), for which "d" = 16 mm. The length of any word or letter-number group can be determined for this letter size from the tables provided. Since all aspects of the DIN 1451 Part 2 style of lettering are fully proportional, from one letter size to another, the word length and inter-letter spacings can be simply calculated for the required letter size by factoring all dimensions derived for the 112 mm / 80 mm letter size. The factor is determined by dividing the required upper case letter size to be used by 112 (see Section 4.4).
- 3 The recommended principles pertaining to the use of DIN 1451 Part 21 lettering may, subject to the message to be displayed, result in a larger overall multiple-stack

- type sign size than the absolute minimum necessary to carry the required messages. It is considered, however, that adherence to these recommendations, which are indicated in this subsection in bold type, will result in a signface design which is quicker and easier for road users to read and interpret. Figures 4.17 and 4.19 illustrate the basic signface design rules through a range of "recommended", "intermediate", and "arrow-linked" STACK-TYPE DIRECTION sign examples. The ultimate results of adopting a policy to use the "recommended" or "intermediate" signface design rules are likely to be an inherently more effective direction sign system, with resultant safety implications and a limited increase in the total signface area of direction signs used system-wide. The benefits or disbenefits relating to any particular selection or combination of rules is dependent to a large extent on the sign type, the differences in the lengths of the place names on the sign the presence or not of route numbers, and to the total number of "bits" of information to be displayed. The examples given in the subsections of this chapter dealing with specific sign types all conform to the recommended principles unless noted otherwise. The dimensional details given in Volume 4, Chapters 5 and 6 illustrate the recommended and arrow linked treatment of several specific sign types when this is appropriate.
- 4 Three text positioning factors which are likely to have the greatest effect on the final sign size and its readability are:
 - (a) the location of route numbers;
 - (b) the justification of lines of text;
 - (c) the positioning of arrows in relation to text, particularly on certain STACK-TYPE DIRECTION signs.
 - 5 Route number letter-number groups may be located above the destination names to which the route number applies, or they may be located in front of the appropriate destination names. **It is recommended that the route number be placed in front of the destination names on STACK-TYPE signs and above the destination names on MAP-TYPE and OVERHEAD signs.** There are a number of situations when this rule does not apply, namely:
 - (a) on FREEWAY EXIT DIRECTION signs GA3 (which are STACK-TYPE signs) it is recommended that the route number be placed above the destination names to maintain the same signface layout as used on preceding signs in the sequence;
 - (b) when an "indirect" route number is displayed it is located in front of the destination to which it applies, irrespective of sign type.
 - 6 **On STACK-TYPE signs it is also recommended that the arrows in ALL STACKS be placed horizontally outside the space occupied by any text in ANY of the STACKS of which the sign is made.** This technique has the effect that all arrows lie in a space on the sign which is vertically free of text. It is considered that this allows drivers to quickly search for and find the STACK relevant to their intended direction of travel AND to quickly associate the destination to which they wish to travel with the correct direction of travel (see Figure 4.20).
 - 7 A guidance sign commonly displays a number of lines of text, either on the signface as a whole (MAP-TYPE and OVERHEAD signs), or in STACKS or PANELS (STACK-TYPE signs). Justification involves the lining up of the first or last letters in each line of text on a common vertical line. **It is recommended that left justification be applied on the left side to the letters of route number letter-number groups AND separately to the first letters of the destination names when the route number is located in front of the destination names.** It is considered that by adopting this technique the time taken by drivers to scan a sign, and find the route number and/or destination name they are looking for, will be kept as short as possible. In exceptional cases if a long two-part destination name is displayed or a cardinal direction is linked with a destination name, the second part of the destination name, if short, or the cardinal direction, may be displayed in a second line below the destination name in a right justified manner (see Figures 4.20 and 4.23).
 - 8 **"Indirect" route numbers are displayed within brackets,** to show that the route so indicated does not intersect directly, at the approaching junction, with the road on which the sign concerned is displayed. In order to reach the "indirect" route drivers must first leave the road on which they are travelling, then proceed along the intersecting road for some distance until that road intersects with the previously indicated "indirect" route.
 - 9 **When brackets are used to indicate an "indirect" route number the justification should be maintained on the letter of the letter-number group NOT the bracket.** In such situations the bracket nearest the sign edge or arrow may be permitted to intrude into the standard space without increasing the size of this space. If a signface design is complex, situations may arise where this reduction in space is not acceptable. In such cases the standard spacing and the justification should be maintained with a resultant small increase in overall sign size (see Figure 4.22).
 - 10 LOCAL and TOURISM DIRECTION signs displaying more than one destination in one PANEL should follow the general left-justification rule. **A right justification rule is recommended for these sign groups when long multi-part names or long hyphenated names are "wrapped-around" into two lines of text.** This technique can significantly reduce the length of LOCAL and TOURISM DIRECTION signs. Spacing standards on these two sign groups are reduced to limit sign size and, because of the greater use of symbols, there are a number of particular rules relating to the display of legend combining symbols and text (see Figures 4.20 to 4.25 and Volume 4, Chapters 7 and 11).
 - 11 In addition to brackets a number of forms of punctuation are available for use on guidance signs (see Figure 4.23). **FULL STOPS shall not be used after initials or abbreviations.**
 - 12 **It is recommended that words using different letter sizes should NOT appear on a guidance signface, with the EXCEPTION of the option to show a STREET NAME in a LOCATION PANEL on a DIRECTION sign or a CARDINAL DIRECTION, in reduced size letters.** In this case the letter size used for street names or cardinal directions may be reduced to 2/3 or 3/4 of the size of the letters used for the destination names, with due regard to the final readability of these messages.
 - 13 A number of guidance signs are available which indicate

A B C D E F G H I J K L M N O P Q

R S T U V W X Y Z

a b c d e ê ë f g h i j k l m n o p

q r s t u v w x y z ! ? / () %

1 2 3 4 5 6 7 8 9 0 - " . , : ' ; > < &

Style "A" (Compressed Lettering)

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

a b c d e ê ë f g h i j k l m n

o p q r s t u v w x y z ! ? / ()

1 2 3 4 5 6 7 8 9 0 % - " . , : ' ; > < &

Style "B" (Standard Lettering)

Detail 4.16.1 DIN1451 Part 2 Lettering Styles

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 0 &

Detail 4.16.2 "B MOD" Style (Increased Stroke Width)

Fig 4.16

Lettering Alphabet and Punctuation Styles

only route numbers. Such limited displays are intended to keep these signs compact in size. Signs of this type are commonly utilised to give early, or "pre-advance", indication of the directions to be taken to follow or reach the indicated routes. Examples of such signs are:

- (a) TRAILBLAZER signs (see Section 4.7);
- (b) ROUTE MARKER signs (see Section 4.7);
- (c) on-ramp ADVANCE DIRECTION signs, particularly in confined urban situations;
- (d) FREEWAY PRE-ADVANCE EXIT DIRECTION signs GA1 or GC1 (see Section 4.9).

In order to offer adequate orientation, when this is relevant, these signs may also incorporate the display of a cardinal direction. TRAILBLAZER signs may incorporate a single uniquely styled letter representing the appropriate cardinal direction (see Subsection 4.7.2). On the GA1 sign, or its overhead GC1 version, however, the cardinal direction shall, when used, be indicated in full (see Subsection 4.3.4). **A cardinal direction used with route numbers shall be displayed in YELLOW upper case letters.**

- 14 The terms North, South, East and West may also be used to qualify a destination name. This technique is most appropriate at rural junctions and may be of use particularly when signing the exit points to a small to medium-sized by-passed town served by more than one exit, e.g. Heidelberg (NORTH) and Heidelberg (SOUTH). **This cardinal "area" should be displayed in upper case WHITE letters within brackets (see Figure 4.24).**

4.3.4 Symbols

- 1 Symbols may be used on guidance signs to limit the amount of text to be displayed and thus reduce reading time and sign area. The symbols are particularly intended to replace common names such as airport, station etc.
- 2 Symbols are available in a number of series for use on the following guidance sign types (see Section 4.0):
 - (a) LOCATION signs (numbered in the GLS series);
 - (b) TRAILBLAZER and ROUTE MARKER signs (using the GDS or GFS series);
 - (c) DIRECTION and FREEWAY DIRECTION signs (numbered in the GDS series);
 - (d) TOURISM signs (numbered in the GFS series);
 - (e) LOCAL DIRECTION sign (numbered in the GDLS series).
- 3 It should be noted that some symbols are available in more than one sign category, e.g. the "Mine" symbol is available for DIRECTION signs as GDS-12 and for TOURISM signs as GFS A7-3; the "Toll Route" symbol is available for LOCATION signs as GLS-2 and for DIRECTION signs as GDS-9, etc. Care should be exercised that the correct symbol for the job is specified since the sizing characteristics for each category may be different. Dimensional details are repeated in the various chapters of Volume 4 to ensure that the correctly proportioned and sized symbol is used. (A number of direction sign symbols are also available for use on INFORMATION signs, numbered in the INS- series. See Chapter 5).
- 4 **If a symbol is used with a location name such as a river name, freeway name, or toll route name the symbol shall be placed below the name.**
- 5 **If a symbol is used with a destination name it shall ALWAYS precede the destination name. This will overrule the first letter justification rule. If a symbol is used with a route number it shall ALWAYS follow the route number.**
- 6 **Certain symbols which are not symmetrical about their vertical centre line and which imply a sense of direction should be turned to face in the direction of the arrow on the sign or sign stack.** Details of symbol positioning are given in Figure 4.25 with particular reference to permitted positions of the AIRPORT symbol GDS-3.
- 7 FREEWAY (Class A-1) symbol GDS-4 and FREEWAY (Class A-2) symbol GDS-5 are both used on TRAILBLAZER signs in the ROUTE MARKER class and on DIRECTION signs in trailblazer panels. They should only be used on guidance signs when linked with a route number. Similar symbols GLS-4 and GLS-5 are used only on LOCATION signs together with the name of the freeway.
- 8 The CITY CENTRE/CENTRAL BUSINESS DISTRICT symbol GDS-8 may be used on a DIRECTION or FREEWAY DIRECTION sign with a route number when only a route number is displayed, with a town or city name, OR with the name of a street leading to the town or city centre. **When the symbol is used with a street name the name of the town or city shall appear in black on white at the top of the sign to indicate that the interchange or junction in question is "located" in the named town or city and that the street named on the sign leads to the centre of the named town or city.** This situation is common to urban freeway signing where a town or city can be approached by a number of streets intersecting the freeway but one of these streets is considered most appropriate by which to reach the town or city centre. **It is recommended that such a situation be preceded by an EXIT SEQUENCE sign GAS indicating the town or city name at the top, the various street names serving the town or city with the appropriate interchange (EXIT) numbers and distances to the exit, and symbol GDS-8 in front of the relevant street name.** The symbol should then be repeated in front of the street name on the signs relevant to the exit in question, all of which signs also display the town or city name at the top. At the subsequent off-ramp terminal it is recommended that, since the cross-street which has the name that appeared as a destination on the FREEWAY DIRECTION signs approaching the exit has been reached, this street name should appear in black on white at the top of the OFF-RAMP TERMINAL DIRECTION sign GA6 to identify the intermediate "location" now reached by drivers. Drivers wishing to turn towards the town or city centre should now see symbol GDS-8 in front of the town or city name in one of the directional stacks of sign GA6 (see Section 4.9). Symbol GDS-8 may be used more locally with town or city names. **If a civic centre has been developed some distance from the central business district this information should be incorporated into the DIRECTION signing system for the area, town or city.**
- 9 TOLL ROUTE symbol GDS-9 shall only be used with a route number. The majority of DIRECTION signs or FREEWAY DIRECTION signs required for toll routes may be created by the simple addition of symbol GDS-9 after the appropriate route numbers. Other basic

- aspects of toll route signing are covered in Section 4.14.
- 10 ALTERNATIVE ROUTE symbol GDS-10 may be used on DIRECTION or FREEWAY DIRECTION signs in association with a route number. Alternatively the symbol may be used on its own, or with a route number, on ALTERNATIVE ROUTE MARKER signs GE16 (see Section 4.6).
 - 11 The LIBRARY GDS-15, BICYCLE ROUTE GDS-16 and PARK 'N RIDE GDS-17 and GDS-18 symbols are intended for DIRECTION signing at a local level and shall not appear on FREEWAY DIRECTION signs.
 - 12 LOCAL DIRECTION signs are generally provided for destinations of limited but local importance. As with any other type of guidance sign, if an appropriate symbol is available this should be used instead of text. GDS symbols may be used on LOCAL DIRECTION signs in addition to those developed specifically (GDLS series) for the local level of guidance signing (see Section 4.0).
 - 13 TOURISM sign symbols are subdivided into the following groups (see also Section 4.0):
 - (a) Tourist Attraction facilities (GFS A1-A13 series);
 - (b) Emergency services (GFS B1 series);
 - (c) Light Vehicle services (GFS 82 series);
 - (d) Truck Rest and Service (GFS B3 series);
 - (e) Food services (GFS B4 series);
 - (f) General services (GFS B5 series);
 - (g) Rest and Service Areas (classified) (GFS 86 series);
 - (h) Vehicle Classes (GFS 87 series);
 - (i) Accommodation (GFS C1 series);
 - (j) Rest and Service Area "Totem" signs (GFS D1 series).
 - 14 **Only symbols which have been approved by the SATCC Roads, Road Transport and Road Traffic Subcommittee shall be used on guidance signs.** Approved symbols are illustrated in Section 4.0. All symbols are given in Volume 4 superimposed on a grid of squares which simplifies their enlargement to the required size. The height and width of all symbols are specified in terms of "d", the stroke width of the letter size with which the symbols are to be used.
 - 15 Generic or family symbols, or individual symbols or logo's may be displayed on tourism signs if the service provider wishes so. Such symbols or logo's shall be displayed in white and must be approved by the SATCC Roads, Road Transport and Road Traffic Subcommittee.

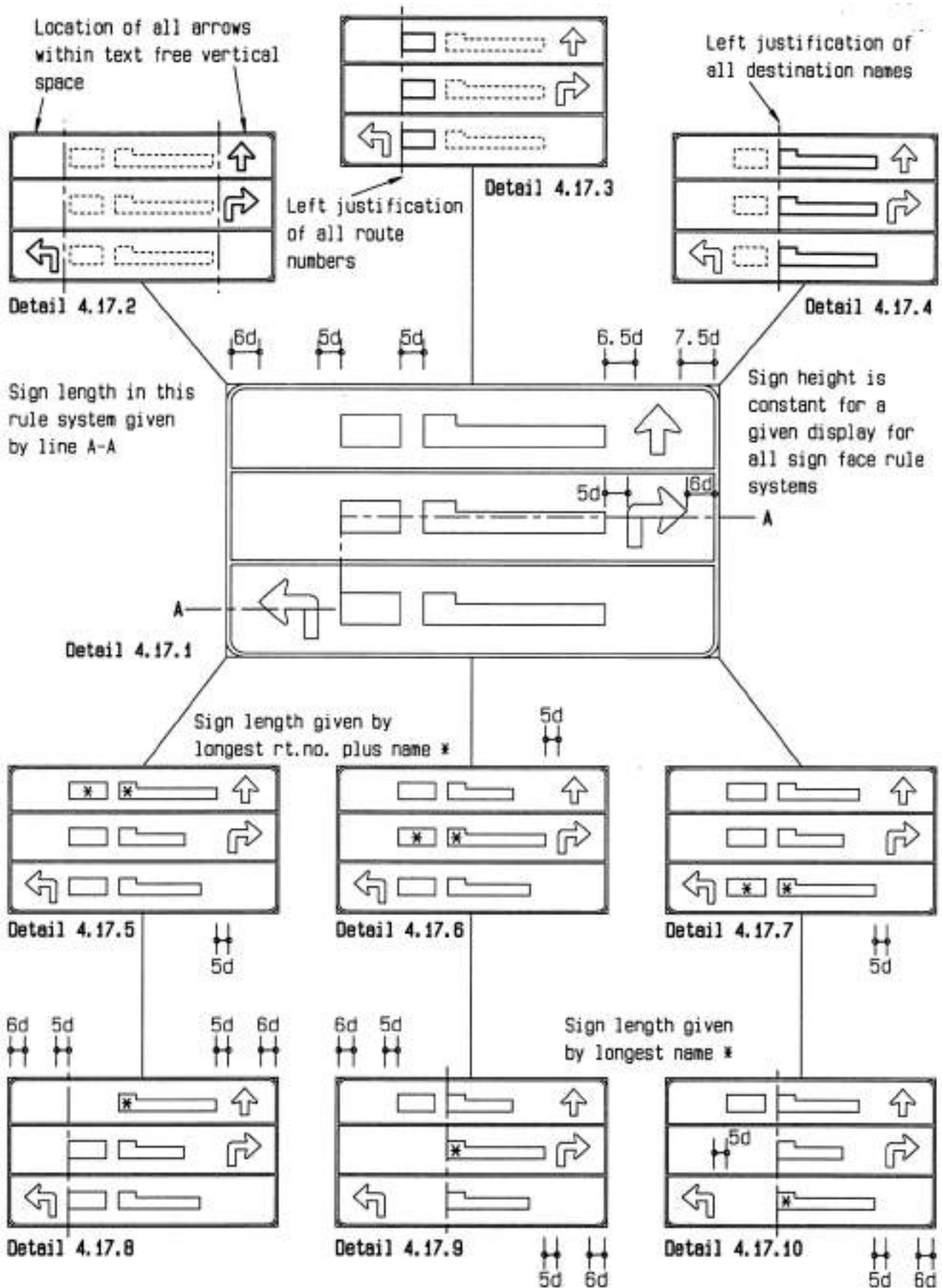


Fig 4.17 Recommended Rules of Signface Text Layout- Optimum Readability - Stack-Type Direction Signs

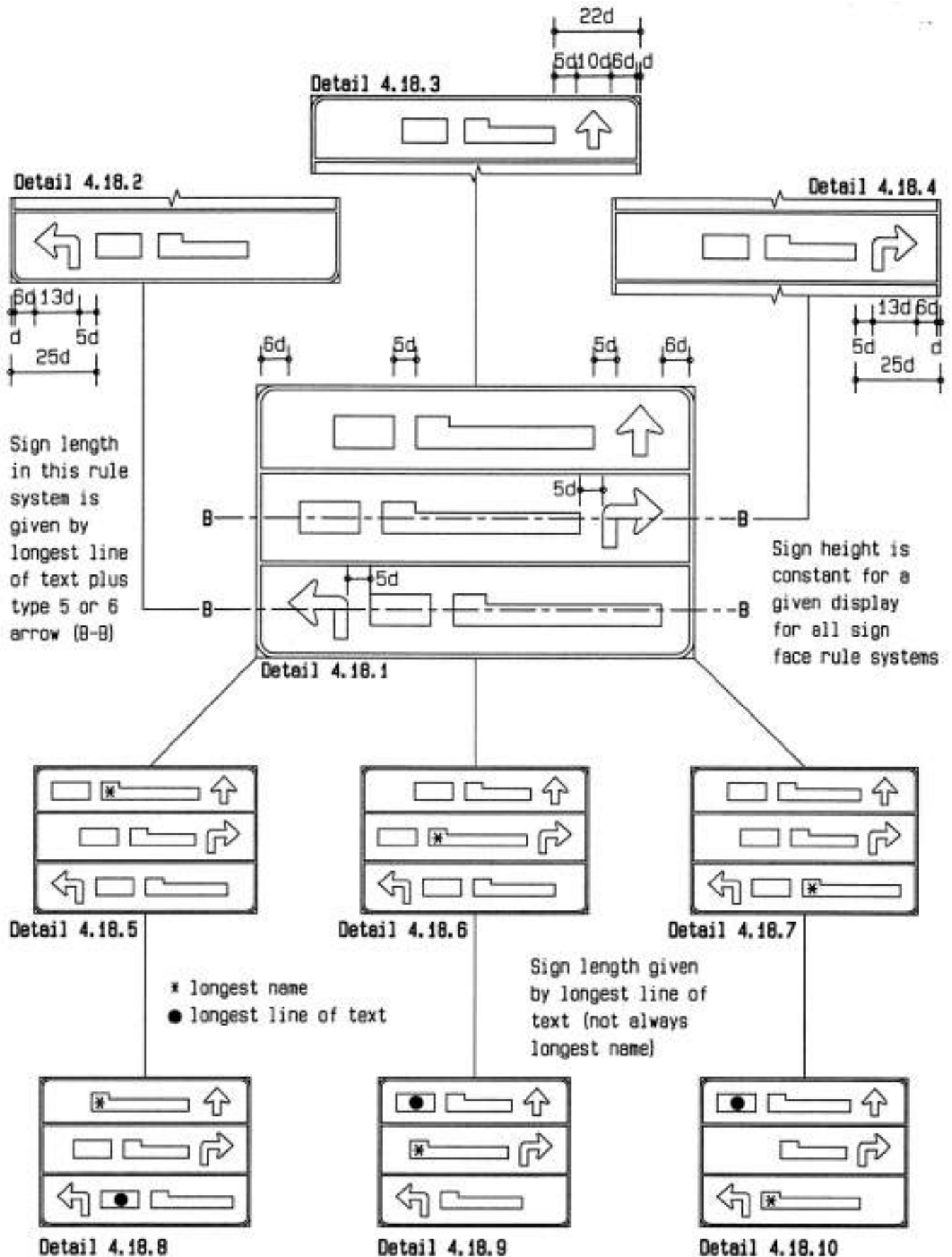
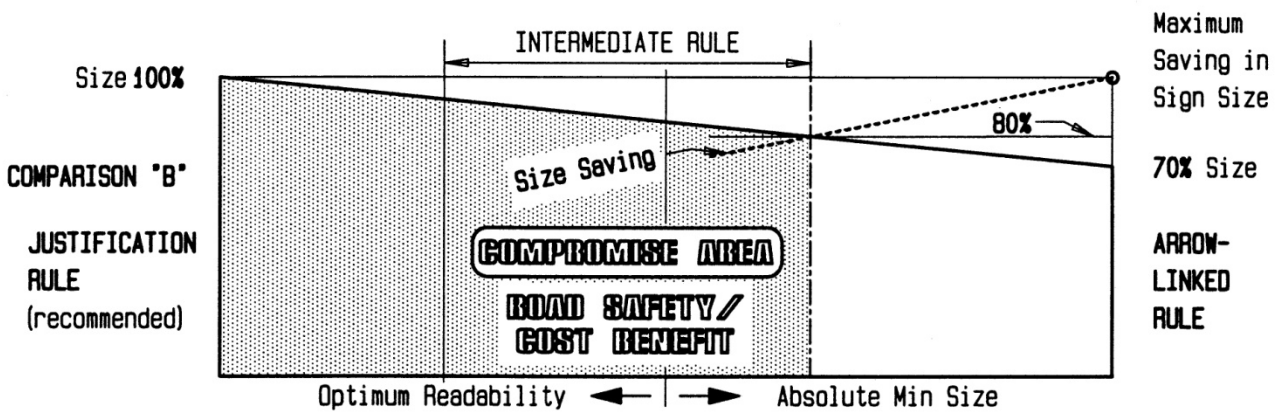
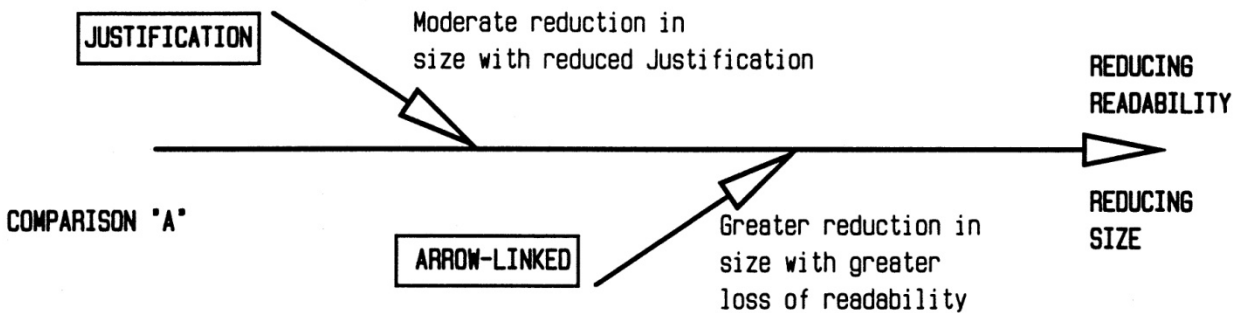
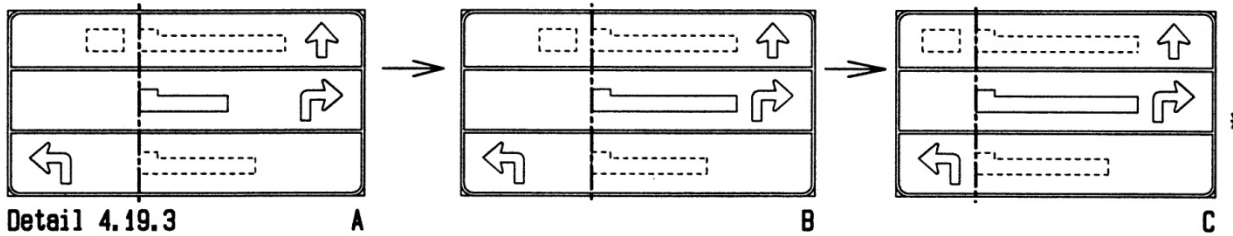
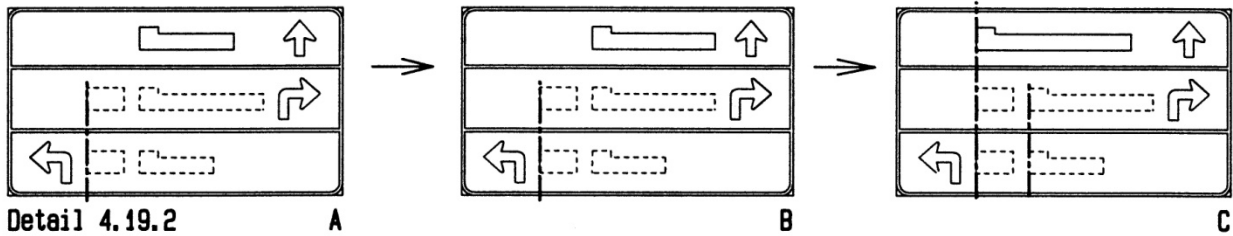
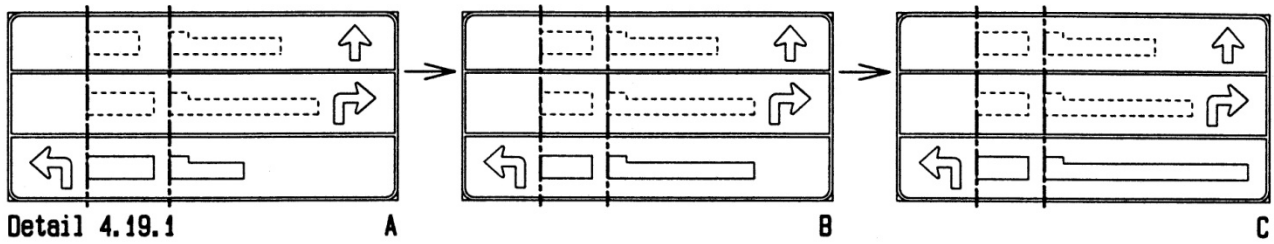
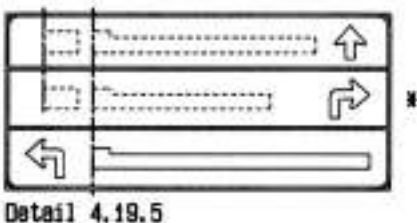
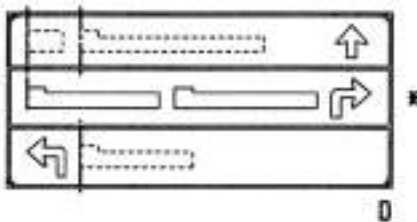
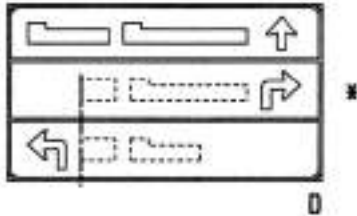
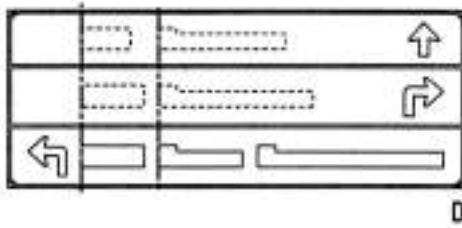


Fig 4.18 Arrow Linked Rules of Signface Text Layout - Reduced Size and Reduced Readability - Stack-Type Direction Signs



Detail 4.19.7 Graphical Comparisons of Signface Rule Systems

Fig 4.19 Intermediate Rules of Signface Text Layout -Stack-Type Direction Signs (see also page 4.3.9)



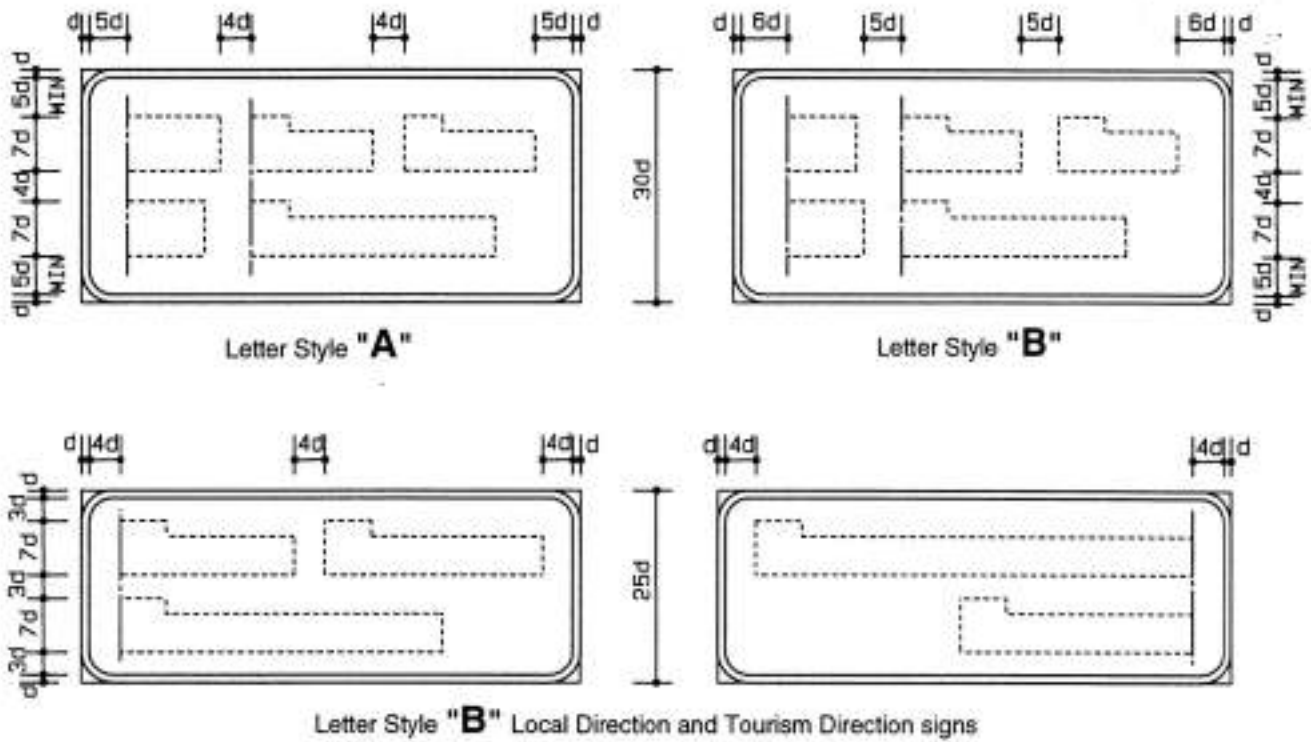
Detail 4.19.4

Detail 4.19.5

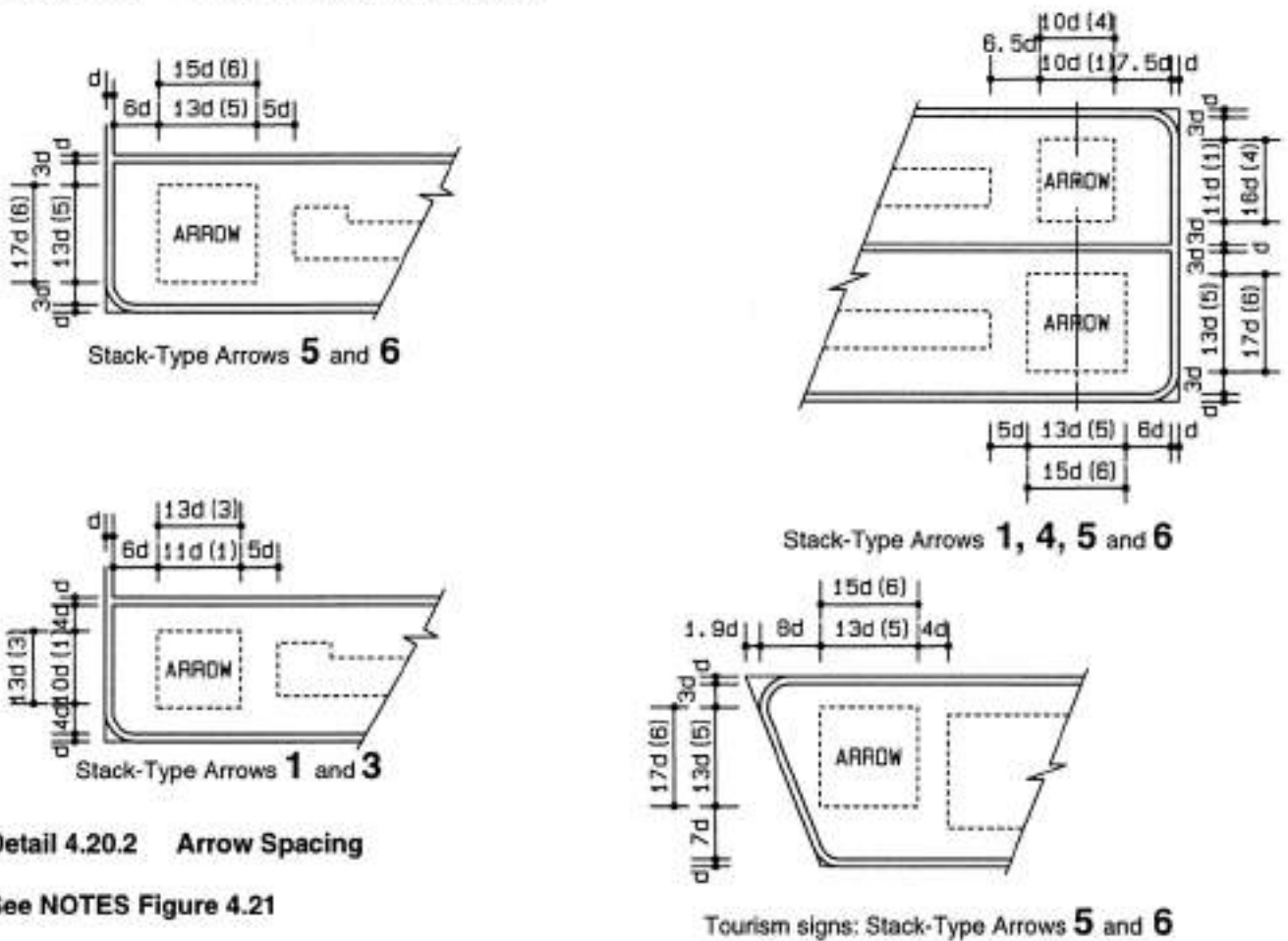
NOTES:(Figures 4.17 to 4.19)

- (1) Figures 4.17 to 4.19 to show options for signface layout of multi-stack DIRECTION signs. The layout of a specific sign is subject to how many variables interact for that sign. One variable which is difficult to illustrate adequately, is the variation in lengths of three (or more) destination names in three stacks. In Figures 4.17 and 4.18, the lengths of the blocks representing the three names are the same in each detail, namely one short, one long and one in-between.
- (2) Details 4.17.1 to 4.17.4 show the three basic "recommended" rules (with standard spacings):
 - (a) arrows are located to the far right or left of each stack;
 - (b) left justification of all route numbers;
 - (c) additional left justification of all names.
- (3) Details 4.17.5 to 4.17.7 show how the length remains constant irrespective of which stack contains the longest name. Details 4.17.8 to 4.17.10 show how the same effect occurs when some stacks do not have route numbers. Sign length is dictated by the sum of two stack-type arrows (Types 5 or 6), the longest name, the longest route number and all standard spacings. Other points to note ("recommended" rules) are:
 - (a) straight-on arrows are **centred** over right turn arrows;
 - (b) the standard space is between the longest name and the 'longest' arrow, even when not in the same stack;
 - (c) the sign length will be slightly less if the one route number is shorter than the others in the other examples;
 - (d) all text is vertically lined up to help scanning.
- (4) Detail 4.18.1 has the same name lengths as Detail 4.17.1 but the text is permitted to extend into the spaces over or under the arrows. This makes the sign length less but loses the vertical justification. Details 4.18.2 to 4.18.4 clarify the exact effect of names being 'linked' to the arrow in their stack, irrespective of the length of the names (the 'arrow-linked' rule). In Details 4.18.5 to 4.18.7 it is shown that there is little variation in length with the position of the longest name, but all examples are shorter than in Figure 4.17. Details 4.18.8 to 4.18.10 show that when route numbers are not present in all stacks the saving in size is greatest (up to 30% - see Detail 4.19.7). Points to note ("arrow-linked" rules) are:
 - (a) the straight-on arrow is **NOT** centred over the right turn arrow (Detail 4.18.5 shows a slightly shorter sign);
 - (b) the arrows are always located a standard space from the right or left side of the stack;
 - (c) scanning is made difficult and slower.
- (5) Figure 4.19 illustrates "intermediate" rules of multi-stack DIRECTION signface layout. In all cases of the application of "intermediate" rules the purpose is to allow a sign to be made smaller whilst still retaining the best possible text justification. Essentially the 'intermediate' rules permit:
 - (a) **firstly**, the space below the straight and right arrows to be occupied by a long name (Detail 4.19.1); and/or
 - (b) **secondly**, a long name without a route number to 'jump' to line up with the route number in other stacks, and to 'jump' again, if necessary, to occupy the space over the left turn arrow at a standard space from the left edge of the sign (Details 4.19.2, 4.19.3 and 4.19.5).
- (6) Details 4.19.1 to 4.19.4 show the progressive effects of one name (in one stack) getting longer. The examples include ones with route numbers in all stacks and ones with some route numbers omitted. Detail 4.19.7 provides two generalised comparisons of the different rule systems. The 'intermediate' rules can lead to a saving in sign length of up to 20%, with little loss in readability.

(continuation of Figure 4.19 from page 4.3.8)



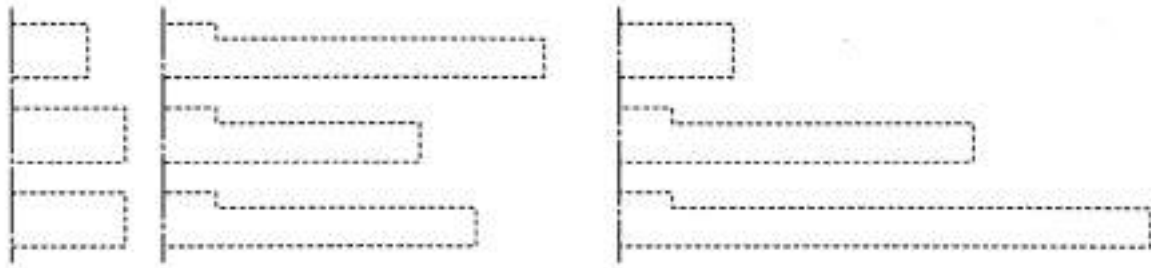
Detail 4.20.1 Word Location and Spacing



Detail 4.20.2 Arrow Spacing

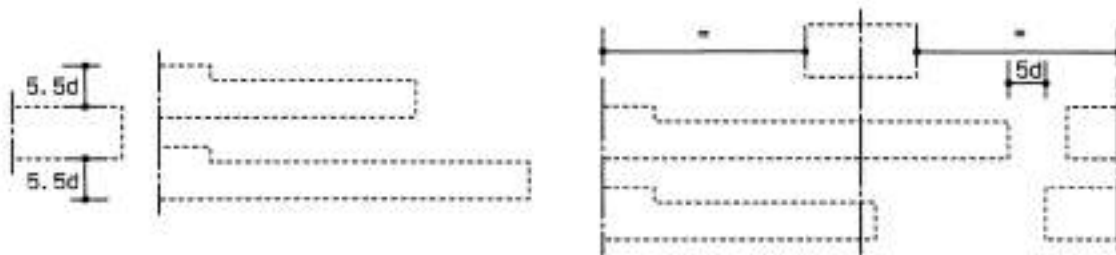
See NOTES Figure 4.21

Fig 4.20 Recommended Basic Signface Spacing Details



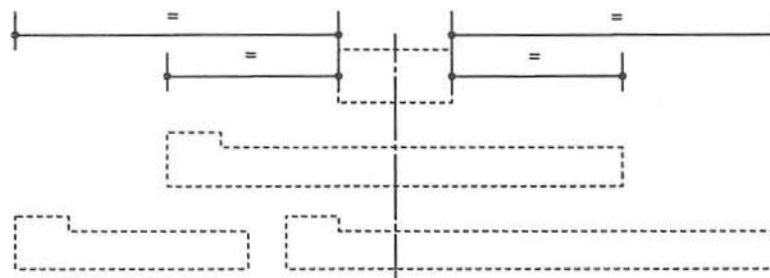
Detail 4.21.1 Stack Sign Display

Detail 4.21.2 Map-Type/Overhead Exit Display



Detail 4.21.3 Two Destinations On One Route

Detail 4.21.4 Confirmation Sign Display

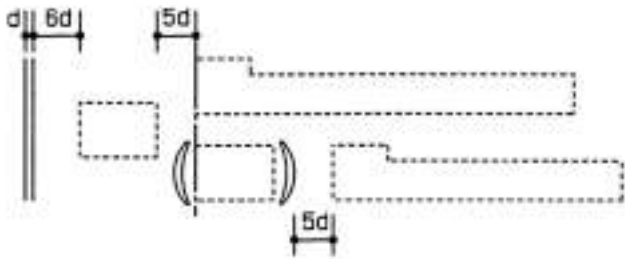


Detail 4.21.5 Overhead Through Destination - Centred Display

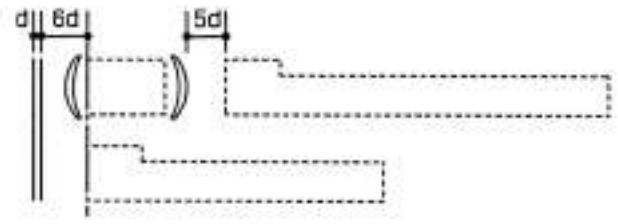
Fig 4.21 Recommended Basic Justification Principles

NOTES: (Figures 4.20 and 4.21)

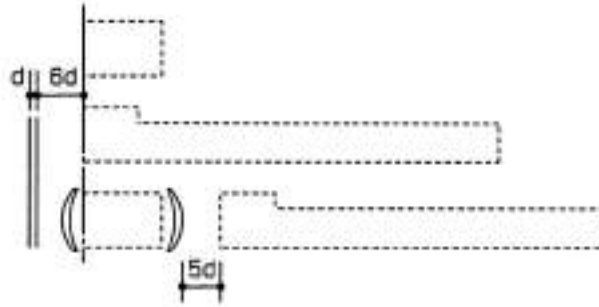
- (1) Basic vertical and horizontal spacings are given for letter Styles "A" and "B" in Detail 4.20.1. There are many additional standard dimensional values detailed in Volume 4.
- (2) Horizontal spacings are less for Style "A" than Style "B". All vertical and horizontal spacings are reduced for TOURISM and LOCAL DIRECTION signs even when Style "B" is specified.
- (3) Exit displays on overhead signs conform to the pattern of map-type sign displays. Through destination displays on overhead signs may be left justified as in Details 4.21.2 and 4.21.3 or centred as in Detail 4.21.5.
- (4) All lines of text justification are shown as:
- (5) In Detail 4.20.2 arrow type numbers are indicated in brackets after the appropriate "d" dimension.
- (6) Examples showing brackets are given in Figure 4.22 and those with symbols are given in Figure 4.25.



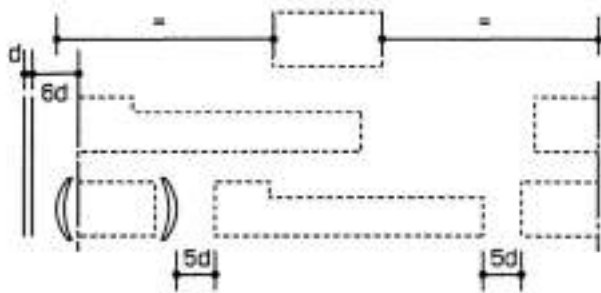
Detail 4.22.1 "Indirect" Route Off Another Route



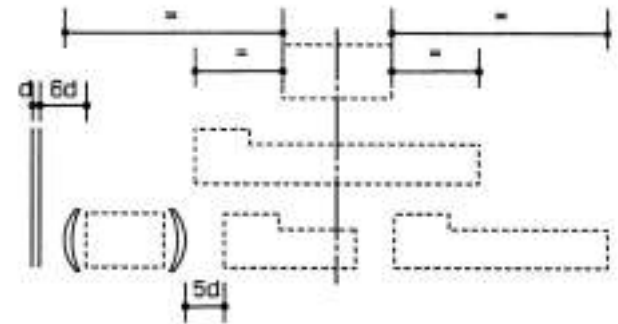
Detail 4.22.2 "indirect" Route Number Only



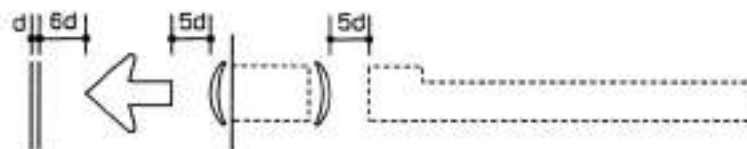
Detail 4.22.3 Map-Type/Overhead Exit Display



Detail 4.22.4 Confirmation Sign Display



Detail 4.22.5 Overhead Through Destination Display



Detail 4.22.6 Increase to Full Spacing When Next to Arrow

See NOTES - Figure 4.23.

Fig 4.22 Recommended Treatment for "Indirect" Route Numbers

(R42) Delmas

Detail 4.23.1 Brackets for "Indirect" Route

Coins/Cards

Detail 4.23.2 Slash (Toll Route)

Xai-Xai

Detail 4.23.3 Hyphen - Place Name

Mosi-oa-
tunya

Detail 4.23.4 Hyphen - Tourism Sign
"Wrap-Around"

N'datatando

Detail 4.23.5 Apostrophe - Place Name

3,5 km

Detail 4.23.6 Comma - Decimal Distance

N&W

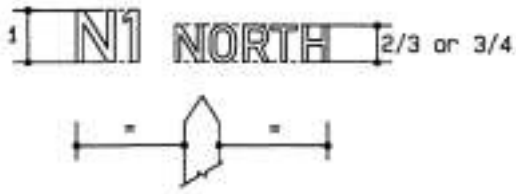
Detail 4.23.6 Ampersand (example- two cardinal directions)

Fig 4.23

Punctuation

NOTES: (Figures 4.22 to 4.23)

- (1) "Indirect" route number examples given in Figure 4.22 show "worst case" situations close to a sign edge border or arrow. Many other situations which result in no significant reduction in spacing may occur.
- (2) The punctuation examples in Figure 4.23 are representative. If a need arises for a form of punctuation not illustrated the spacing should be derived from the most similar example. Details of special spacings between punctuation marks and letters or words are given in Volume 4, Chapter 11.
- (3) Cardinal directions should only be used with route numbers on PRE ADVANCE DIRECTION signs GA1 or GC1, or on MAP-TYPE DIRECTION signs GDS to GD9 in confined urban situations as shown in Figure 4.24.
- (4) The figure following a comma in a decimal distance display should be 2/3 to 3/4 of the height of the "kilometre" figure height. The stroke width of this decimal figure will therefore be thinner than other letters and figures used.



Detail 4.24.1 Cardinal Direction (Straight-on)



Detail 4.24.2 Cardinal Direction (Left or Right)



Detail 4.24.3 Cardinal "Area"



Detail 4.24-4 Cardinal Direction as Part of a Destination Name (example- Tourist Destinations)

NOTES:

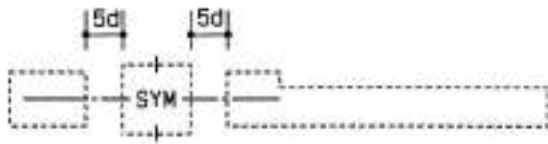
- (1) Cardinal directions displayed with route numbers shall be yellow uppercase text and may be reduced in height to 2/3 to 3/4 of the letter height of the route number (see Details 4.24.1 and 4.24.2).
- (2) Cardinal directions may also be used to indicate the division of an area or town. In this case the text shall be white uppercase, and shall be placed within brackets. The letter size may be reduced to 2/3 or 3/4

of the main letter height (see Detail 4.24.3).

- (3) Detail 4.24.4 illustrates examples of tourist destinations which include cardinal directions in the place name. In this case the text should be white and in normal sized upper/lowercase lettering.
- (4) In the above details a letter height factor "1" equates to "7d" and a factor "2/3" or "3/4" equates to "7d**".

Fig 4.24

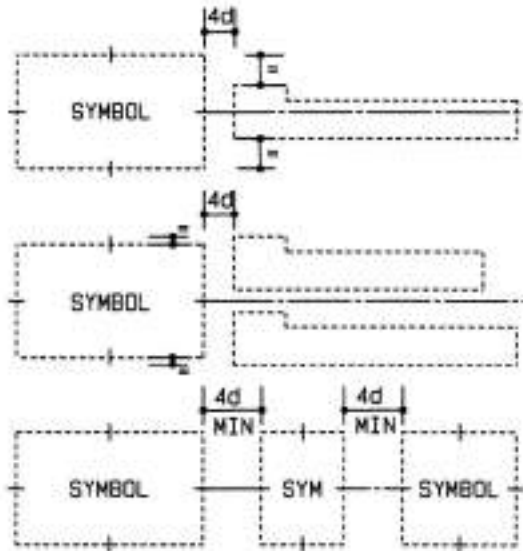
The Use of Cardinal Directions or Areas



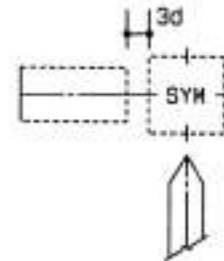
Detail 4.25.1 Symbol with Route Number and Destination



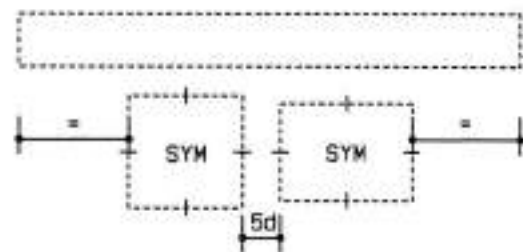
Detail 4.25.2 Symbol with Destination



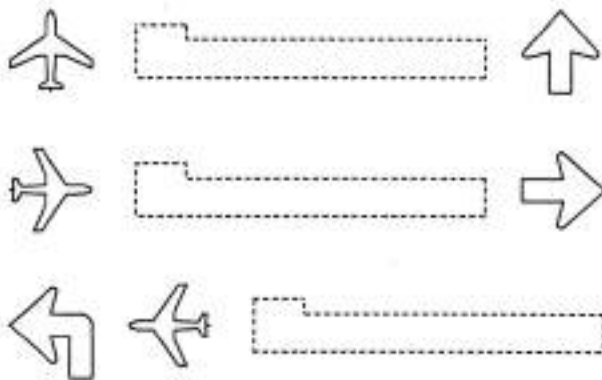
Detail 4.25.4 Tourism Sign Symbols



Detail 4.25.3 Symbol Straight-on on Map-Type Sign



Detail 4.25.5 Symbol with Location Name



Detail 4.25.6 Orientation of Airport Symbol

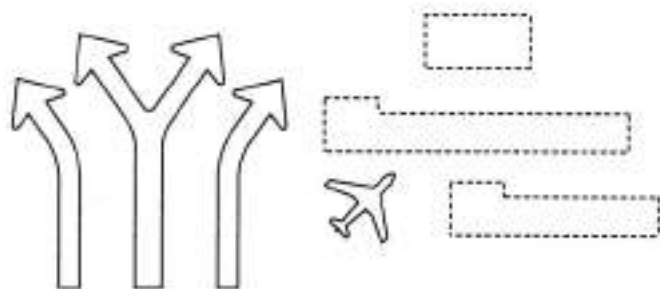
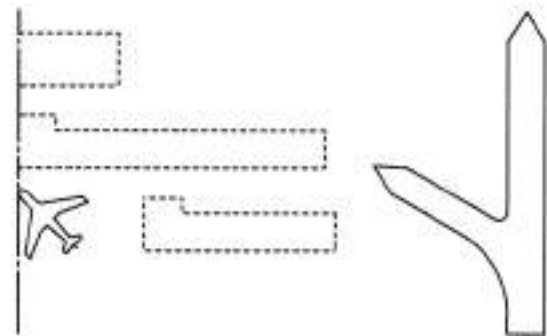


Fig 4.25

Symbol Positioning and Orientation

4.4 DETERMINATION OF LETTER SIZES

4.4.1 General

- 1 In order that guidance signs displaying text in the form of letters, numerals, and punctuation marks may be adequately designed to fulfil their function, the size of text to be used on the sign must be determined according to a number of factors.
 - 2 The adequacy or otherwise of a specific letter size to enable drivers to read guidance sign messages in the shortest possible time has been the subject of much research in many countries. Many factors affect the results of such research, not least of which relate to the physical characteristics of the driver population of a specific country.
 - 3 **The methods covered in this section and the values accepted for various variables have been derived jointly from local and overseas research. Research is likely to continue and in time refinements to the factors and principles involved may result.**
 - 4 The characteristics of the DIN 1451 Part 2 letter Styles "A" and "B" are covered in paragraph 4.1.1.7, Figure 4.4, Subsection 4.1.5, and Figure 4.16. Since the letter style is fully proportional it may be reproduced to any letter height by factoring the basic letter sizes of 112 mm (uppercase) and 80 mm (lowercase). In practice it has been found advantageous to standardise on eight pairs of sizes of letters, although this does not preclude the use of other sizes. It should be noted, however, that manufacturers are only likely to carry dies relating to the standard sizes. New sets of dies are costly to produce and are not warranted for non-standard letter sizes unless large numbers of letters are required. Letters can be cut to any size from vinyl or retroreflective materials by computerised cutting machines. This latter technique is particularly cost effective for small letter sizes. The standard letter sizes for use on guidance signs are:

112/80 mm, 140/100 mm, 175/125 mm, 210/150 mm, 280/200 mm, 350/250 mm, 420/300 mm, and 490/350 mm.

These metric sizes bear no relationship to former imperial (inch) sizes used on guidance signs.
 - 5 Smaller letter sizes will be required for use on STREET NAME signs GL1. The selection of letter sizes for STREET NAME signs is not linked to the message displayed. Recommended sizes are given in Subsection 4.6.4.
 - 6 Dimensional details of letters, numerals, and punctuation marks, together with the spacing tables for the 112/80 mm base letter size are given in Volume 4, Chapter 11. This same Chapter includes full size examples of all letters, numerals and punctuation marks in Styles "A" and "B" for letter size 140/100 mm.
- factors to the effectiveness of the whole signing system are covered in Chapter 1.
- 2 The determination of an adequate height of letter in order to transfer a required guidance message to drivers is dependent on a number of factors, namely:
 - (a) the sign mounting position, i.e. ground - or side - mounted, or overhead mounted;
 - (b) the letter style used on the signface;
 - (c) legibility factor;
 - (d) the visual acuity of drivers;
 - (e) the luminance of the signface;
 - (f) whether the text will be displayed in the normal arrangement of upper and lowercase letters, or in uppercase letters only;
 - (g) the speed of traffic on the approach to the sign(s);
 - (h) the amount of information displayed on the sign;
 - (i) the horizontal and/or vertical displacement of the sign from the direction of movement of vehicles (see Figure 4.26).
 - 3 **Ground-mounted and overhead signs are dealt with in separate figures and nomograms. Warrants for the use of overhead signs are given in Section 4.1.**
 - 4 Styles "A" and "B" lowercase letters have different legibility factors. Research in South Africa has shown that, for drivers with a visual acuity of 1 the legibility factors for Style "A" letters are 0,518 metres/millimetre (m/mm) of letter height during daylight and 0,306 m/mm during the night. The equivalent legibility factors determined for Style "B" are 0,713 m/mm during daylight and 0,396 m/mm during night. Research has also shown that 85% of South African drivers have a visual acuity of 1,14 minutes of arc. On the basis of this research a legibility factor of 0,5m/mm has been adopted to derive the letter sizing nomograms. **A legibility factor of 0,5 m/mm means that a driver with a visual acuity of 1,14 can read a 100 mm high lowercase letter at a distance of 50 m.** The legibility distance at which the sign is deemed to become legible can thus be determined once a letter size is chosen. Alternatively, for a required legibility distance, a letter size may be specified. The legibility factor is also dependent on the luminance of the sign.
 - 5 **In the context of the acceptance of the value for the legibility factor of 0,5 m/mm it should be noted that drivers with a visual acuity as low as 2 may hold a drivers licence, and the night-time values of the legibility factor for both Styles "A" and "B" are below 0,4 m/mm.** It is therefore evident that every effort should be made, when designing according to the given parameters, to ensure that the luminance of signs at night is optimised. This can be achieved by one or more of the following techniques:
 - (a) the use of retroreflective materials which have higher than normal retroreflective values for the manufacture of sign letters (the luminance of the message will be improved if the luminance contrast ratio between the letters and the signface background material is kept as high as possible);
 - (b) the internal or external illumination of signs;
 - (c) control over the specification and maintenance of vehicle headlamp settings and light distribution;

4.4.2 Design Factors

- 1 The meanings of the various terms used in this section are given in Chapter 10: *Glossary of Terms*. The relationship of various factors contained in formulae used to derive nomograms from which letter sizes may be determined are illustrated in various figures and tables given, with the nomograms, at the end of this section. Further general comment on the importance of these

- (d) improved road surface reflection;
 - (e) careful placement of signs in relation to the headlamp beam pattern.
- 6 The use of text on guidance signs in uppercase letters only is reserved for very limited applications. These applications are all on LOCATION signs which utilize dark coloured letters on a light coloured background. In addition the displays are limited to a maximum of two or three "bits" of information per sign.
 - 7 Style "A" letters may be used in place of Style "B" letters under certain circumstances. If a very long name is likely to result in a lot of wasted signface area the name may be displayed in Style "A" lettering. In urban areas, where space is often limited, the use of Style "A" lettering may permit the use of a DIRECTION sign when the same sign using Style "B" lettering cannot be accommodated in the space available. **It should be borne in mind, however, that the night-time legibility factor of Style "A" lettering is some 40% below the value used for the nomograms and other standard details given.** Consideration should therefore be given to offsetting this factor by using a larger Style "A" letter size than would have been used in Style "B", or by using higher retroreflectivity materials or sign illumination.
 - 8 The action of driving depends upon the continual use of vision. **A driver's act of reading a sign should not distract his attention from the task of driving safely in the prevailing traffic conditions more than is absolutely necessary.**
 - 9 The speed of traffic on the approach to a sign, in conjunction with the legibility distance, determines the reading time available to a driver. The reading time begins at the legibility distance and ends when the sign disappears from the driver's acceptable cone of vision in either the horizontal or vertical plane. The cone of vision is determined by the horizontal or lateral displacement of a ground- or side-mounted sign and the vertical displacement of an overhead sign. The faster a vehicle travels between these two points the less time is available to a driver to read and interpret a sign. **A horizontal cone of vision of a maximum of 15° has been adopted. Research has shown that beyond 15° it becomes difficult for a driver to safely determine the alignment of the road ahead whilst reading a sign. A vertical cone of vision of 7°, based on vehicle characteristics, has been adopted.** These values are consistent with those used in other countries.
 - 10 The amount of information displayed on the signface also affects the reading time. For convenience the information can be determined as a number of "bits". "Bits" of information may comprise text in the form of easily identifiable groups such as interchange numbers and route numbers, or destination names, commonly displayed in conjunction with arrows and/or symbols of a wide range of types. **Whilst it is possible to design a sign for a specific number of "bits" of information, it is generally recommended that the maximum number of "bits" of information used on a guidance sign should be 10 "bits".** The "bit" values attached to the different signface components are detailed in Figure 4.27.
 - 11 **It should be noted that it is generally accepted that drivers' attention should not be diverted from their primary task of safe vehicle control for periods much in excess of 1,50 seconds. In order therefore to read a sign requiring 3 or more seconds, drivers will normally have to read such**

a sign with two or more eye movements. In between these sign reading eye movements the driver's eye should return to check the vehicle movement in relation to the roadway and other traffic. The checking eye movements are likely to last at least 1,0 seconds each time. The overall time that a sign should be available for reading (T) therefore needs to be increased over the reading time required (t) based on the amount of information on the signface. As a general rule it could be argued that the reading time required should be increased by up to 1,0 seconds for every 1,5 seconds of reading time required by the message. This factor should particularly be borne in mind when considering signs with over 6 "bits" of information, and also when sign reading times and/or driver reactions, in order to exit or turn, are under pressure from other factors such as the high risk of signs being obscured by traffic or a difficulty in finding gaps in traffic in order to make lane changing manoeuvres (see Chapter 1).

4.4.3 Reading Time Formulae

- 1 Determination of the reading time required (t) for a sign and the reading time available (T) has been researched in a number of countries with wide ranging results.
- 2 The formula for reading time required (Formula 1) adopted for this edition of the Manual is based on that derived by Australian researchers. The Australian formula was derived under laboratory conditions devoid of the normal distractions pertaining when driving on busy roads. **Based on South African research and experience the formula has been adapted by the addition of Distraction Factor D.** Details of the formulae and Distraction Factor D are given in Figures 4.27 to 4.30.
- 3 The values determined from Formula 1 for the reading time required for a sign relate directly to the number of "bits" of information on the sign. These are factored according to the level of driver distraction likely to be experienced on a specific road.
- 4 Formulae 2 to 5 relate to the physical characteristics of the roadway and the sign location, and to the approach speed of traffic. These formulae can be used to determine the reading time available to traffic as a result of these physical characteristics. **In order to adequately design a guidance sign, or system of guidance signs, the reading time available shall be at least equal to the reading time required for the sign message and it should preferably be greater to allow for higher than anticipated levels of distraction and other incident processing required of drivers.**
- 5 Tables 4.1 to 4.4 illustrate the relationship between reading time required (t) and the reading time available (T) for a range of speeds and letter sizes. For the purposes of these tables the signs concerned have been assumed to be ground-mounted, offset 15m from the normal line to the furthest vehicle path, and the road has been assumed to have characteristics appropriate to a Distraction Factor value of 1,25. In addition the values of legibility factor of 0,5 m/mm and limiting horizontal cone of vision of 15° have been used. For these examples the horizontal cone of vision equal to 15° results in a distance at which the sign effectively disappears from the drivers' vision of 56 m.

4.4.4 Selection of Letter Sizes

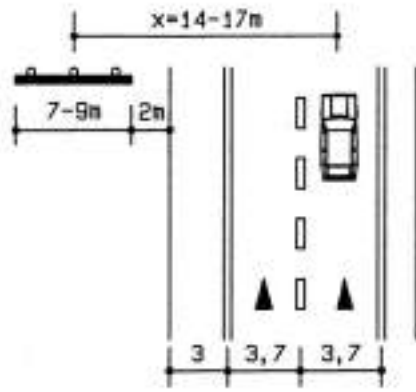
- 1 It is clearly not practical to decide on a unique letter size for each individual guidance sign which forms part of a system. In practice decisions on letter sizes should be made on a systematic basis related to the common values of the various relevant parameters prevailing within a specific guidance signing system. Thus, for example, STACK-TYPE DIRECTION signs GD2 which are primarily of interest to turning traffic travelling at reduced speeds, and located in a standard position in the far left corner of a junction, may be manufactured to one standard letter size based on either a typical message display, or the "worst case" display, provided the range of message displays is reasonably constant (up to 6 "bits" of information), and the factors mentioned are not significantly varied. Generally the letter sizes should not be reduced from the "norm" when short messages occur (2 or 3 "bits"). Consideration should, however, be given to increasing the letter size for individual signs displaying 8, 10 or more "bits" of information. There is generally sufficient flexibility in the standard sizing of letters, to permit the design of almost all signs, within a guidance sign system operated by an authority, using two or three of the standard letter sizes.
- 2 The guidance signface layout designs which have been developed and are detailed in this chapter use a number of factors which, with the necessary awareness of drivers and education by authorities, can improve on the reading times given in Formula 1. The use of specific, easily recognisable colour codes and standard positions for interchange numbers, route numbers, distances and arrows mean that these items can be located, read and comprehended more rapidly than the average rate for other, more random, parts of the sign message. In fact many decisions can be made by drivers based simply on these items of information. Alternatively the need to read a full signface in order to locate a required item of information may be avoided because the search process is reduced by standardised layouts.
- 3 Letter sizes for guidance signs may be determined using the formulae, or by using the nomograms, given in the following figures. A number of representative worked examples are given in Figures 4.36 and 4.37.
- 4 The selection of a suitable lower case letter size is a decision which is based on a compromise of a wide range of factors. In the absence of more authoritative and appropriate research the nomograms given in Figures 4.31 to 4.35 offer an effective and quick method of determining an adequate letter size for normal sign designs. If the application of a nomogram results in an example falling on the line between two letter sizes, the smaller letter size should not automatically be chosen. The following factors should be considered in making the decision whether to use the smaller or larger letter sizes
 - (a) are traffic volumes likely to increase significantly during the life of the sign? (commonly 10 years);
 - (b) does the sign have an above average number of "bits" of information? (in which case the factors considered in paragraph 4.4.2.11 are more likely to come into effect);
 - (c) are the mounting or locating circumstances of the sign significantly different to others in the system of which it forms part?
 - (d) are particularly complex manoeuvres required of drivers in reaction to the sign message?
 - (e) is there any likelihood that the characteristics of the driver population using the sign are significantly different to normal (visual acuity or reading capability)?
 - (f) is the sign likely to be illuminated?
- 5 The specific principles covered by this section (and incorporated into the nomograms) should be used individually, as appropriate, by sign designers particularly when signs with characteristics well beyond the "norms" of the basic guidance signing system provided by an authority are required. **They should also be used to check the relevant sight and reading distance aspects of more complex road geometric layouts in relation to likely sign positions and the manoeuvres required by drivers in reaction to sign messages in order to change lanes, weave, merge or exit from one route to another. The use of decision sight distance as a design "tool" is recommended under such conditions (see Subsection 4.9.2).**

TABLE 4.1		SPEED CONVERSIONS		TABLE 4.1	
km/h		m/s			
60		16,67			
80		22,22			
100		27,78			
120		33,33			

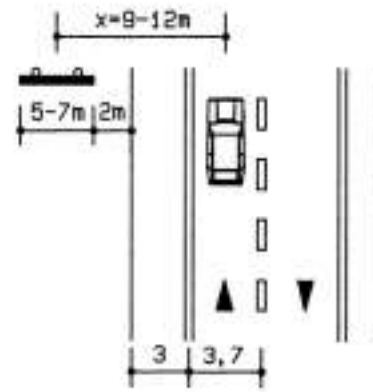
TABLE 4.2		MAXIMUM LEGIBILITY DISTANCE (dt)		TABLE 4.2	
Letter Heights (mm)		Legibility distance (m)			
175/125		62			
210/150		75			
280/200		100			
350/250		125			
420/300		150			

TABLE 4.3		READING TIME AVAILABLE (T)				TABLE 4.3	
Letter Heights (mm)	Reading distance (m)	Reading Time (sec)					
		Speed (km/h)					
		60	80	100	120		
175/125	6	0,36	0,27	0,22	0,18		
210/150	19	1,14	0,86	0,68	0,57		
280/200	44	2,64	1,98	1,58	1,32		
350/250	69	4,14	3,11	2,48	2,07		
420/300	94	5,64	4,23	3,38	2,82		

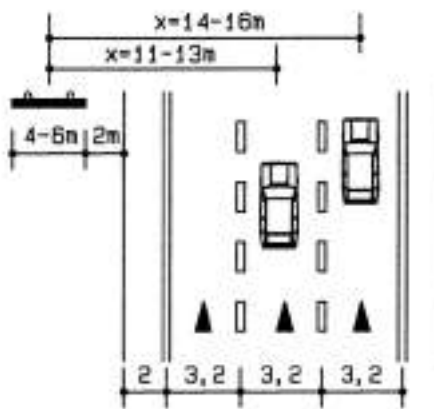
TABLE 4.4		READING TIME REQUIRED (t)		TABLE 4.4	
"Bits" of Information (N)		Reading Time (sec)			
4		1,34			
6		2,14			
8		2,94			
10		3,74			
12		4,54			



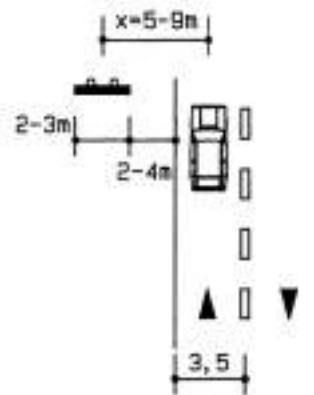
Detail 4.26.1 Lateral Displacement: Rural Class A



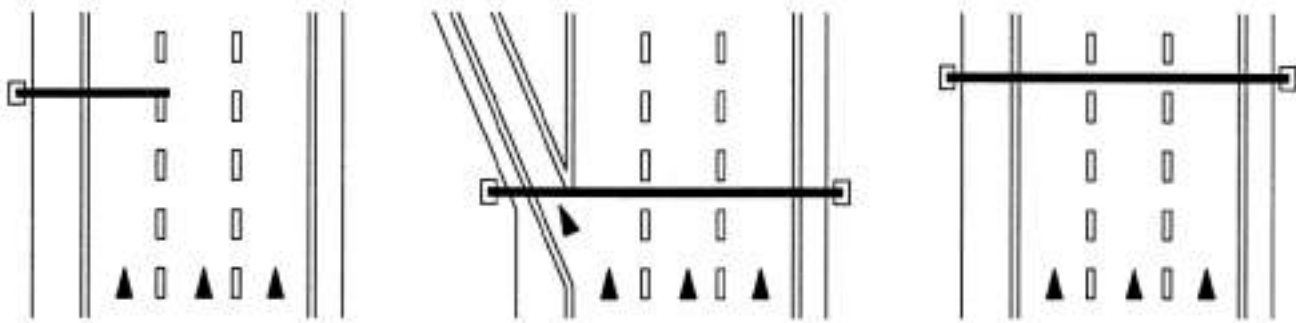
Detail 4.26.2 Lateral Displacement: Rural Class B



Detail 4.26.3 Lateral Displacement: Urban Class A or B



Detail 4.26.4 Lateral Displacement: Rural Urban Class C or D



Detail 4.26.5 Vertical Displacement of Overhead Signs: $x = 6 - 8 \text{ m}$

NOTES:

- (1) Lane dimensions given are representative only. Actual dimensions should be used to determine "x".
- (2) Values for "x" may be used in formulae in Figures 4.29 and 4.30 or in the Nomograms in Figures 4.31 to 4.35.

Fig 4.26 Lateral and Vertical Displacement of Guidance Signs

1 – Formula $t = (0,32N - 0,21)D$

where

Reading time required = t
 The quantity of information on the sign ("Bits") = N
 Distraction factor = D

and

	"Bits"	N
Words up to/including 8 letters	=	1
Words more than 8 letters	=	2
Arrow (Stack-type)	=	0,25
Route number	=	0,5
Symbol	=	0,5
Distance information	=	0,5
Interchange number	=	0,5
Map-type arrow group ⁽²⁾	=	1
Upward pointing arrow cluster (3 or more arrows) ⁽⁴⁾	=	1-2

and

	Distraction Factor	D
For straight roads with a traffic flow of less than 5 000 vehicles per day. This is also valid for urban areas with no development along the road.	=	1
For winding roads with less than 5 000 vehicles, and straight roads with a traffic flow of between 5 000 and 30 000 vehicles, per day. This is also valid for urban areas with relatively low development along the road.	=	1,25
For winding roads with between 5 000 and 30 000 vehicles per day, straight roads with more than 30 000 vehicles per day. Roads in urban areas where there is a fair number of businesses, parked vehicles, pedestrians and cyclists.	=	1,5

NOTES:

- (1) The value of "N" should be determined by adding the "Bits" for all signface components and generally rounding up to a whole number.
- (2) The "Map-type arrow group" includes the arrow, the distance and the straight-on route number.
- (3) The use of Distraction factor "0" assumes that the driver's attention may be diverted by the driving task during the reading time required for the sign.
- (4) The upward pointing arrow cluster should be increased to 2 "bits" for 5 or more arrows in a cluster. This factor EXCLUDES distance and/or route numbers which shall be added.
- (5) See Subsection 4.4.3.

Fig 4.27 Formula for Reading Time Required for Guidance Signs

2	– Formula	$d_s = \frac{x}{\tan\theta}$
3	– Formula	$d_r = 0,278 V.t$
4	– Formula	$d_t = d_r + d_s$
5	– Formula	$f_t = \frac{d_t}{h}$

where

Speed of vehicle (km/h)	=	V
Lateral or vertical displacement of sign from path of vehicle (m)	=	x
Maximum legibility distance (m)	=	d_t
Maximum reading distance (m)	=	d_r
Distance to the sign after the sign has disappeared from the driver's acceptable cone of vision(m)	=	d_s
Horizontal or vertical cone of vision (in degrees)	=	θ
Reading time required (seconds)	=	t
Reading time available (seconds)	=	T
Number of "Bits" of information	=	N
Distraction factor	=	D
Legibility factor (m/mm)	=	f_t
Lower case letter height (mm)	=	h

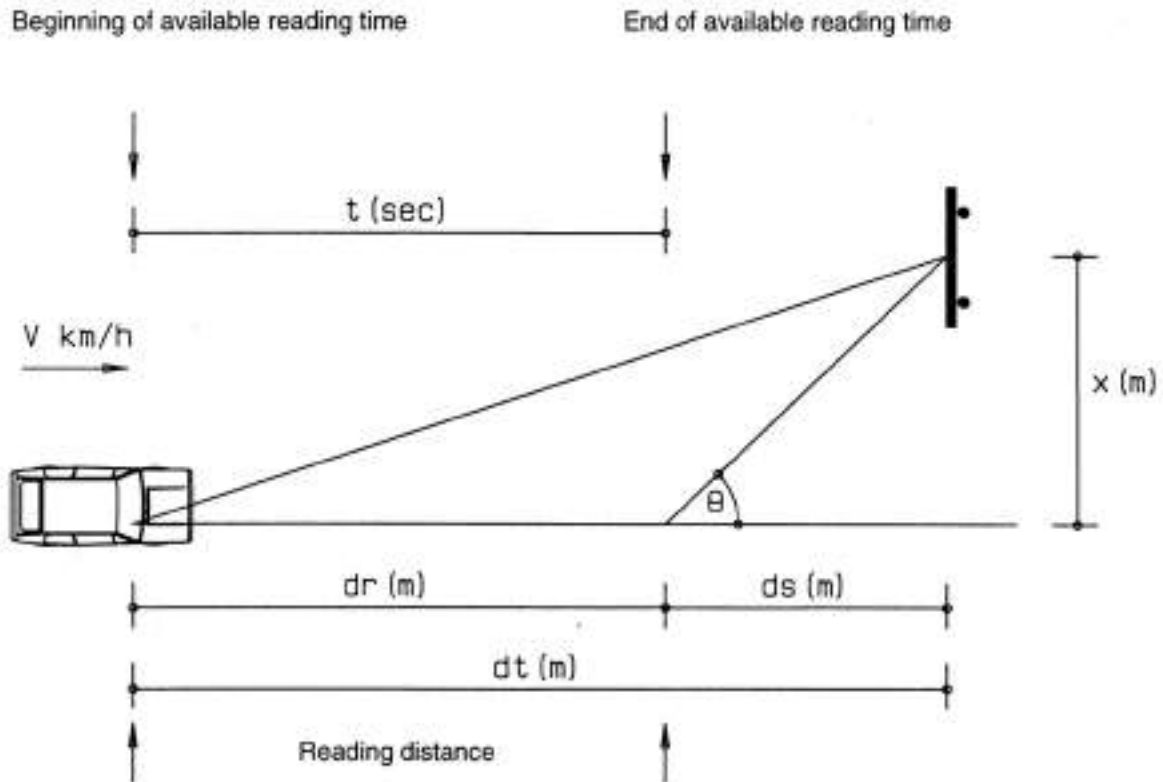
NOTES:

- (1) See Figures 4.29 and 4.30 for application of formulae to ground-mounted and overhead sign letter size determination calculations.
- (2) For overhead signs "x" is measured from the road

surface and should be reduced by the driver's eye height of 1,05 m. See Figure 4.30.

- (3) The value of "T" should be equal to or greater than the value of "t".

Fig 4.28 Formulae Used to Determine Letter Sizes



$$t = (0,32N - 0,21)D \quad - \textcircled{1}$$

$$d_s = \frac{x}{\tan\theta} \quad - \textcircled{2}$$

$$d_r = 0,278 V.t \quad - \textcircled{3}$$

$$d_t = d_r + d_s \quad - \textcircled{4}$$

from $\textcircled{1}$, $\textcircled{2}$, $\textcircled{3}$ and $\textcircled{4}$

$$d_t = 0,278 V (0,32N - 0,21)D + \frac{x}{\tan\theta} \quad - \textcircled{6}$$

$$f_t = \frac{d_t}{h} \quad - \textcircled{5}$$

when $\theta = 15^\circ$ and $f_t = 0,5$ m/mm

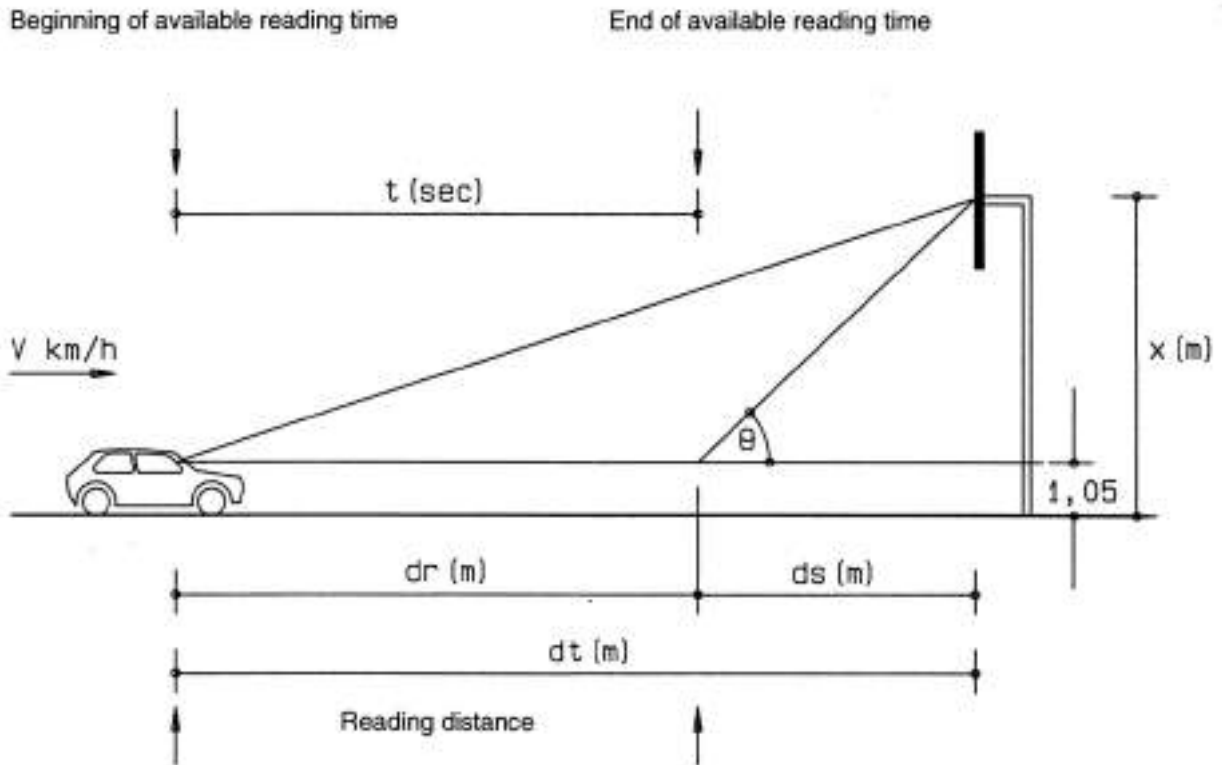
$$h = 0,556 V (0,32N - 0,21)D + 7,46x \quad - \textcircled{7}$$

NOTES:

(1) The letter size determined relates to the reading time **required** to read a specific sign. The complete sign design must ensure that this reading time is

available to drivers (see Subsections 4.4.3 and 4.4.4, and Tables 4.1 to 4.4).

Fig 4.29 Determination of Letter Sizes for Ground Mounted Signs



$$t = (0,32N - 0,21)D \quad - \textcircled{1}$$

$$d_s = \frac{(x - 1,05)}{\tan\theta} \quad - \textcircled{8}$$

$$d_r = 0,278 V.t \quad - \textcircled{3}$$

$$d_t = d_r + d_s \quad - \textcircled{4}$$

from $\textcircled{1}$, $\textcircled{8}$, $\textcircled{3}$ and $\textcircled{4}$

$$d_t = 0,278 V (0,32N - 0,21)D + \frac{x - 1,05}{\tan\theta} \quad - \textcircled{9}$$

$$f_t = \frac{d_t}{h} \quad - \textcircled{5}$$

when $\theta = 7^\circ$ and $f_t = 0,5 \text{ m/mm}$

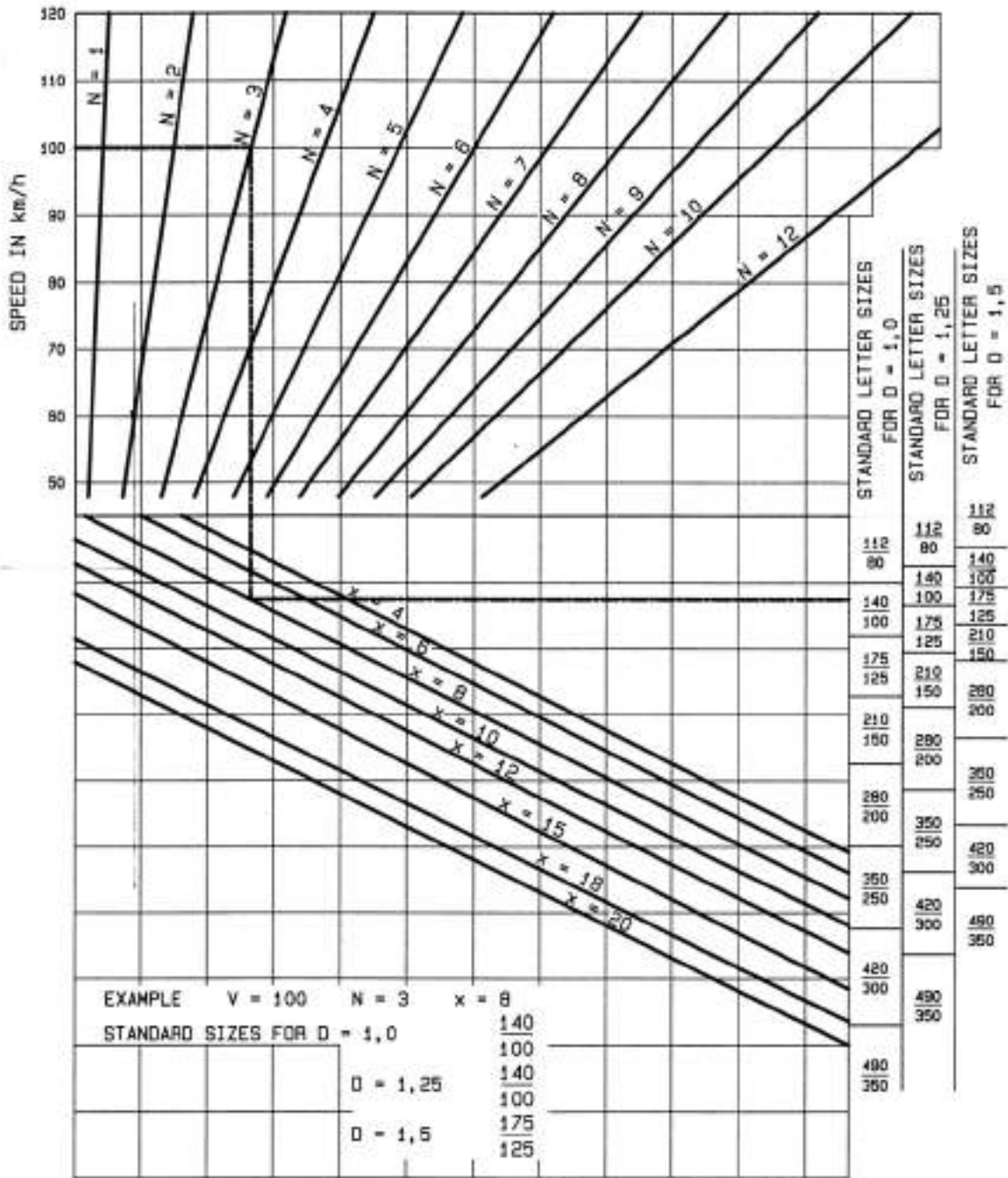
$$h = 0,556 V (0,32N - 0,21)D + 16,28x - 17,1 \quad - \textcircled{10}$$

NOTES:

(1) See Figure 4.29 and Nomograms in Figures 4.31 to 4.35.

Fig 4.30 Determination of Letter Sizes for Overhead Signs

$$h = 0,556 V(0,32N - 0,21)D + 7,46x - \textcircled{7}$$

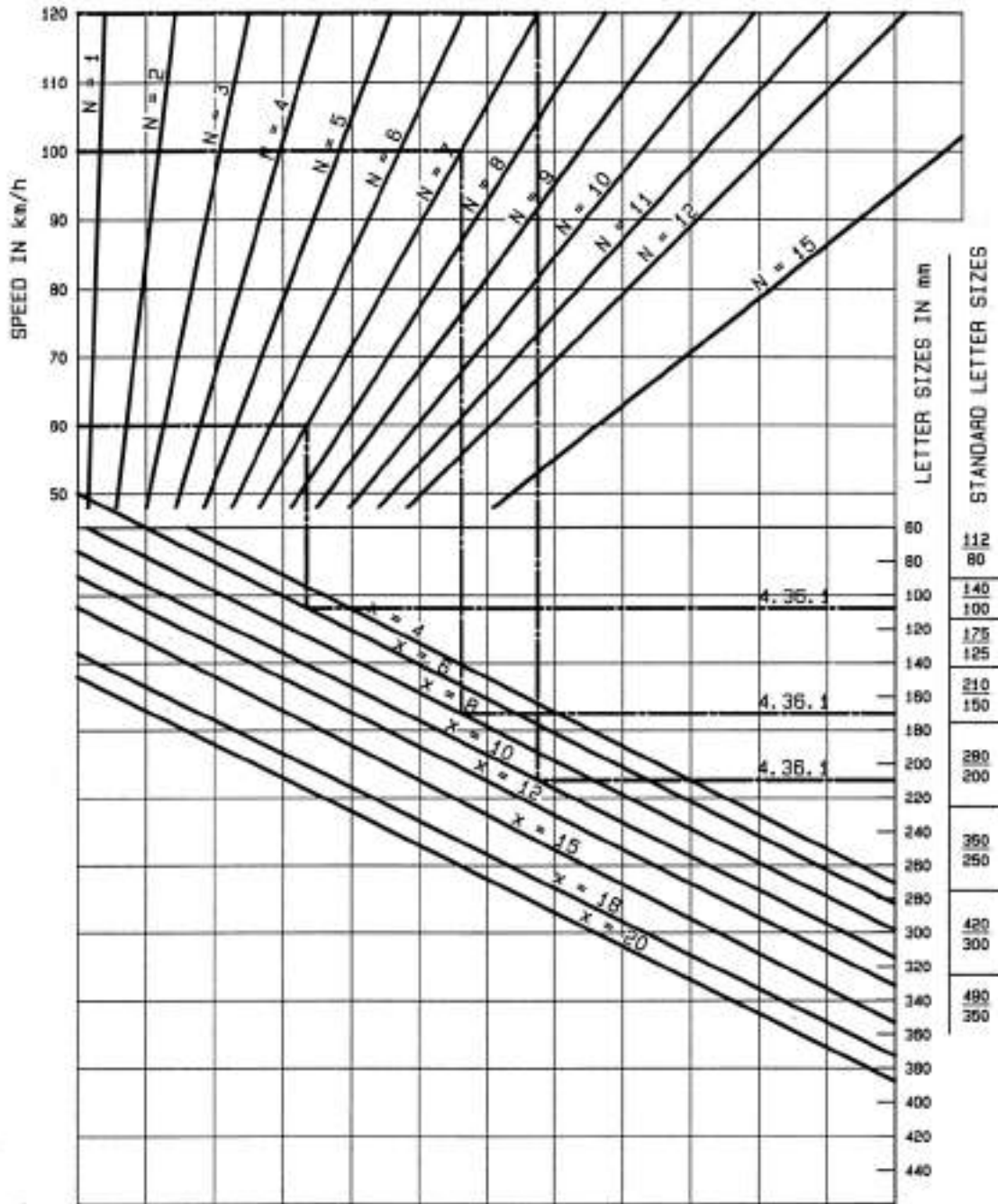


NOTES:

- (1) Worked example shown in chain dot line.
- (2) See Figures 4.32 to 4.35 for further nomograms.
- (3) Details relating to various factors "x", "-o", "N", etc. and formulae used to derive the nomogram are given in Figures 4.26 to 4.30.

Fig 4.31 General Nomogram for Determination of Letter Sizes: Ground Mounted Signs

$$h = 0,556 V(0,32N - 0,21) 1,0 + 7,46x - \textcircled{7}$$



NOTES:

(1) Details relating to various factors "x", "N", etc. and formulae used to derive the nomogram are given in Figures 4.26 to 4.30.

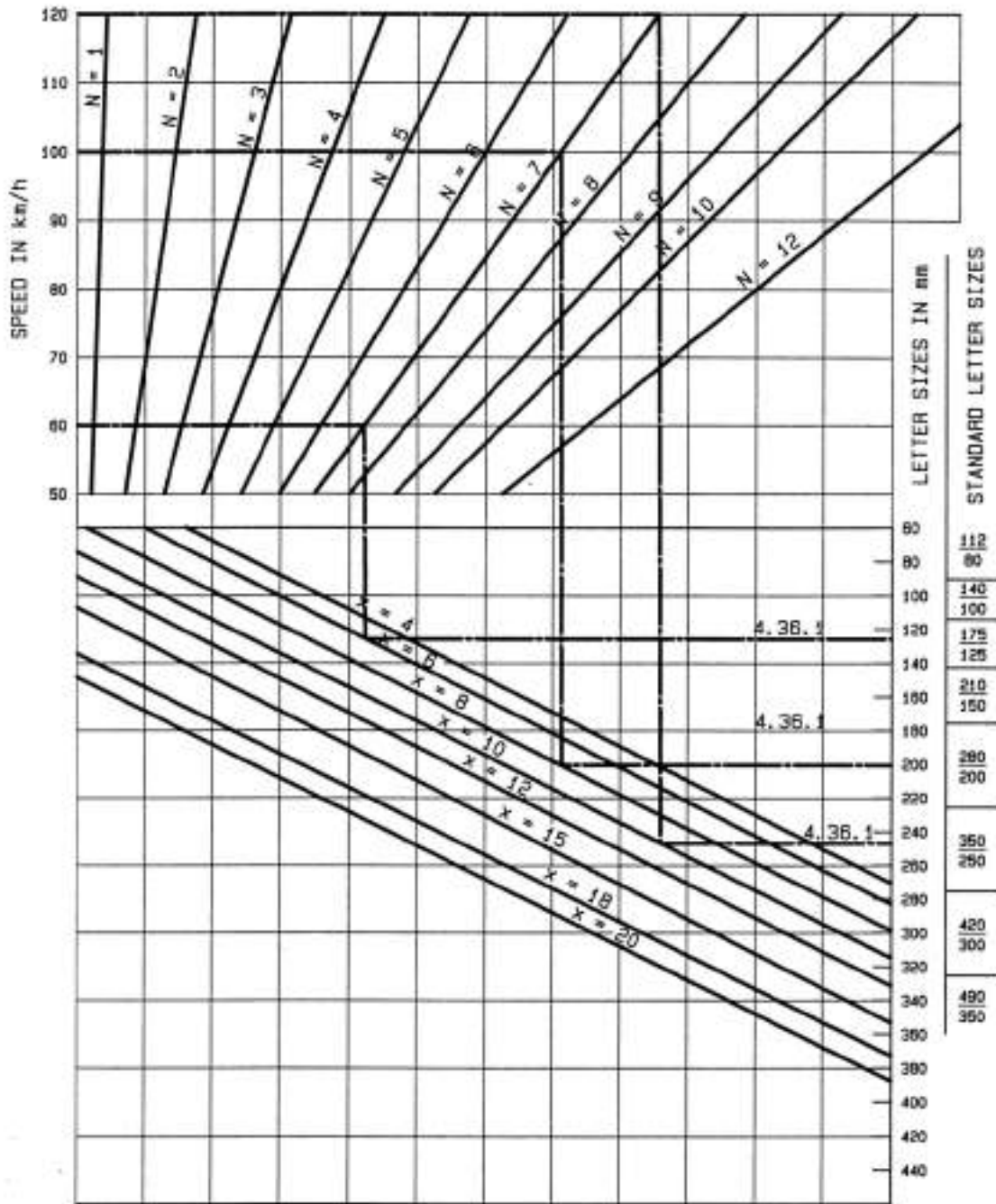
(2) For further nomograms see Figures 4.31 and 4.33 to 4.35.

(3) Examples plotted are detailed in Detail 4.36.1. See rear of Manual binder for blank copies of nomograms.

Fig 4.32

Nomogram for Determination of Letter Sizes :
Ground Mounted Signs - Factor D = 1,0

$$h = 0,556 V(0,32N - 0,21) 1,25 + 7,46x - \textcircled{7}$$



.Q

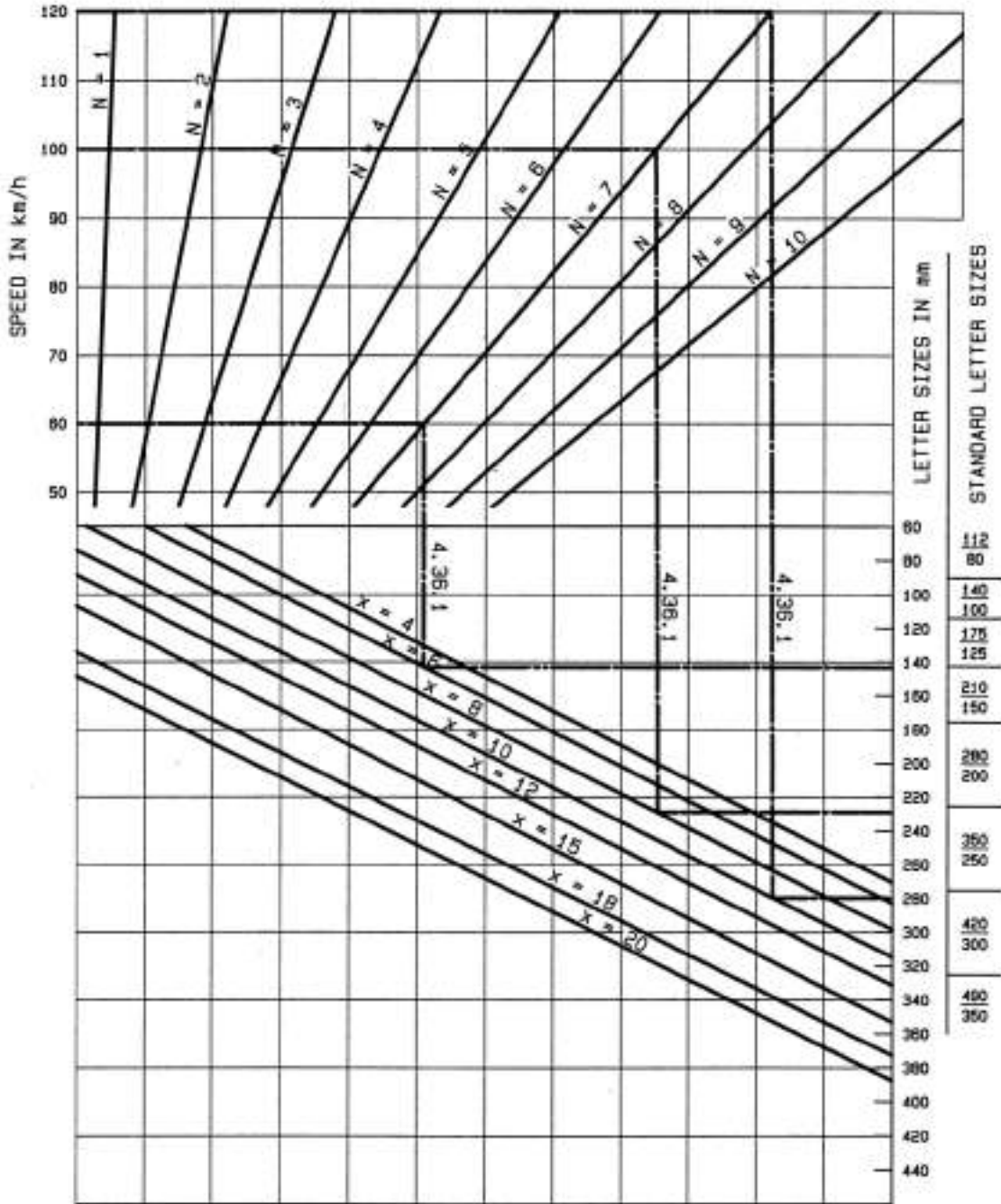
NOTES:

- (1) Details relating to various factors "x", "0", "N", etc. and formulae used to derive the nomogram are given in Figures 4.26 to 4.30.
- (2) For further nomograms see Figures 4.31, 4.32, 4.34 and 4.35.
- (3) Examples plotted are detailed in Detail 4.36.1. See rear of Manual binder for blank copies of nomograms.

Fig 4.33

**Nomogram for Determination of Letter Sizes =
Ground Mounted Signs - Factor D = 1,25**

$$h = 0,556 V(0,32N - 0,21) 1,5 + 7,46x - \textcircled{7}$$



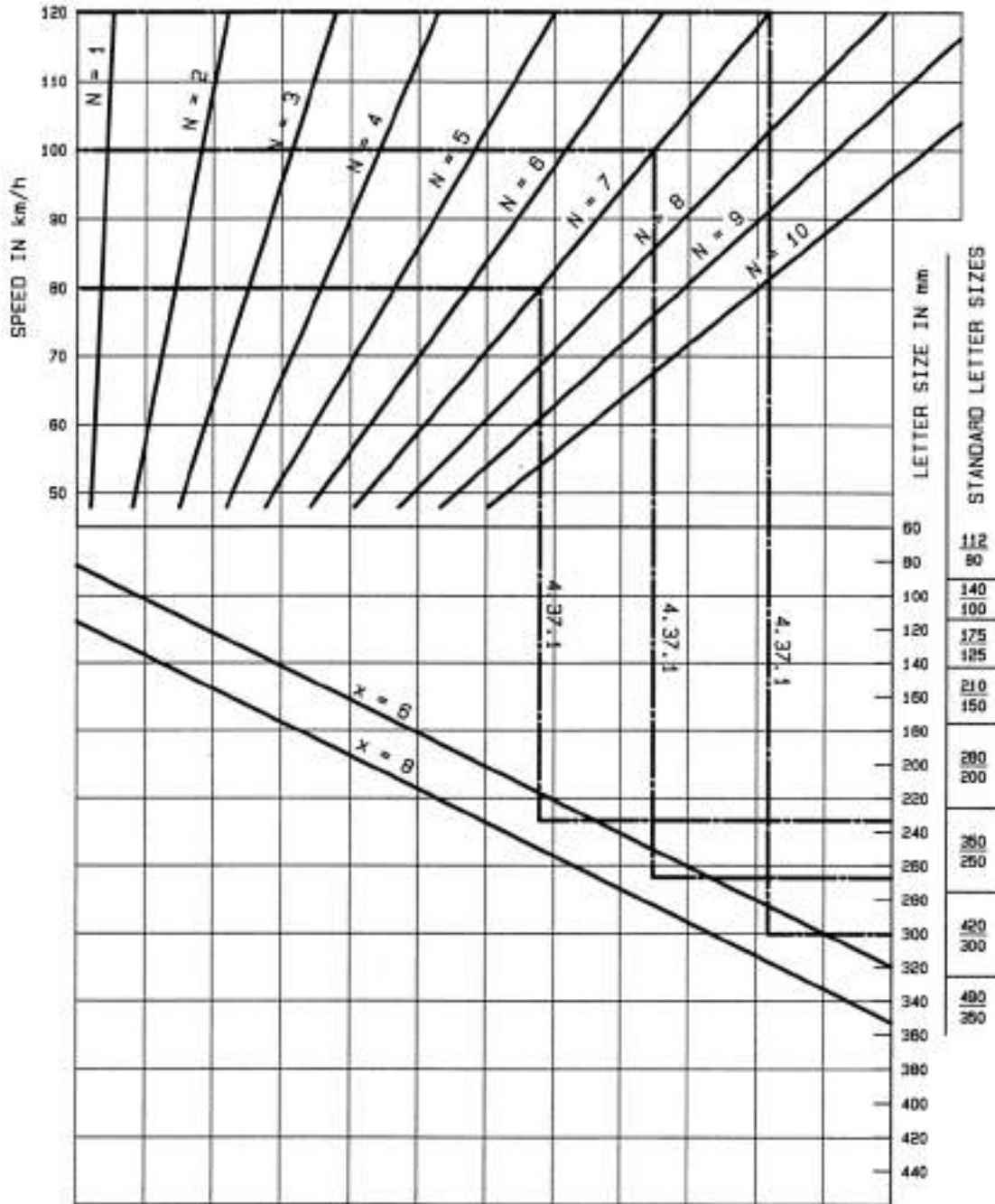
NOTES:

- (1) Details relating to various factors "x", "D", "N" etc. and formulae used to derive the nomogram are given in Figures 4.26 to 4.30.
- (2) For further nomograms see Figures 4.31 to 4.33 and 4.35.

- (3) Examples plotted are detailed in Figure 4.36. See rear of Manual binder for blank copies of nomograms

Fig 4.34 **Nomogram for Determination of Letter Sizes - Ground Mounted Signs - Factor D0**

$$h = 0,556 V(0,32N - 0,21) 1,5 + 16,28x - 17,1 - \textcircled{7}$$



NOTES:

- (1) Details relating to various factors "x", "D", "N", etc. and formulae used to derive the nomogram are given in Figures 4.26 to 4.30.
- (2) See Figures 4.31 to 4.34 for further nomograms.
- (3) Examples plotted are detailed in Figure 4.37. See rear of Manual binder for blank copies of nomograms.

Fig 4.35

Nomogram for Determination of Letter Sizes:
Overhead Signs - Factor D = 1,50

TABLE 4.5 RECOMMENDED LETTER SIZES - RURAL SIGNS TABLE 4.5

Road Class		Operating Speed (km/h)	Sign Displacement X(m)	Letter size (mm)	
Overhead	Ground Mounted			Direction	Tourism
A1		120	8 (2-3)	490/350	
	A1,A2	120	15 (2)	350/250	280/200
8		100	8 (2-3)	420/300	
	8,C	120	8 (1)	280/200	210/150
	8,C,D	100	8 (1)	280/200	175/125
8		80	8 (2-3)	350/250	
	8,C,D	80	8 (1)	210/150	175/125

For D=1,0 N=8(Direction) N=S(Tourism) D=1.5(Overhead)

TABLE 4.6 RECOMMENDED LETTER SIZES - URBAN SIGNS TABLE 4.6

Road Class		Operating Speed (km/h)	Sign Displacement X(m)	Lettersize (mm)	
Overhead	Ground Mounted			Direction	Tourism
A1		100	8 (2-3)	350/250	280/200
	A1	100	15 (3)	350/250	280/200
A1		80	8 (2-3)	350/250	210/150
	A1	80	15 (3)	350/250*	210/150
8		80	8 (2-3)	350/250	210/150
	B,C	80	13 (2)	280/200	210/150
8		60	8 (2-3)	280/200	210/150
	8,C	60	9 (2)	210/150	140/100
	8,C,D	60	6 (1)	175/125	140/100*
	8,C,D	50	6 (1)	175/125*	112/80

For D=1,5 N=6(Direction) N=3(Tourism) D=1.5(Overhead)

Where * =Next lower letter size is optional.

NOTES:

- (1)The letter sizes given here are for specific values of "D", "N" and "X"-consult the nomograms for different values.
- (2) Guidance sign design for a complex traffic environment shall include a check on the required reading time and a review of the letter size (see Subsections 4.4.2 and 4.4.3).
- (3) The number of lanes used to derive values of "X" is indicated in brackets thus (2).

Detail 4.36.1



N = 7

V	x	D = 1	D = 1,25	D = 1,5
120	10	280/200	350/250	420/300
100	8	210/150	280/200	350/250
60	6	140/100	175/125	210/150

Fig 4.32 Fig 4.33 Fig 4.34

Detail 4.36.2



N = 5

V	x	D = 1	D = 1,25	D = 1,5
100	4	140/100	175/125	210/150
60	4	112/80	140/100	175/125

Fig 4.32 Fig 4.33 Fig 4.34

Detail 4.36.3



N = 9

V	x	D = 1	D = 1,25	D = 1,5
60	5	175/125	210/150	210/150

Fig 4.32 Fig 4.33 Fig 4.34

Detail 4.36.4



N = 6

V	x	D = 1	D = 1,25	D = 1,5
120	13	280/200	350/250	350/250
100	13	280/200	280/200	350/250
80	16	280/200	280/200	350/250

Fig 4.32 Fig 4.33 Fig 4.34

NOTES:

- (1) Letter sizes derived from appropriate nomogram.
- (2) Details 4.36.2 and 4.36.3 will normally be mounted

almost straight ahead of approaching traffic, resulting in low values of "x".

Fig 4.36

Worked Examples: Ground-Mounted Signs

Detail 4.37.1



N = 7		
V	x	D = 1,5
120	7	420/300
100	7	350/250
80	7	350/250

Fig 4.35

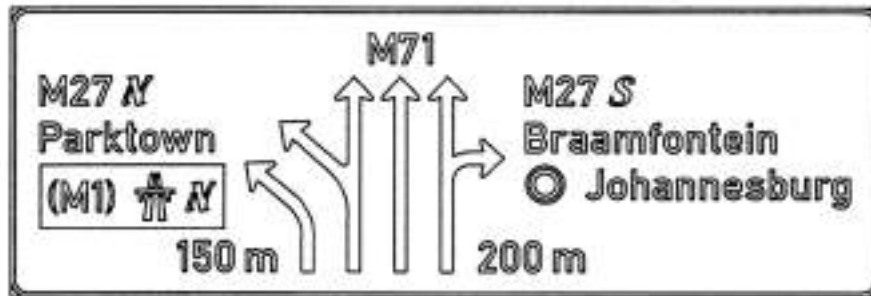
Detail 4.37.2



N = 5		
V	x	D = 1,5
120	7	350/250
100	7	280/200
80	7	280/200

Fig 4.35

Detail 4.37.3



N = 10		
V	x	D = 1,5
100	6	490/350 ⁽²⁾
80	6	420/300
60	6	350/250

Fig 4.35

NOTES:

- (1) Letter sizes derived from appropriate Nomogram.
- (2) Value extrapolated from Fig 4.35.
- (3) Arrows in Details 4.37.1 and 4.37.2 treated as Stack-type arrows to derive "N".

Fig 4.37 Worked Examples: Overhead Signs

4.5 URBAN GUIDANCE SIGNING

4.5.1 General

- 1 The guidance signing system has been developed around rural needs and extended to cover additional needs of urban, and peri-urban, environments. As such, certain sign types, or "tools" of the system, are more commonly used in urban areas i.e. LOCATION signs, which include STREET NAME signs GL1 and SUBURB NAME signs GL2, and which have the specific function of making road users aware of where they are (which, if they have navigated successfully, could be where they actually want to be). The ultimate result of this state of affairs, when taken in the context of large urban or metropolitan areas in particular, is that there is a wide range of optional levels of guidance signing available for application in such areas. This section has been included to assist those responsible for providing guidance signs in urban areas approach their task in a structured manner (see also Volume 2, Chapter 9: *Urban Guidance Signing*, which covers specific levels and applications in detail).
- 2 The following sign types make up the guidance sign class, and an urban guidance signing system is based on their use:
 - (a) LOCATION signs in the GL series;
 - (b) ROUTE MARKER signs in the GE series-including TRAILBLAZER signs;
 - (c) DIRECTION signs in the GO series;
 - (d) FREEWAY DIRECTION signs including the GA, GB and GC series;
 - (e) LOCAL DIRECTION signs in the GDL series;
 - (f) TOURISM DIRECTION signs in the GF series;
 - (g) DIAGRAMMATIC signs in the GS series;
 - (h) PEDESTRIAN signs in the GP series; and
 - (i) TOLL LOCATION and DIRECTION signs, which are variations specifically for toll route use.
- 3 The design and application of guidance signs in urban areas requires a disciplined approach to the understanding and putting into effect of the following basic principles (see Section 1.1.9 for fuller details):
 - (a) navigation (see Chapter 8);
 - (i) primary aids (see Figure 4.3);
 - (ii) sign information function:
 - (b) system efficiency:
 - (i) functional requirements;
 - (ii) criteria to meet these functional requirements;
 - (c) signface design function:
 - (i) clear and simple message transfer to road users;
 - (ii) message transfer factors;
 - (d) information display:
 - (i) use symbols where possible;
 - (ii) display a standard amount of information in a standard way;
 - (iii) limit the total amount of information.
- 4 In the urban context road users can broadly be considered to fall into one of two categories:
 - (a) regular or familiar users of the road network (commuters);
 - (b) strangers.
- 5 The guidance signing system is primarily provided for the latter category of user. "Strangers" can be considered to include:
 - (a) long-distance travellers passing through or making use of the services in an urban area;
 - (b) commercial drivers collecting and delivering goods;
 - (c) local residents in a part of the urban area outside the sphere of influence of their normal commuting activities.
- 6 In order to satisfy the needs of these "strangers" the guidance signing system must display destinations which will be effective. It is not an easy task, particularly in a large urban area, to select appropriate destination names. The destination selection process (see also Chapter 8), must take account of the need to:
 - (a) provide adequate navigational orientation;
 - (b) consider the proximity of other potentially familiar destinations;
 - (c) recognise the importance of :
 - (i) regional centres of economic activity;
 - (ii) traffic generators;
 - (iii) concentrations of population;
 - (iv) transient tourist population;
 - (v) (terminal) junctions of numbered routes.
- 7 Practitioners should beware of dealing with the task of destination selection in an urban area in too parochial a manner. In particular, destinations which may appear correct on an historical basis, may have little orientational value to a stranger. A more effective end product is likely to result from an assessment of candidate destinations from the perspective of the driving seat of a stranger.
- 8 It is an accepted principle of the development of "on-trip" aids to navigation that they cannot be expected to function effectively without up-to-date maps being available to strangers, and, that strangers are prepared to make use of such maps. It is therefore of fundamental importance that the guidance signing system and the maps correlate accurately. To this end map-makers must be kept aware of detail changes to the system.
- 9 In addition to liaison with map-makers, urban authorities must be prepared to take steps to create awareness amongst road users of the principles upon which their guidance signing system is built. If the urban area is large, or is a major tourist centre, the effort to create awareness may need to be conducted at a national level.
- 10 In order to create an effective urban guidance signing system attention must be given to a detailed classification of the urban street network (see Figure 1.4 and Subsections 4.5.3 and 4.5.5).
- 11 The principles used throughout this Manual, and specifically in developing the concepts covered in this section, are based on an awareness of the human factors involved (see Section 1.7), and on the road

safety philosophy of "positive guidance" (see Section 1.8). Those practitioners dealing with guidance signing in urban areas are recommended to familiarise themselves with these subjects.

- 12 Outdoor advertising (see Section 1.9) can have a particularly adverse effect on guidance signing systems if it is permitted to compete directly for driver's attention in the areas commonly used to locate guidance signs. For this reason urban authorities should, in formulating control policies for outdoor advertising, pay particular attention to potential conflicts between advertising signs and guidance signs. (The South African Department of Environmental Affairs and Tourism has recently published a manual called "*The South African Manual for Outdoor Advertising Control*" (SAMOAC), which is relevant and recommended.)

4.5.2 Concept of Urban Guidance Signing

- 1 When drivers undertake a journey through or into an area with which they are not familiar they invariably require assistance in the form of navigational aids in order to reach their final destination safely and with minimum disruption to other traffic. Information needed in order to navigate successfully through the road network should be obtained initially before starting the journey from maps, road reports or from directions given in the form of written or verbal messages, AND whilst on the journey from roadside aids. **These roadside aids comprise the guidance sign class.**
- 2 A journey may start in one urban area, proceed primarily through rural areas but pass through varying sizes of town on the way, and end in another urban area. Alternatively a journey into an unfamiliar area may occur wholly within a large metropolitan area. The potential need on such journeys to navigate through several changes of direction is normally much greater in an urban area than in a rural area. This need is catered for by urban guidance signs.
- 3 Urban guidance signs are used to give directional information to assist drivers to proceed in the correct direction at a junction during their journey. They are also used to give reassurance after turns have been made and to identify "landmarks" along the way. In particular urban guidance signs must identify the final destination on the journey in the form of a street name and some form of property identification.
- 4 The amount of guidance signing provided in an urban area will tend to vary according to the position of the particular street within the urban street network hierarchy, although other factors do affect the signing level.
- 5 Urban guidance signing as a signing system is structured in a hierarchical manner into primary and secondary levels, supplemented as necessary by tourism and local direction signs. **The destinations used on primary and secondary level signs provide directional orientation to drivers, whereas the destinations on tourism and local direction signs should be only of supplementary significance at a local signing level.**
- 6 The whole process of providing road traffic signs has been structured in an orderly manner to assist those who provide the signs, signals and markings to do so in terms of the overall signing system objectives of conformity, accuracy, uniformity, consistency and continuity. Within this overall system guidance signs, and particularly urban guidance signs, have developed a structured hierarchy. This structured approach is demonstrated in the form of "layers" of guidance information as they are represented to drivers in Figure 4.3.
- 7 The most important group, that of DIRECTION signs, within their own group conform to a hierarchy which is demonstrated to road-users in the form of a sign background colour code. In this way direction signs used at the highest level in the road network have a blue background colour and those at lower levels have a green background. In addition to this basic hierarchy supplementary direction may be given, **subject to the appropriate warrants**, for local destinations on white signs or for tourist destinations on brown signs. At the local level in the urban road network local and/or tourist direction signs may be the only direction signs provided (see Section 4.0).
- 8 There is also an established hierarchy for the information that appears on direction signs. This is illustrated in Figure 4.38 and listed below:
 - (a) primary information - street name or other locational information and, when appropriate, route numbers;
 - (b) secondary information- orientation destinations;
 - (c) tertiary information - supplementary local and/or tourist destinations.
- 9 In addition there is a further hierarchy which is relevant to the level of urban guidance signing to be used, namely the urban street classification. (All these different levels of importance are covered in greater detail in Volume 2, Chapter 9.)
- 10 The most important overall objective of this section is to establish urban guidance signing practices which will allow all sizes of urban authority to establish an "**Urban Guidance Signing Plan**" for their town or city.
- 11 Such "**Urban Guidance Signing Plans**" will vary in detail according to the position occupied by the town in the regional, provincial or national road network. They should also offer an affordable, staged implementation plan which should concentrate on the basic requirements first whilst always aiming for the ultimate goal of as close to perfect an urban guidance signing system as possible.

4.5.3 Urban Street Hierarchy

- 1 In planning and traffic engineering terms roads tend to be categorised according to the mobility they provide for traffic or the accessibility they offer to users of the road network. **These concepts are just as appropriate to the consideration of a classification for urban streets for signing purposes since most urban streets cater for both functions, with one predominating over the other to varying degrees.** Urban streets have been classified in a number of different ways in the past for different purposes. In order to establish a structured approach to the provision of urban guidance signing it is necessary to determine a classification system for urban streets which can be related to preferred levels of guidance signing. **It should be noted, however, that under typical urban conditions the ability to provide direction signs, or not, is dictated as frequently by the availability, or otherwise, of space to accommodate the signs, as it is by the requirement to conform to a particular preferred signing treatment.**

1. SIGN INFORMATION

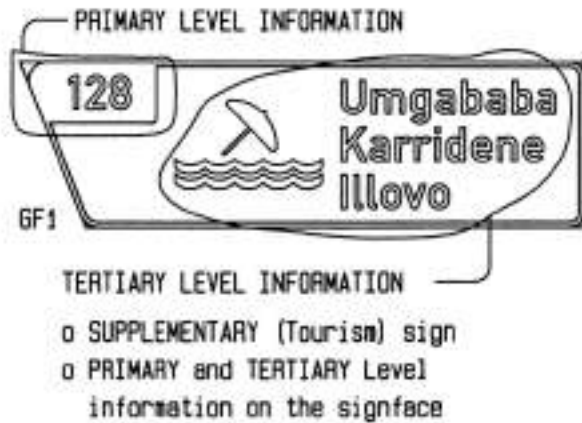
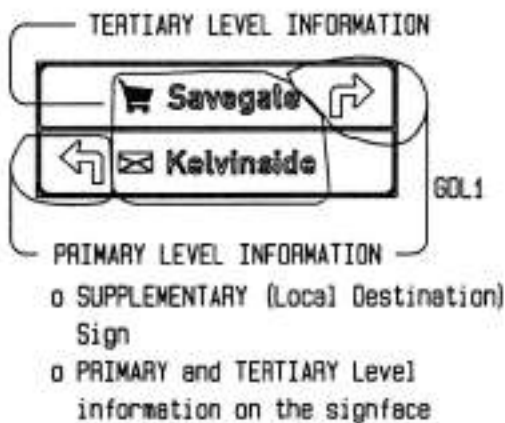
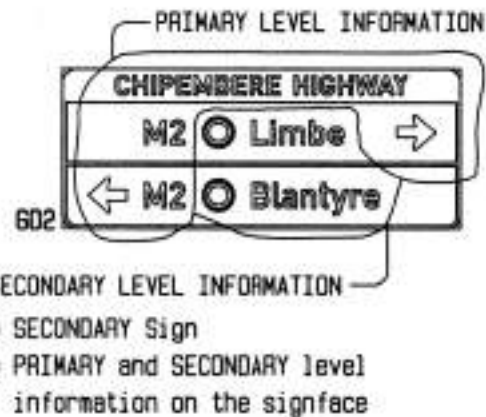
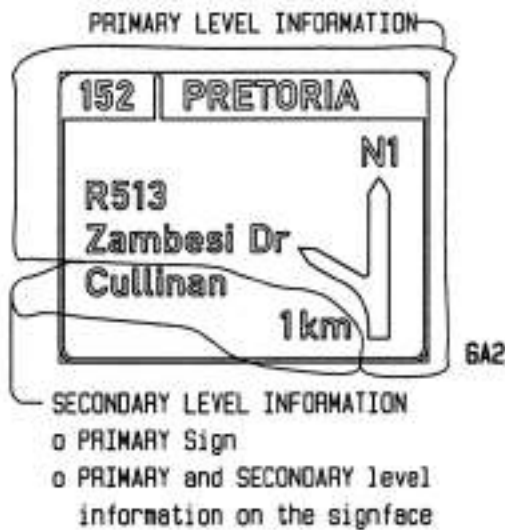
INFORMATION LEVEL	SIGNFACE DETAIL
Primary information	Arrow, route number, street name and location
Secondary information	Orientalional destinations
Tertiary information	Local and / or tourism destinations

2. SIGNFACE

CATEGORY	COLOUR CODE
Primary signs (freeways)	A1 White-on-Blue
	A2 White-on-Green
Secondary signs (other streets)	White-on-Green
Supplementary Signs (Tertiary)	White-on-Brown
	Black-on-White

BACKGROUND COLOUR

Detail 4.38.1 Hierarchy Terminology



Detail 4.38.2 Examples of Signface Information Hierarchy

Fig 4.38

Guidance Sign Information Hierarchy

2 Terminology relating to categories of street has also varied in the past. The following basic terms are used in this chapter to describe the functions of different types of street:

- (a) **Arterial streets** are those streets forming a network of routes whose main function is to carry the major traffic movements within the metropolitan or urban area with the emphasis on **mobility** (different traffic and frontage conditions may require sub-categorisation whereby some streets can be expected, and encouraged, to provide more mobility than others) - arterials are usually numbered and include freeways;
- (b) **Collector-distributor streets** are those arterial or local streets along which **mobility and accessibility** have approximately equal priority;
- (c) **Local streets** are all streets not classified as arterial. Local streets should lie wholly within a local traffic area bounded by arterial streets (or other physical features) and should have the primary function to provide **accessibility**. Local streets should not be numbered routes.

These categories are illustrated in Figures 4.39 and 4.40.

3 Urban streets may be classified into one of the following classes:

- (a) Class "A" - Urban Freeway Arterial (a numbered route).
This class may be sub-divided into:
 - (i) Class "A1" a dual carriageway freeway, or
 - (ii) Class "A2" a single carriageway freeway;
- (b) Class "B1" - Primary Arterial (a numbered route);
- (c) Class "B2" - Secondary Arterial (a numbered route);
- (d) Class "C1" - Tertiary (or Limited) Arterial;
- (e) Class "C2" - Local Collector-distributor Streets;
- (f) Class "D" - Local Residential Streets.

4 The following are functional descriptions of the above classes of street:

- (a) **Urban freeway arterials** are those streets which have a strictly limited number of access points and have grade separated junctions thereby offering the highest level of mobility (to be signed using blue background freeway signs such streets should be designated as Class "A1" freeways by the provision, at their points of access, of sign R401 - although unlikely to occur in urban areas there is a lower order of freeway, classified as Class "A2" which should be designated as such by display of sign R402 - Class "A2" freeways have a single carriageway with no central median but do have grade-separated junctions - the direction signs for Class "A2" freeways have a green background);
- (b) **Primary arterials** are those at grade routes for which the most important function is to provide mobility on main through routes for metropolitan or urban traffic not catered for by freeway arterials - these streets will be expected to cater for above average traffic growth and will carry route numbers;
- (c) **Secondary arterials** are those streets which have mobility/accessibility functions which may vary considerably (secondary arterials may include special

sub-categories such as "scenic arterials" or "shopping arterials" and are numbered routes);

- (d) **Tertiary (or Limited) arterials** have an above average degree of traffic friction or conflict and are particularly limited in their ability to cater for traffic growth (they are streets from which traffic might be expected to migrate if given a more attractive alternative street or route) - in reality they are commonly unnumbered routes attempting to carry too much traffic for their physical dimensions or frequency of direct access which result in congestion due to high levels of turning movements;
- (e) **Local Collector-distributor streets** are those streets which provide frequent direct access to frontage properties, collect traffic from local streets, and distribute traffic from arterials;
- (f) **Local residential streets** are those streets which are wholly within a neighbourhood bounded by arterials and/or local collector-distributor streets - their function is that of local access and they should preferably not be connective.

These concepts are illustrated in Figures 4.39 and 4.40.

- 5 The selection of routes through smaller towns or cities will almost certainly be carried out by provincial or national road authorities as the towns are likely to have grown up around a regional, provincial or national route. As towns develop it will become necessary to establish a broader street hierarchy. At such a time the urban authorities should assess their street network for candidate Class "A", "B1", "B2", "C1" and "C2" streets.
- 6 Once this initial assessment has been made the function of each route should be evaluated in terms of the following criteria to establish the mobility/accessibility characteristics (see Section 8.4);
 - (a) "familiarity" or trip generating potential of orientation point destinations as indicated by:
 - (i) whether it is a city or town (grade could be an indicator), residential suburb or industrial area;
 - (ii) other local attractor/generator of traffic such as a shopping centre or teaching institution;
 - (b) the road type and quality;
 - (c) the trip characteristics such as:
 - (i) traffic volumes;
 - (ii) trip time;
 - (iii) trip length;
 - (iv) trips for leisure;
 - (d) numbered routes should connect to other numbered routes;
 - (e) numbered routes should not regularly change direction at junctions;
 - (f) numbered routes should not double back, cross themselves or another specific numbered route more than once;
 - (g) an assessment of the accumulated time and cost savings for the majority of road users in comparison to an alternative route.
- 7 The next step in this route optimisation process is to actually classify the chosen routes as Class "A", "B1", "B2", "C1" or "C2" as appropriate to their importance, prior to being allocated a route number if classified as Class "B2" or higher.

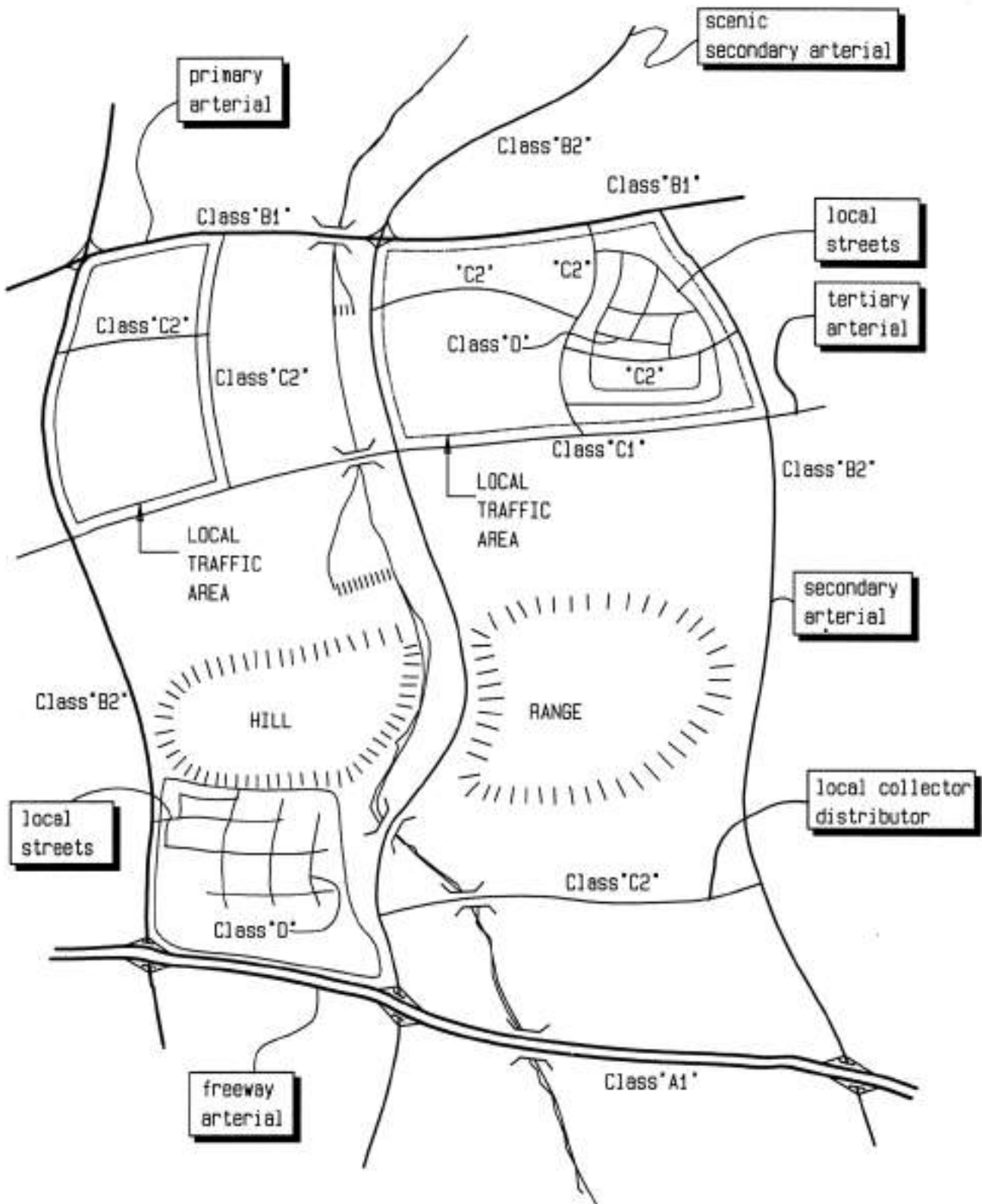


Fig 4.39

Urban Street Hierarchy

- 8 At this stage it is appropriate to consult other interested parties such as road user groups, and road planning and management groups to test the validity of the allocations. These groups should be consulted again during the process of preparing the Urban Guidance Signing Plan.
- 9 It is not appropriate for candidate numbered urban routes to follow the same process used to decide whether a rural route should qualify for a route number. The method of classification described above and the requirement that all Class "A", "B1" and "B2" routes be numbered is adequate.
- 10 The allocation of all urban or metropolitan route numbers shall be co-ordinated with the existing regional, provincial and national numbered route network to avoid the issuing of conflicting or confusing route numbers in close proximity to each other e.g. R24 (provincial) and M24 (metropolitan). Care needs also to be exercised when a continuous route passes directly from one metropolitan area to another or from a metropolitan area into an adjacent provincial region. In cases where the preferred number of an M-route could clash with that of a continuing M-route or a higher order route, actual route number allocation should be co-ordinated through the relevant regional road authorities. It is worthwhile, in a new numbered route network, to establish a basic north-south/east-west order by allocating odd-numbers to north-south routes and even- numbers to east-west routes. (Circular routes can present difficulties in this regard and when providing cardinal directions on route marker signs).
- 11 Once route numbers have been allocated details of the routes and their numbers must be submitted to all map makers and the police and other emergency services. Future detailed route changes must be passed to emergency services immediately and also to map makers on a regular basis.
- 12 **For numbered route networks to function as intended it is essential that the relevant road authorities promote the routes and their numbers by using all forms of media available. Considerable importance is attached to the display of route numbers to the extent that the level of signing for a numbered route may consist of only ROUTE MARKER signs. Such a choice may be dictated by a lack of space for larger signs or by economic considerations.**
- (a) finding the specific property which represents the end of a trip whether in a residential suburb, in an industrial area, or in a busy central business district (this can be particularly difficult in a CBD when the organisation sought is one of many tenants in an un-numbered building);
- (b) finding the specific street in which the destination property is located and to turn in the correct direction when street-name signs, if they exist, are not located in a consistent position and the letter size used is not adequately legible in the circumstances (this difficulty may of course occur several times during the course of a journey in a large urban or metropolitan area).
- It is easy to understand that such difficulties can arise frequently.
- 2 In addition, during the intermediate levels of a trip, drivers may be navigating using route numbers or familiar destination names. **If these are not signed to match the expectations of drivers, difficulties will occur at this stage of a trip.** Such a problem can occur near the beginning of a trip, at many points along the way, or near the end of the trip in combination with the problems noted in paragraph 4.5.4.1.
- 3 To minimise the effects of such difficulties the following aspects of the navigation process are particularly important:
- (a) the provision of accurate navigational aids before and during a trip, and
- (b) driver awareness and education of the navigation process so that expectations will tend to match what is provided by the guidance signing system.
- 4 Navigational aids are available to drivers outside the road environment for trip planning purposes and within the road environment during a trip. The information available can be graded in its importance or effectiveness. Primary information is likely to permit drivers to undertake the majority of their trip and is normally in a very compact form i.e. a route number. At strategic points along the way secondary information supplements this primary knowledge to assist decisions, normally associated with a change of direction. Finally a tertiary level of information may be offered, when warranted, to assist drivers in reaching specific types of destination which commonly are large attractors or generators of traffic than individual private or business premises e.g. meeting venues or tourist attractions. The structure of this information process is illustrated diagrammatically in Figure 4.3 and the signface aspect of the information in Figure 4.38.
- 5 Navigational aids used by drivers during their pre-trip planning before they commence their journey into an unfamiliar area may include some, or all of:
- (a) road maps, including:
- (i) inter-town/inter-city maps showing route numbers and destination (town) names and frequently interchange exit numbers;
- (ii) large detail town/city maps showing route numbers and street names;
- (iii) detailed street maps showing route numbers, street names, directions of travel in one way streets, and, if possible, property number sequences (to show direction of increase and decrease);

4.5.4 Urban Navigation Principles

- 1 The destination ultimately sought by virtually all "strangers" navigating their way through a small or large urban area is a street address. Only a very limited number of street addresses relate directly to an item of information appearing on guidance sign, other than, of course, the STREET NAME sign referring to that address. Even when the correct street has been found, it is not uncommon that strangers have difficulty finding the actual street number they are looking for due to poor quality practices regarding the visibility and continuity of property numbers. The basic navigational difficulties which drivers are most commonly presented with in an urban environment can be described very simply, although they may present themselves in widely differing ways. The following can be considered as the most basic yet often most difficult tasks for a driver to undertake in an unfamiliar urban environment:

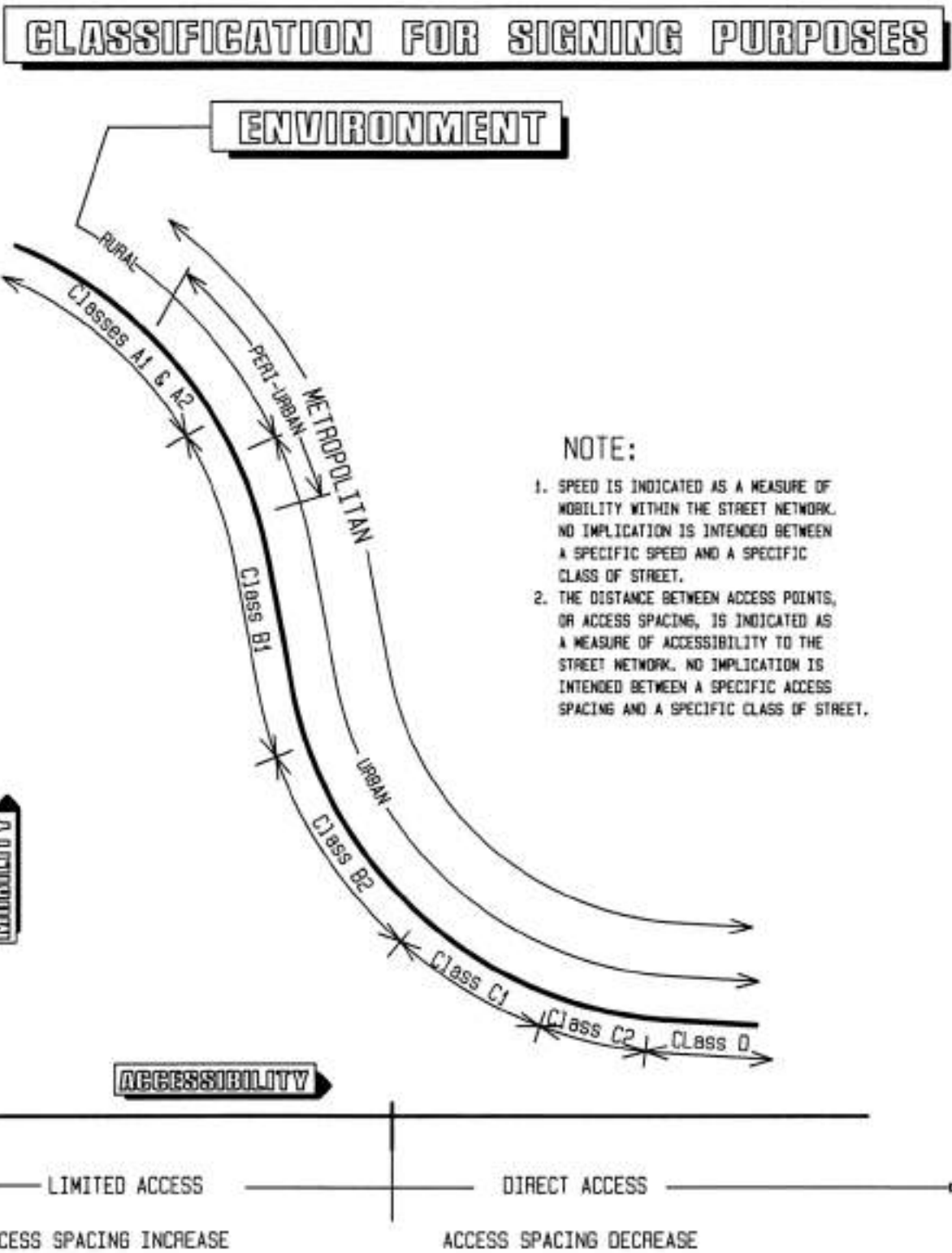


Fig 4.40

Mobility/Accessibility Diagram

- (b) road reports;
- (c) other media formats such as brochures, magazines, newspapers, television or videos;
- (d) verbal or written descriptions - which should be transferred to, or correlated with, a road map.

How the information obtained is used is of primary importance. It is necessary for drivers to find a suitable way of recording the necessary information. A marked up copy of the road map will be ideal, whether or not drivers have an assistant "navigator" with them, but even writing down a consecutive list of route numbers and interchange exit numbers will be very effective for the major part of a long journey.

- 6 The in-trip navigational aids can include road maps used in the pre-trip planning and up-dating radio road reports, but the information gained will be confirmed by the information given on the various types of guidance sign provided along the route. The information may comprise:
 - (a) route numbers on:
 - (i) route marker and trailblazer signs;
 - (ii) direction and freeway direction signs;
 - (iii) confirmation signs;
 - (b) orienting destination names on:
 - (i) direction and freeway direction signs;
 - (ii) confirmation signs;
 - (c) local destination names on:
 - (i) town name, suburb name, and street name signs;
 - (ii) local direction signs;
 - (iii) tourism direction signs;
 - (d) property numbers and private or commercial property names.
- 7 Interchange numbers are commonly provided at the interfaces between the National route freeway system and lower order urban streets. These numbers are a very valuable navigational aid because the appropriate interchange number may be the only piece of information actually needed to identify the correct exit from the freeway (Class "A") system. It is therefore important that road authorities ensure that information on interchange numbers is made available to map makers and that it is included on their maps so that there is the best possible correlation between the maps and the guidance signs used on the road network
- 8 The various navigational aids referred to in the previous paragraphs can only work if drivers are aware of their existence, and if drivers are aware what information they should obtain from the pre-trip aids which will, with a good degree of certainty, also be found on the in-trip aids. Whilst drivers unfamiliar with this process may not always have their information expectations confirmed by guidance signs, those that are aware of the process and are educated in its limitations and how it can be made to work, are likely to have expectations which can indeed be matched by guidance signs. **A very important part of the education process involves those who give directions to drivers on to how to reach a specific destination. They also need to know how the navigation system works, so that they give directions in a form that can be matched by expected guidance signs.**

4.5.5 Typical Urban Street Networks

- 1 The navigation principles described in Subsection 4.5.4 suggest a long distance journey from a large urban area, perhaps passing through smaller urban areas, until ending in another large urban or metropolitan area. Trips within large urban or metropolitan areas, which include areas, with which, travellers are not necessarily familiar, may be carried out using exactly the same navigating principles.
- 2 In determining the solution to a problem it is normally beneficial to analyse the nature of the problem. To work effectively urban navigation principles have to be able to work in any type of urban street network. Urban street networks can be categorised as follows:
 - (a) **Level 1** - a network of minor streets comprising a town with perhaps one or two "main" streets, none of which warrants classification above Class "C2" (such a description will also commonly apply to suburbs or local traffic areas within larger urban areas);
 - (b) **Level 2a** - an essentially similar street network to that in (a) but which may have developed around one or two regional, provincial or national numbered routes whereby there is one junction between such routes and the routes pass through the town without a change of direction;
 - (c) **Level 2b** - a street network similar to that described in (b) but where one or both of the numbered routes changes direction within the town;
 - (d) **Level 3** - a street network which includes several regional, provincial or national numbered routes - such a network is also likely to include identifiable urban Class "C1" and Class "C2" streets;
 - (e) **Level 4** - a street network in which numbered urban Class "B" ("B1" and/or "B2") streets can be identified in addition to regional, provincial or national numbered routes - such a network normally only occurs after one, or several contiguous, urban areas have been designated as a metropolitan area;
 - (f) **Level 5** - a street network in which the full range of urban street classes, including freeways, can be clearly identified.

Figures 4.41 and 4.42 illustrate this range of typical urban street networks which will all require an "Urban Guidance Signing Plan" of lesser or greater complexity.

- 3 A relatively common Southern African road network situation involving urban areas is that of the by-pass route. This can occur at any of the levels given in paragraph 4.5.5.2. Figures 4.41 and 4.42 include examples of such situations. The guidance signing of by-passed towns requires particular care and co-ordination between road authorities and is covered in detail in Chapter 8.

4.5.6 Basics of Destination Selection

- 1 The comments made in this subsection give guidance on the selection of destinations for display on DIRECTIONS (and FREEWAY DIRECTION) signs on numbered routes within urban/metropolitan areas. They do not provide a fool-proof method of selecting a set of orienting destinations for an urban environment. In fact, in many instances the comments may point out potential

- problems to be avoided. The larger the urban area becomes, generally, the more difficult it becomes to select destination names which will be adequately effective for strangers. The primary factor in their selection should ultimately be their orientational value or "power" for strangers
- 2 The emphasis on orientational value is based on the reason for displaying destinations at all, namely to ensure that, with a minimum of time to read the DIRECTION sign, a stranger will quickly be able to make the correct choice of movement at the approaching junction. The destination names displayed need to have sufficient "familiarity" to strangers that they will turn to the left or right, or go straight-on, correctly towards their intended destination.
 - 3 As a general rule, DIRECTION class signs should be provided at all junctions between Class "A" and "B", and Class "B" with "B", routes because these junctions are where the need for orientation is greatest. DIRECTION signs may also be used at lower levels in the urban street network, but at such levels signs are commonly only warranted to indicate significant traffic generators i.e. the need and ability to provide orientation is much reduced and indeed less practical. As a result, when direction signs are provided at levels below Class "B", they are not automatically provided to cover all directions of exit from a junction. This level of signing can, in fact, be adequately performed by LOCAL DIRECTION or TOURISM DIRECTION classes of sign. Such a practice will, because of the different colour codes of the classes of direction sign, make the relative importance of the orientational DIRECTION signs more obvious to strangers. (LOCAL and TOURISM DIRECTION signs may also be used to supplement DIRECTION signs when it is considered necessary to give direction in addition to the orientational destinations on the DIRECTION signs. For more details on the functions of these supplementary classes of direction sign refer to Sections 4.10 and 4.11.)
 - 4 The choice of urban destination can be related directly to the level of street network as detailed in paragraph 4.5.5.2. Except in a by-pass situation the destination names which should be selected for any direction signs required in street networks of Levels 1, 2a, 2b or 3 should be the appropriate familiar or control rural destination identified in terms of the provisions of Volume 1, Chapter 8. In a by-pass situation the signing on the by-pass rather than within the town will indicate destinations within the town subject to the level of its internal street network. The indication given at access points will normally be as simple as the name of the town if there is no destination beyond the town of any significance.
 - 5 In a Level 4 network the principle for Level 1, 2a, 2b and 3 networks will apply to the destinations for direction signs on any provincial or national numbered routes within the urban area. The destinations to be displayed on any direction signs on regional or urban Class "B" numbered routes should be selected after consideration of the following factors:
 - (a) the local traffic area or suburb population size (or number of erven) which is likely to offer the best orienting value due to its numerical importance or "power" (if a local traffic area should encompass several suburbs the name to be used to identify the local traffic area as a destination should be either
 - the name of the largest contained suburb or one selected by using of the factors below);
 - (b) traffic composition (with particular emphasis on the percentage of non-commuters if this is likely to exceed the very general rule of thumb of 15% unfamiliar users);
 - (c) trip purpose (this may involve a weighting for seasonal variations in unfamiliar users);
 - (d) the need to avoid less attractive or more sensitive areas;
 - (e) a preference for a destination identified in (a) which is at, or near, the end of the urban route.
 - 6 In addition a candidate destination should only be considered if the route runs through it or ends within it. All proposed orientational destination names should be subjected to broad scrutiny including the involvement of local key role-players (see Figure 4.44). These role-players must however be clearly informed on the purpose of the destination names and the limitations applicable in their selection and display. The function of identifying other possible destinations, on the way to the indicated destination, by means of town and suburb name signs should be made clear. The choice of destination can be weighted because of perceived historical values but this needs to be considered with circumspection because it must be determined whether this historical value has merit beyond the immediate local area, in other words to unfamiliar drivers. The preference for "historical" directions tends to lie with, for example, residents giving directions to an in-coming stranger.
 - 7 The availability of supplementary local and tourism signing should be taken into account in the final analysis. It should not be necessary to display more than one orienting destination name per exit direction from a Class "B"/Class "B" junction. One exception to this rule should be the inclusion of the names of major traffic generating transport terminals of regional importance.
 - 8 The basis of a Level 5 network should build on that appropriate to a Level 4 network. Class "B1" routes destination names are likely to be the names of the towns making up the metropolitan area or external destinations of provincial or national importance. On Class "B2" routes the major suburb names may replace town names, subject to the size of the urban area and the density of the urban route network or the signing may simply consist of the provision of route marker signs.
 - 9 The selection of destination names for a Class "A" route within a Level 5 urban street network may present specific problems. In terms of the approved policy for urban freeway signing given in Section 4.9 the need for the display of destination names on urban freeway direction signs occurs as follows:
 - (a) on confirmation signs - for confirmation;
 - (b) on overhead straight-on signs- for confirmation;
 - (c) on exit signs at systems interchanges (normally overhead signs) - for orientation;
 - (d) on direction signs on access interchange off-ramps- for orientation when turning onto the cross street;
 - (e) on direction signs on the intersecting cross street approaching the freeway - for orientation entering the freeway.

The exit direction information given on the freeway up to the point of exit from all urban freeway access interchanges comprises the route

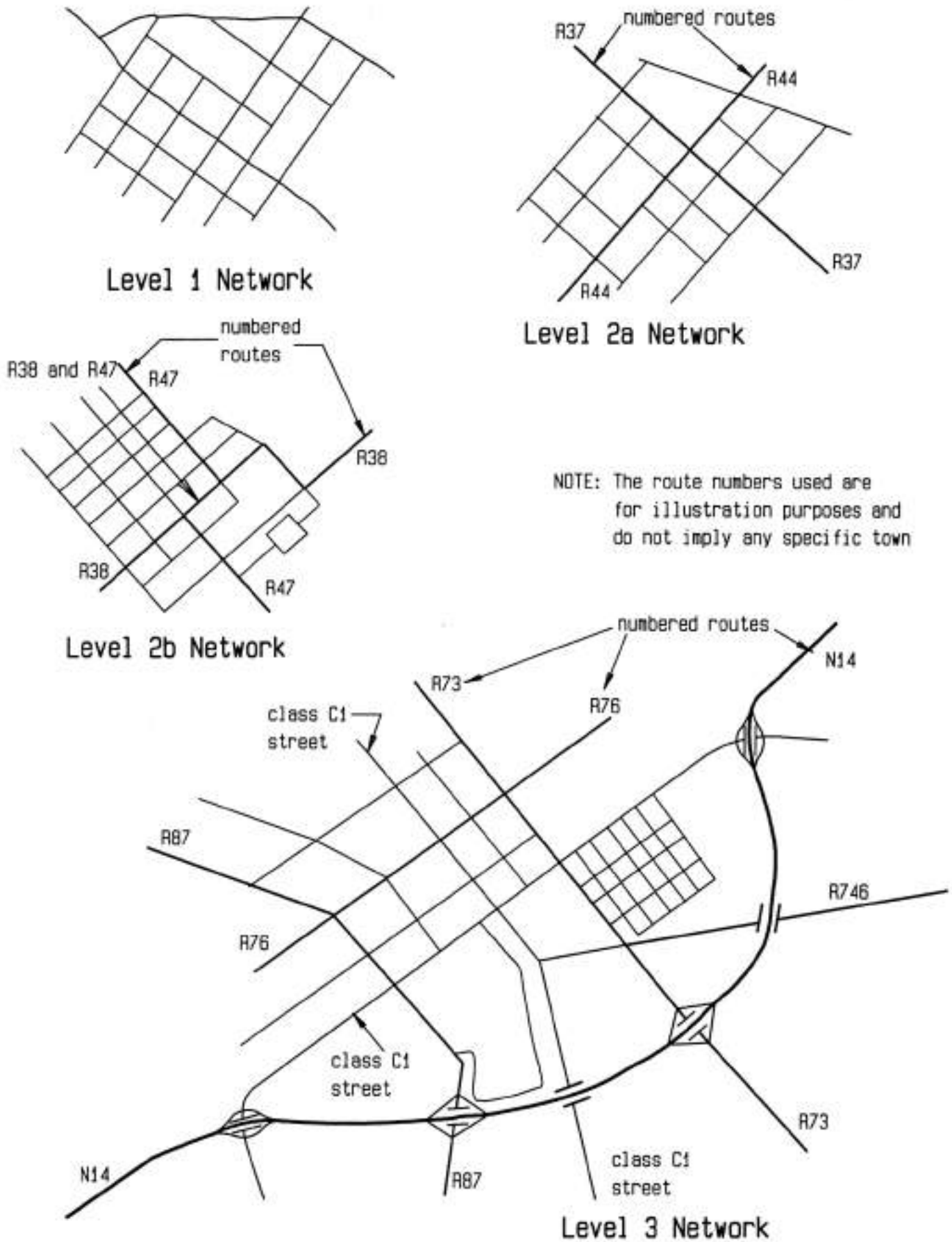
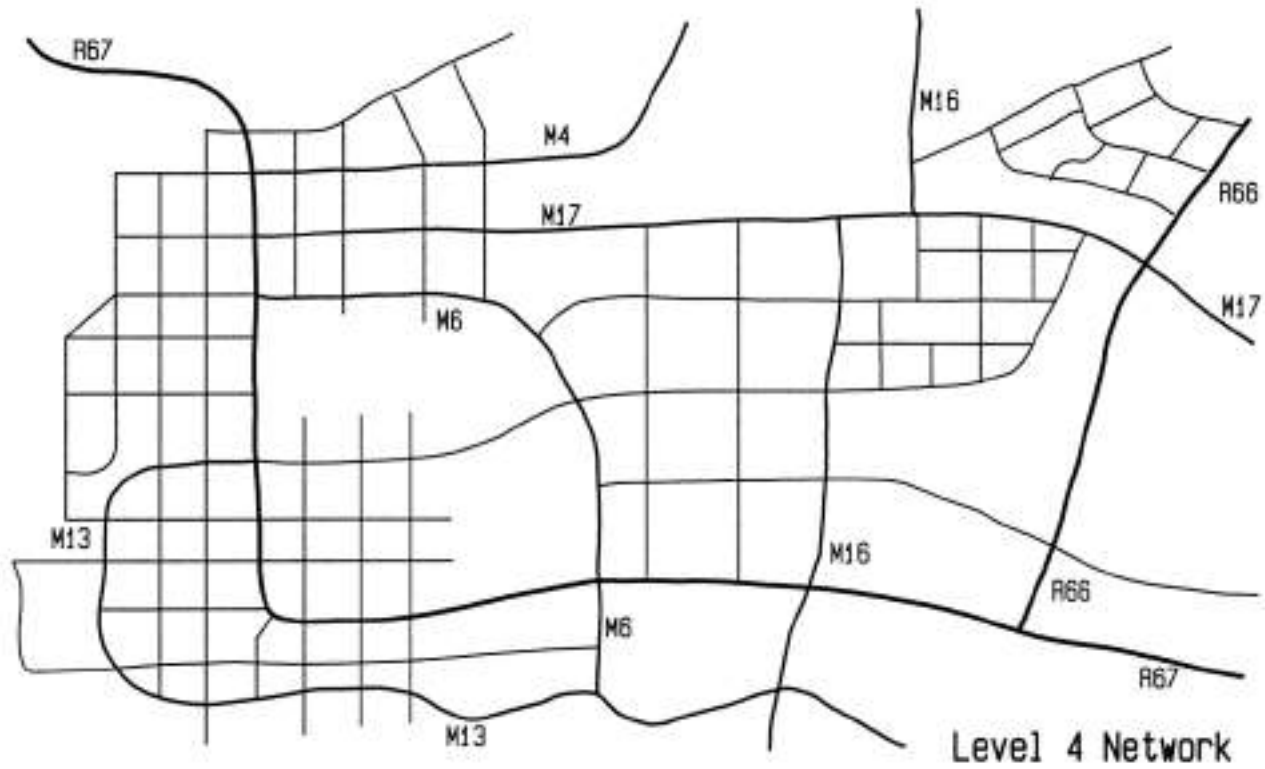


Fig 4.41

Minor Urban Street Networks



NOTE: The route numbers used are for illustration purposes and do not imply any specific town or city.

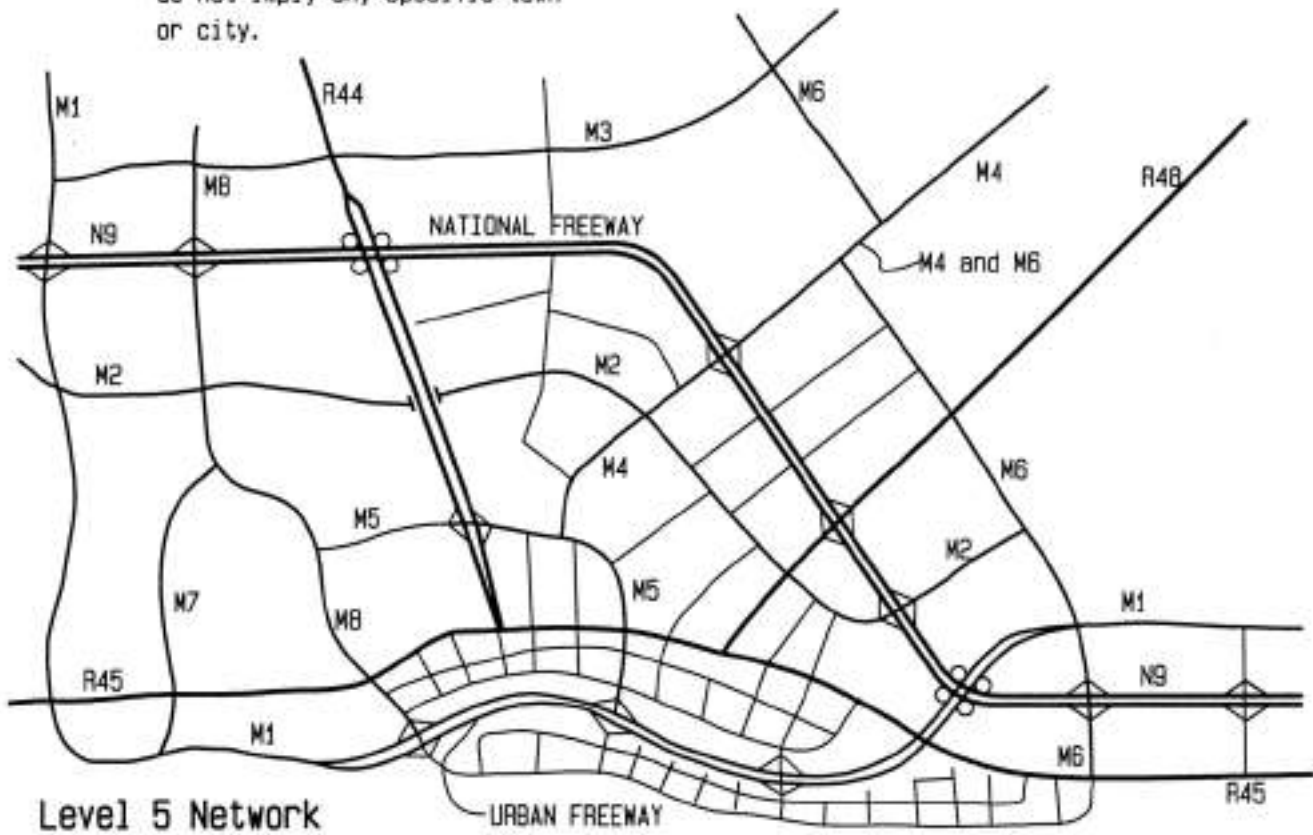


Fig 4.42

Major Urban Street Networks

number and street name of the intersecting street. In a peripheral freeway route by-pass situation the name of a control destination outside the metropolitan area on a regional, provincial or national numbered route may be added. The names of major traffic generators such as transport terminals or large industrial areas may also be added at this level, due to the nature of the traffic generated - i.e. a relatively high percentage of unfamiliar road users, and in the latter case due to the difficulty in manoeuvring heavy vehicles.

10 Metropolitan areas, as they grow, tend to incorporate freeway system-to-system interchanges. Such interchanges invariably handle traffic which is partly that generated by a provincial or national network, and partly generated by the metropolitan area. The direction signs at such an interchange should therefore attempt to display orientational destinations which are familiar at the provincial or national level AND those necessary for orientation at the metropolitan level. A detailed example of such a situation is given in Subsection 8.5.6. **Some measure of compromise is almost always necessary due to the limitations on the amount of information and the task complexity experienced by drivers in such situations.**

11 Figure 4.43 summarises the type of guidance sign destination message which will normally be displayed on the different classes of urban street.

4.5.7 Interim Urban Guidance Signing Plan

1 In order to proceed towards the objective of a detailed Urban Guidance Signing Plan it is recommended that urban authorities adopt a structured approach which should use certain basic principles but which may vary in detail according to the size of town and the nature and extent of the street network within the town. The planning process can be conveniently conducted in two parts. **An Interim Plan may be prepared which will not commit the urban authority to detailed sign design but which should establish a complete inventory of the existing signing system and thereby identify the scale of any problem. It will also provide a full road classification for the town.** The complete **Urban Guidance Signing Plan** can pick up where the **Interim Plan** stopped and be developed to include an implementation phase with an appropriate budget. The latter should be detailed to the extent that it will include designs for specific urban guidance signs. To these ends a number of procedural steps are recommended. These are illustrated in Figure 4.44 and are described in the following paragraph.

2 The **Interim Plan** can be considered as a "broad-brush" approach to the development of the **Urban Guidance Signing Plan** involving the first few steps in the overall process. To prepare an **Interim Plan** the following steps are recommended:

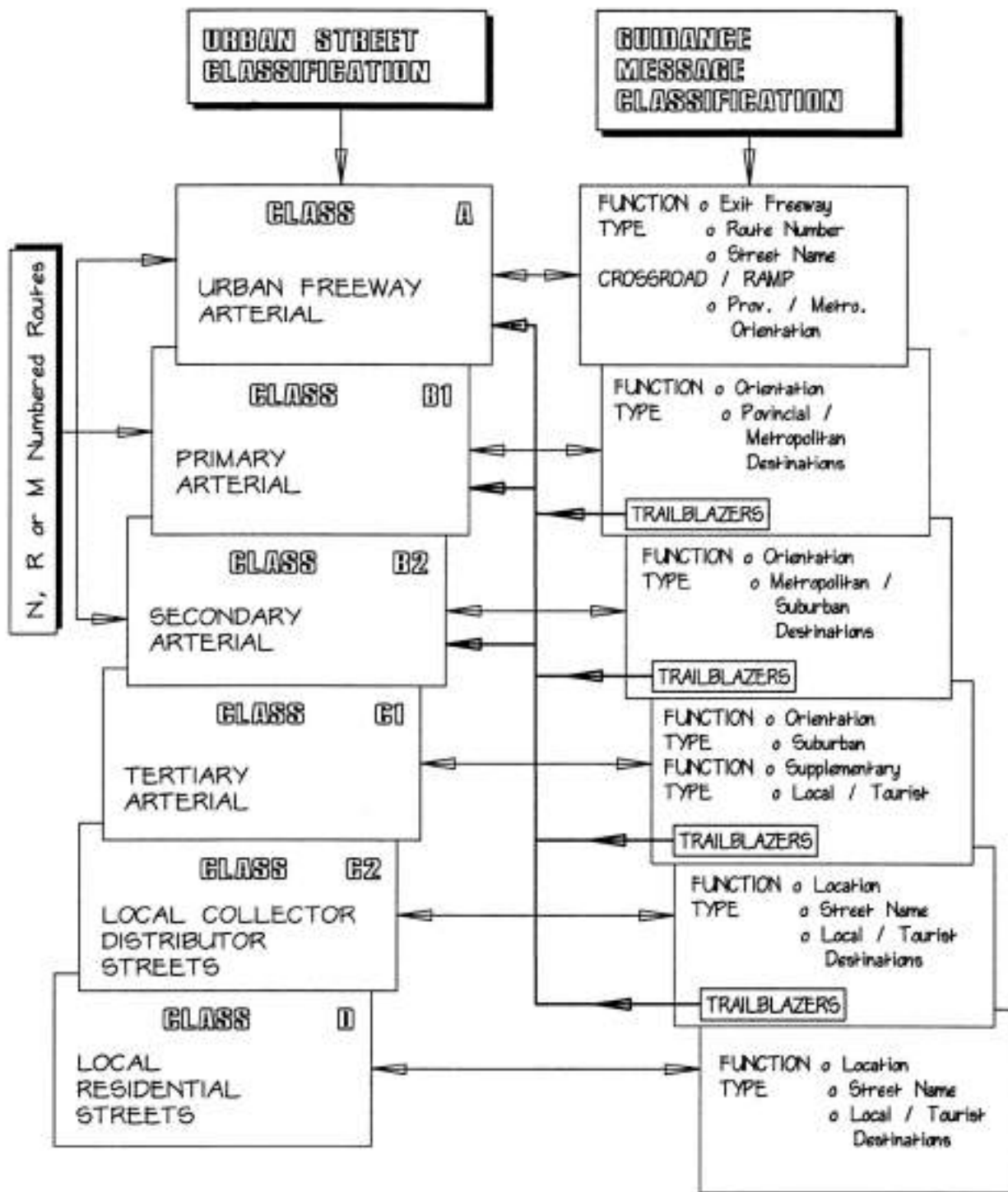
(a) **Step 1:** Collect any previous work undertaken by, or for, the authority which in any way impacts on the provision of guidance signs in the town and create an inventory of existing signs and other relevant data. In some instances this may be as little as a record of the allocated street names for a very small town, or a wide range of detailed reports, designs and research on the subject, up to a detailed computer based

inventory of existing signs. (It is very likely that any authority which has the latter will already possess an acceptable **Urban Guidance Signing Plan** and will only need to review and refine if from time to time.) - Figure 4.44 includes a checklist for this process;

- (b) **Step 2:** Discuss the existing situation with key role-players from the community - these role-players should come from all sectors of the community - including the decision makers, those people involved in community affairs and those affected by any actions taken - typically representatives of the business, tourism and public sectors should be involved as well as the emergency services, civil defence and traffic officers;
 - (c) **Step 3:** From the information gained, make an initial assessment of the street network to establish or refine the arterial network including the recording of existing route numbers, if any, and define provisional local traffic areas;
 - (d) **Step 4:** Discuss the initial design with the role-players identified in Step 2;
 - (e) **Step 5:** Review arterial assessment and extend the classification to establish optimum routes and if necessary allocate new route numbers and/or rationalise existing ones, and to identify streets with a collector-distributor function (Class "C2") and thereby determine local traffic neighbourhoods or communities.;
 - (f) **Step 6:** Using the criteria given in Subsection 4.5.6 select provisional destination names for the numbered route network on the basis that these must offer the best possible level of orientation for strangers to the area;
 - (g) **Step 7:** Present the details of the **Interim Plan**, comprising proposed numbered routes and destination names, together with awareness information on the navigational process, to the previously consulted role-players;
 - (h) **Step 8:** Refine the **Interim Plan** in terms of comments received as a result of the consultation in Step 7 and prepare a written description of all routes.
- 3 Steps 3 and 5 plus the consultative Step 4 result in the creation of a detailed Road Classification for the town or city. Whilst the purpose of this classification is to enable the development of a quality urban guidance signing system it may be of great use for other municipal activities.
- 4 It is recommended that, subject to the immediate needs of the urban area concerned, the **Interim Plan** be extended to a full **Urban Guidance Signing Plan** as described in Subsection 4.5.9.

4.5.8 Minimum Urban Guidance Signing

- 1 There are few urban authorities that have fully developed urban guidance signing systems in place, and those that do not, will be most unlikely to be able to implement an Urban Guidance Signing Plan from scratch in a short space of time (in order to make navigation of their street networks possible).
- 2 An Interim Plan establishes the route classification and main orientation destinations for a town or city, and records existing signing. In order to implement a cohesive Urban Guidance Signing Plan it is convenient to consider the system information requirements as being represented by a number of information "layers".



NOTE:

- SUPPLEMENTARY LOCAL AND TOURISM DESTINATION SIGNS MAY BE USED ON ANY CLASS OF STREET UP TO CLASS "B" SUBJECT TO WARRANTS AND RULES (SEE VOL 2 CHAPTER 9).
- SUPPLEMENTARY TOURISM DIRECTION SIGNS MAY ALSO BE USED ON CLASS "A" ROADS.
- TRAILBLAZERS ARE USED TO INDICATE NUMBERED ROUTES.

Fig 4.43 Urban Street Classification Related to Guidance Message Type

- 3 Figure 4.3 shows two basic layers of guidance information (Layers 1 and 2), and two optional supplementary layers (Layers 3 and 4) which may be provided subject to compliance with various warrants. Layer 1 is split into two components represented by Layer 1A (pre-trip information) and Layer 1B (on-trip information). It is important that the information given by Layer 1A correlates accurately with that provided in all the other layers.
- 4 Layer 1B and Layer 2 represent the important on-street information provided in the main by guidance signs. Provision of the signs giving the information covered by Layer 1B must be considered as obligatory since this level of information is the minimum necessary to navigate urban street networks with any measure of success.
- 5 **If the signing level required by Layer 2, and arrived at in terms of the Interim Plan, is considered unaffordable it is imperative that the information required by Layer 1B be provided.** The effect of this requirement is illustrated in Figure 4.45 for towns without numbered routes (network Level 1) and in Figure 4.46 for towns with numbered routes (network Levels 2a, 2b, 3, 4 and 5).
- 6 The example given in Figure 4.45 refers to **the absolute minimum level of urban guidance signing which should be provided by any town.** The example illustrates one street in a Level 1 town, as illustrated in Figure 4.41 and described in Subsection 4.5.5, and therefore has no numbered routes. The guidance signs which should be provided throughout such a town, as an absolute minimum, are therefore:
- STREET NAME signs GL1 at all junctions, and
 - TOWN NAME signs GL3 at all main points of entry into the town, and
 - property numbers.
- If the town is big enough to have identifiable suburbs SUBURB NAME sign GL2 may be provided as appropriate and CONFIRMATION sign GD3 may be provided at the town limits on any through streets.
- 7 Figure 4.46 shows a typical section of numbered route within a larger town. **In order to provide the minimum acceptable level of guidance under such circumstances the following guidance signs should be provided in addition to property numbers:**
- STREET NAME signs GL1, and
 - ROUTE MARKER signs GE12 to GE14 as appropriate to the category of route, and
 - DIRECTION ROUTE MARKER signs GE12.1/ - GE12.2 to GE14.1/GE14.2, and
 - TOWN NAME signs GL3, and
 - SUBURB NAME signs GL2.
- In addition CONFIRMATION sign GD3 may be provided at the town limits on numbered streets and ADVANCE ROUTE MARKER signs GE12.3/GE12.4/ - GS12.5 to GE14.3/GE14.4/GE14.5 may be provided in advance of a junction between two numbered routes.
- 8 The fact that the example includes metropolitan "M" routes indicates that it is more representative of a Level 4 or 5 network **although the minimum guidance signing principles illustrated remain applicable to the lower levels of network, and therefore to the signing of regional, provincial and national roads.**

The Class "B" route M44 (Street "A") is shown to lie in a north-south direction. Most of the signs illustrated are for a southbound direction of travel.

- 9 Other class "B" numbered routes, a provincial route R66 and several "M" routes, are shown intersecting route M44. **For each such junction the minimum signing for each approach requires the provision of a STREET NAME sign GL1 and ROUTE MARKER signs GE12.1/12.2 or GE14.1/14.2 as appropriate.** Once again only the route marker signs seen by drivers travelling from right-to-left are illustrated together with representative signs for other approaches. A ROUTE CONFIRMATION sign GE12 or GE14 should be placed 60 m to 100 m beyond the junction on each numbered exit.
- 10 Typical Class "C" streets are also shown intersecting route M44. Crossroads are recommended to have two STREET NAME signs GL1, whereas one such sign should suffice at a T-junction if properly positioned.
- 11 All STREET NAME signs GL1 may be double sided and **because route M44 is a numbered route a minimum letter height of 140 mm is recommended for GL1 signs.** Where ROUTE MARKER and STREET NAME signs are used at a junction they should be mounted on common supports or in close proximity to each other.
- 12 ADVANCE ROUTE MARKER signs GE12.3/12.4 or 12.5 may be specified as an option when turning lanes are provided or sight distance to a junction is poor.
- 13 In urban areas all ROUTE MARKER signs should include a letter representing the appropriate cardinal direction. **When two directions are indicated the right turn sign should always be placed above the left turn sign.**
- 14 If a town or metropolitan area has prepared an **Interim Plan** which recommends the provision of one of the identified levels of direction signing, but is unable to implement such a programme of signing within a 12 month period, **it is recommended that the minimum guidance signing illustrated in Figure 4.46 be provided within 12 months.** A co-ordinated programme can then be prepared to provide direction signs to suit the financial resources over a medium to long term (see Subsection 4.5.10).

4.5.9 Urban Guidance Signing Plan

- 1 To extend the **Interim Plan** to an **Urban Guidance Signing Plan** the following steps, which are illustrated in Figure 4.47, should be carried out after the completion of Step 8 of the Interim Plan:
- Step 9:** Record all existing street names, assess any confusing combinations of names at junctions with due consideration to re-naming if necessary, and allocate names to any streets that are unnamed. Record at least the property numbers at the end of each block, between intersections, so that the direction of increase or decrease in property numbering is available for inclusion on STREET NAME (GL1) signs, if required.
 - Step 10:** Assess the need in the area for local destinations according to relevant warrants and record the junctions at which LOCAL DIRECTION signs will be required. **The priority should be to first identify the local signing needs of**

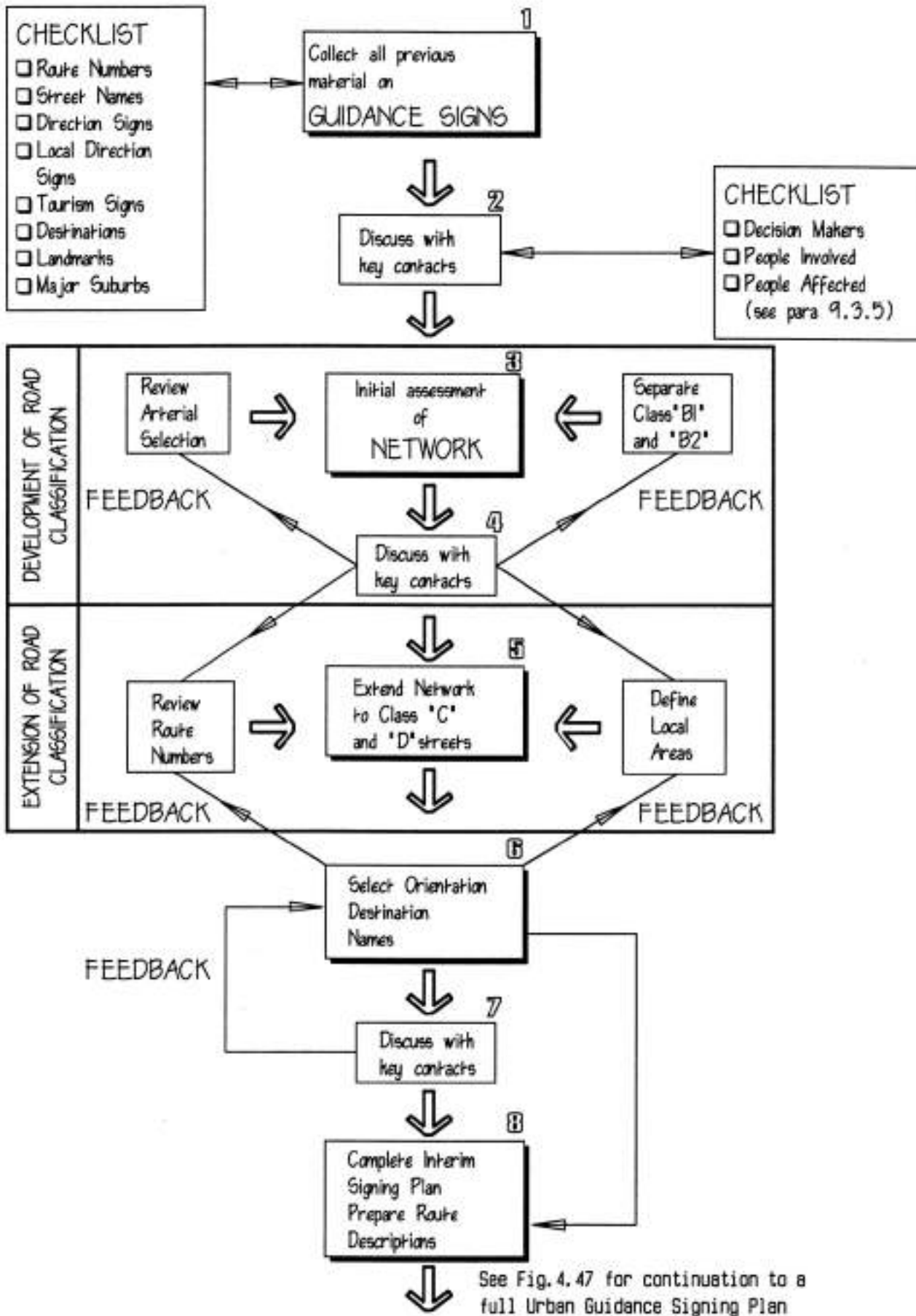


Fig 4.44

Step Process for an Interim Guidance Signing Plan

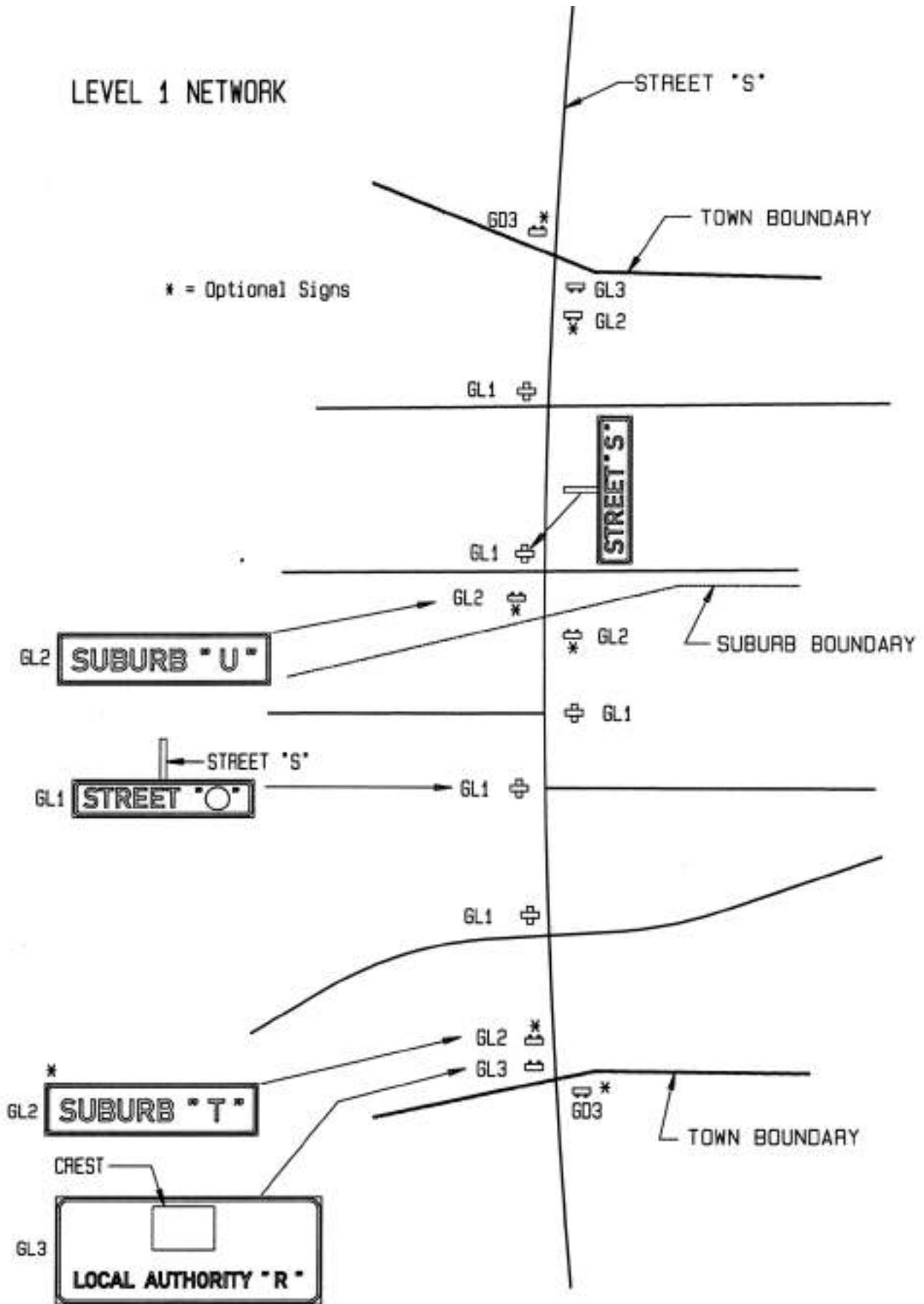


Fig 4.45 Minimum Urban Guidance Signing - No Numbered Routes

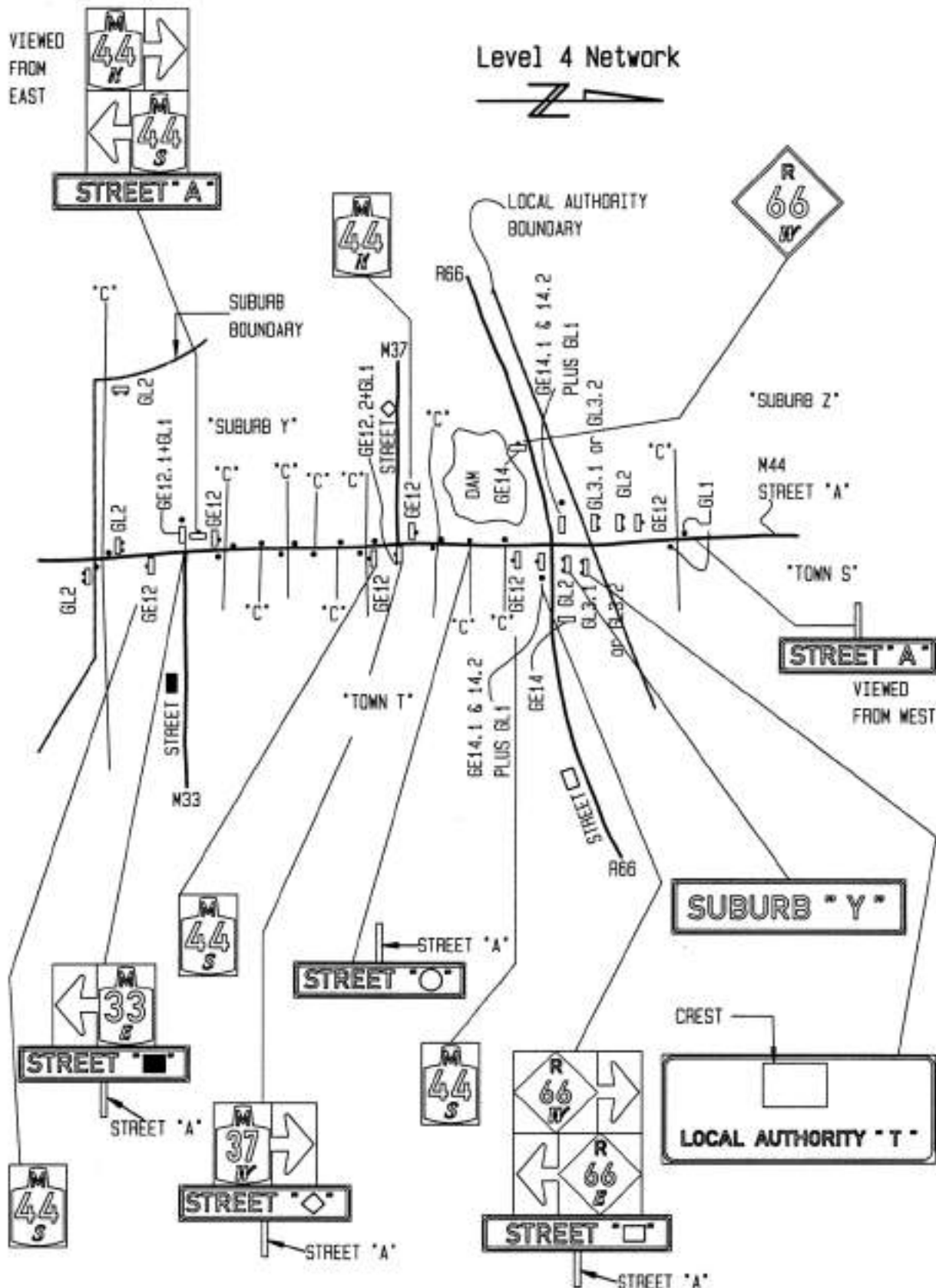


Fig 4.46 Minimum Urban Guidance Signing - Numbered Routes

junction at which standard direction signs are likely to be provided in order that the areas of greatest information pressure for drivers can be subjected to engineering assessment if necessary. A similar process should be carried out for the TOURIST DIRECTION signs.

- (c) **Step 11:** For each junction in the network on Class "A" and "B" routes survey the relevant criteria and determine the appropriate level of guidance sign for each approach to such junctions (see Subsection 4.5.10 and Figure 4.48). Once this information is obtained record the sign types required appropriate to the chosen level of signing.
- (d) **Step 12:** Re-assess the first allocation of guidance signs from Steps 10 and 11 to eliminate any sequential inconsistencies along specific routes e.g. frequent changes in signing level from one junction to another, either upwards or downwards in level. This reassessment should take into account the actual ability to upgrade lower levels of signing at isolated junctions in terms of certain criteria e.g. the space available for signs. If necessary the re-assessment should involve the downgrading of some chosen signing levels to achieve a reasonably consistent level of signing along the route. **During this process all junctions which will be provided with a DIRECTION sign GD2, incorporating the intersecting street name, should be recorded and the requirement for a stand-alone STREET NAME sign GL1 in such a position deleted appropriately.**
- (e) **Step 13:** Add the LOCAL and TOURIST DIRECTION sign requirements identified in Step 10 and adjust the positions of any ADVANCE DIRECTION signs GD1 to allow all drivers sufficient reading time for all signs provided, OR identify options to establish information laybys and/or centres.
- (f) **Step 14:** At this stage the details of the plan should now be submitted to the key role players identified during the Interim Plan phase. Details of the Plan should be adjusted as necessary.
- (g) **Step 15:** Carry out the signface design for all guidance sign types (see the checklist in Figure 4.47), allocate accurate positions for all signs and record these details for each sign. Record sign area quantities for budgetary purposes and prepare a local system design for each junction.
- (h) **Step 16:** Compare the design output from Step 15 with the inventory established in Step 1 and **identify existing signs which are outdated or redundant.** Adjust the budget input for any resultant sign removal or redesign.
- (i) **Step 17:** Prepare a budget and implementation programme for the **Urban Guidance Signing Plan.**

(For a more in-depth treatment of the above process refer to Volume 2, Chapter 9.)

- 2 When the final **Urban Guidance Signing Plan** is completed and the implementation plan in terms of available finances has been prepared the time frame for this will become evident. If it is not possible to budget to achieve the ultimate level of the Plan within two years it is recommended that a Short Term Plan to implement the minimum level of signing as described in Subsection 4.5.8 be programmed for the shortest possible time-frame.

- 3 In conjunction with a minimum requirement short term plan, and any street development and major rehabilitation programme, a medium to long term plan to implement the balance of the system of orientational direction signs should be prepared so that the provision of such signs beyond the minimum plan can be budgeted for at an affordable rate. Such a medium to long term plan should also take note of the local and tourist direction sign requirements. **A particular aspect of this phase of the work should be the co-ordination of the plan with signs provided in terms of new development and individual applications so that, as far as possible, inconsistencies in information display along a route are eliminated.**
- 4 Detailed signface design can be carried out for the full Plan once it is finalised or in phases as dictated by budget and design resources.
- 5 In addition to the design of each signface in the system a local system design should be undertaken for each junction. This should include the following detail:
 - (a) allocation of a unique junction reference number which should be co-ordinated with any existing accident record inventory system;
 - (b) signface designs with full dimensional details for all signs required at the junction - each sign to be allocated a unique identity number;
 - (c) a schedule of sign areas;
 - (d) signface material requirements;
 - (e) precise sign positions with locating diagrams;
 - (f) cost estimates with an indication of responsibility for payment or source of funding and its availability;
 - (g) a priority listing allocation for implementation;
 - (h) a record of any unusual requirements e.g. overhead mounting, part of a street construction scheme, illumination etc.
- 6 New sign designs can be recorded directly into & sign management database for future reference. Such a database should be updated to include all signs which existed prior to the preparation of the **Urban Guidance Signing Plan.**
- 7 As soon as any phase of the **Urban Guidance Signing Plan** is implemented a sign maintenance management plan should be set up. Limited guidelines for such a maintenance plan are given in Volume 1, Chapter 1 and more complete details are covered in Chapter 16 of this Volume.

4.5.10 Choosing an Appropriate Level of Urban Guidance Signing

- 1 If a town is in a position to opt for a signing level above the minimum level indicated in Figures 4.45 and 4.46 a range of options is available. The appropriate signing level is not directly related to the class of numbered route although it is desirable that the higher the class of route the higher should be the level of guidance signing used.
- 2 Criteria which should, in addition to cost, possibly influence the decision as to which level of guidance to adopt are:
 - (a) traffic volume;
 - (b) percentage of heavy vehicles (obscuration);
 - (c) operating speed of traffic;
 - (d) number of lanes (road width);

From Fig. 4.44 Step 8

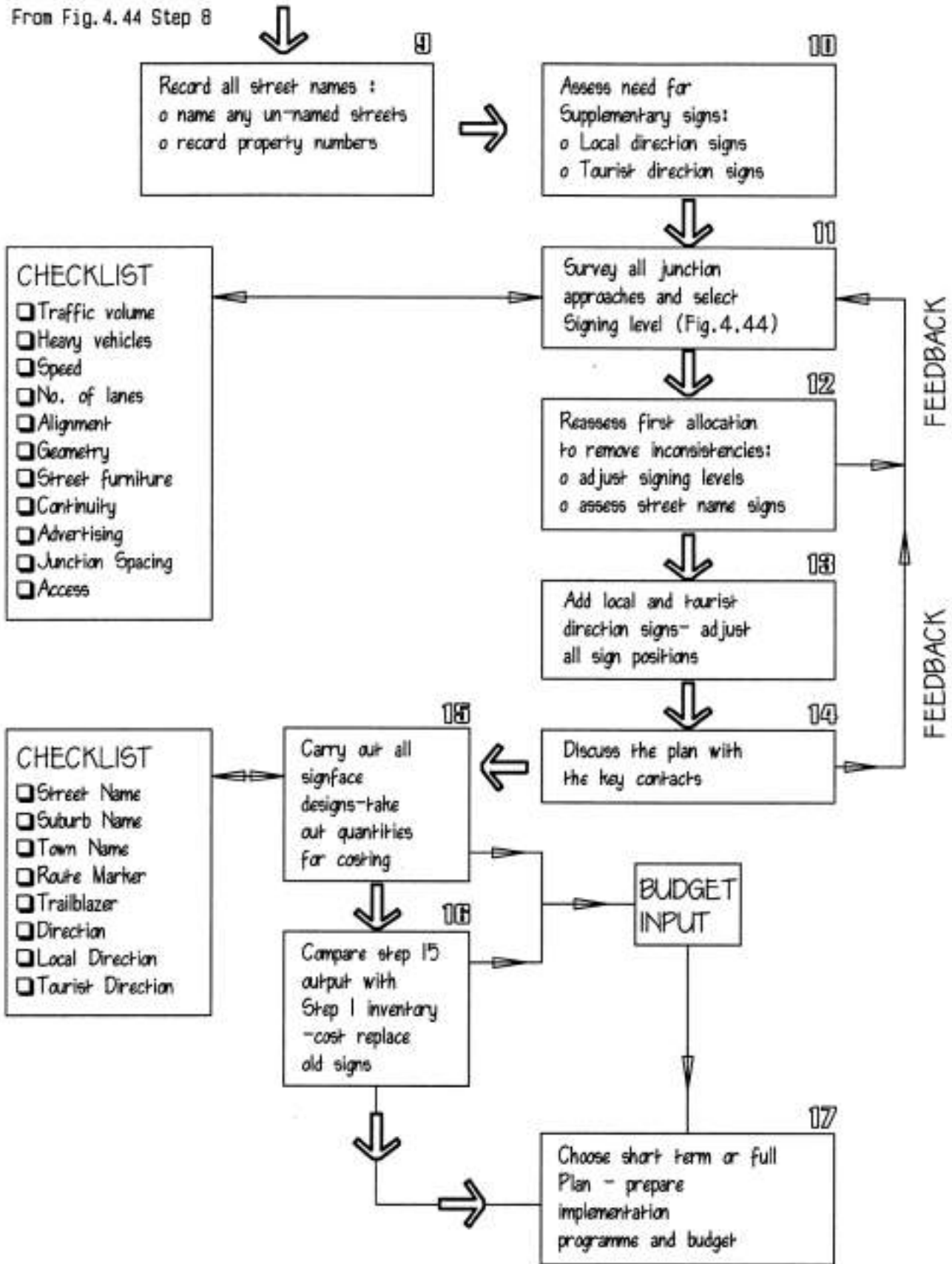


Fig 4.47 Step Process to an Urban Guidance Signing Plan

- (e) horizontal and/or vertical alignment;
 - (f) junction geometry;
 - (g) lateral side space (beyond the kerb line or edge of surfacing and up to property boundary);
 - (h) spacing longitudinally of street furniture (including trees);
 - (i) underground services (which might affect sign support location or cost of installation);
 - (j) message continuity;
 - (k) competition from advertising;
 - (l) position of the junction within the urban street network;
 - (m) number of access/land use density (trip generation);
 - (n) junction spacing.
- 3 The above criteria may be used in the course of an engineering assessment of the levels of guidance signing appropriate to specific urban street situations. Any such engineering assessment should not be conducted in isolation of the rest of the urban street network so that uniform standards of guidance signing will prevail throughout an area. Figure 4.48 provides an overview to the decision process required to determine an appropriate guidance signing level according to the
- identified criteria which may facilitate a relatively quick assessment of a complete urban street network (see also Volume 2, Chapter 9).
- 4 Difficulties tend to develop with regard to signing in "peri-urban" areas because they become areas in transition from a rural status to an urban status. This process takes time which will vary according to the rate of change of land use development. The difficulties exist specifically at a road safety level as a signing tends to be of a rural nature whilst traffic characteristics are tending towards urban. It is incumbent upon both rural and urban authorities to co-operate to provide sufficient guidance signing to facilitate road safety.
- 5 Problems experienced in peri-urban areas tend to develop with an increase in the number of intersecting side roads which in turn tends to measurably increase the number of turning vehicles. These vehicles reduce speed in order to turn, while approaching and following traffic will commonly be travelling at speeds of 100 km/h or higher. Driver judgement of the turn is often impaired by an inability to accurately identify the precise position of the junction. As simple a solution as providing adequately visible street name signs may significantly improve driver performance.

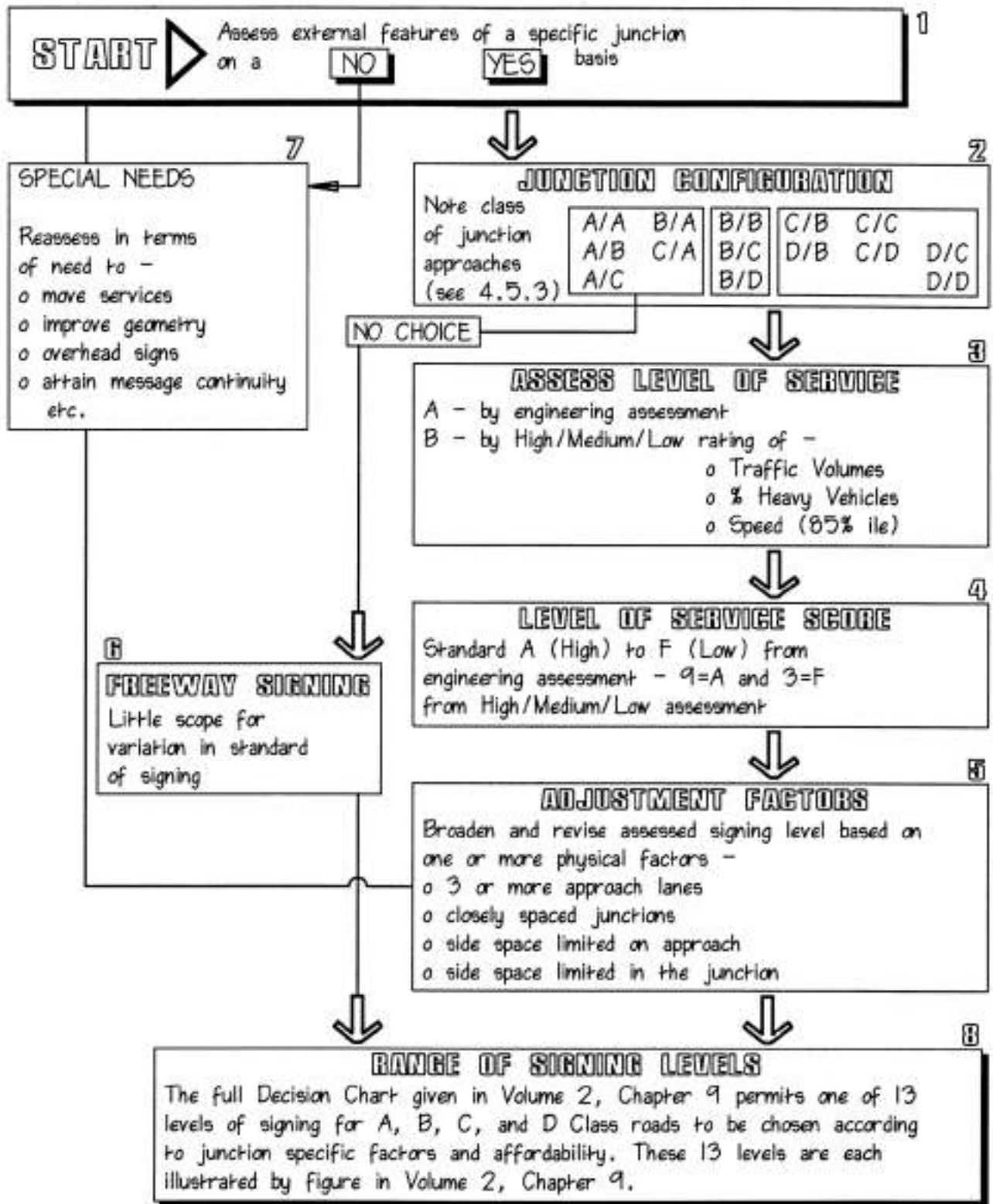


Fig 4.48 Overview of Guidance Signing Level Decision Process

4.6 LOCATION

4.6.1 General

- 1 The signs classified in this group have been identified as having the common function that they indicate to road users the name of the place or location that has been reached by the road user. In effect they say "this is where you are" in the sense that the road user is about to enter or pass the street or place indicated on the sign.
- 2 It is important that the role which location signs can play in the navigational process be recognised. Whilst direction signs are of primary importance in guiding road users towards their destinations, location signs supplement this guidance by offering valuable reassurance on the progress of a journey.
- 3 Since almost all ultimate destinations sought by road users are street addresses, emphasis has been placed on the provision of adequate STREET NAME signs.
- 4 Locational guidance, normally in the form of a street name, or town or city name, may be incorporated into a DIRECTION sign whilst retaining the location sign colour code. This technique has the effect of placing all guidance information required by a road user in one position, either on the approach to, or within, a junction or interchange. The retention of the "reversed" colour code ensures that the locational guidance and directional guidance components are clearly discernible. Examples of such signs are given in Sections 4.8 and 4.9.
- 5 When traffic volumes and/or operating speeds require that an advance sequence of direction signs is provided it is acceptable that in certain cases locational guidance be displayed on each sign in the sequence and not just at the junction or interchange e.g. the interchange number and town or city name on an urban freeway exit guidance sign sequence.

4.6.2 Signface Design Principles

- 1 LOCATION signs shall use DIN 1451 lettering, in upper case letters only, in either Style "A" (compressed) Style "B", or in "B MOD" lettering, as noted in each sign subsection. This distinguishes the signs of this group from directional guidance signs.

- 2 All signs in this group shall be provided with a dark coloured border to enhance conspicuity when the signs are placed against a light coloured background such as a daytime sky. To improve the effectiveness of this thin border it is recommended that it be inset slightly from the edges of the sign. This technique in turn improves conspicuity of signs seen against a dark background in daylight (see Subsection 4.6.3).

4.6.3 Shape, Size and Colours

- 1 LOCATION signs represent the simplest type of guidance signing in that they do not normally give a directional message and are therefore generally small in size compared to direction signs. The amount of information displayed on each sign is minimal. Some, such as street name signs, are very numerous so that the combination of compact size and high conspicuity coupled with good legibility are desirable properties. For this reason the signs in this group have been allocated a rectangular shape, white background, and black lettering and border. This "reversed" colour code also serves to clearly distinguish location signs from the normal light-on-dark colour code of direction signs.
- 2 The black on white colour code is specified for all street name signs in Class B streets, however, the colour code of street name signs may be varied for Class C and Class D streets. The use of dark coloured letters on a light coloured background should, however, be adhered to. The use of a yellow background is not recommended, because yellow as a background colour has been reserved for use on TEMPORARY regulatory, warning and guidance signs, although this colour has similar conspicuity to white. Acceptable dark colours other than black are BLUE, GREEN and BROWN.
- 3 The use of red for border and/or legend on STREET NAME or other LOCATION signs is not recommended in order to reserve the use of red for regulation, warning or hazard marking.

STREET NAME

For dimensions
ref. Vol. 4
pages
4.2.1
to
4.2.4

GL1



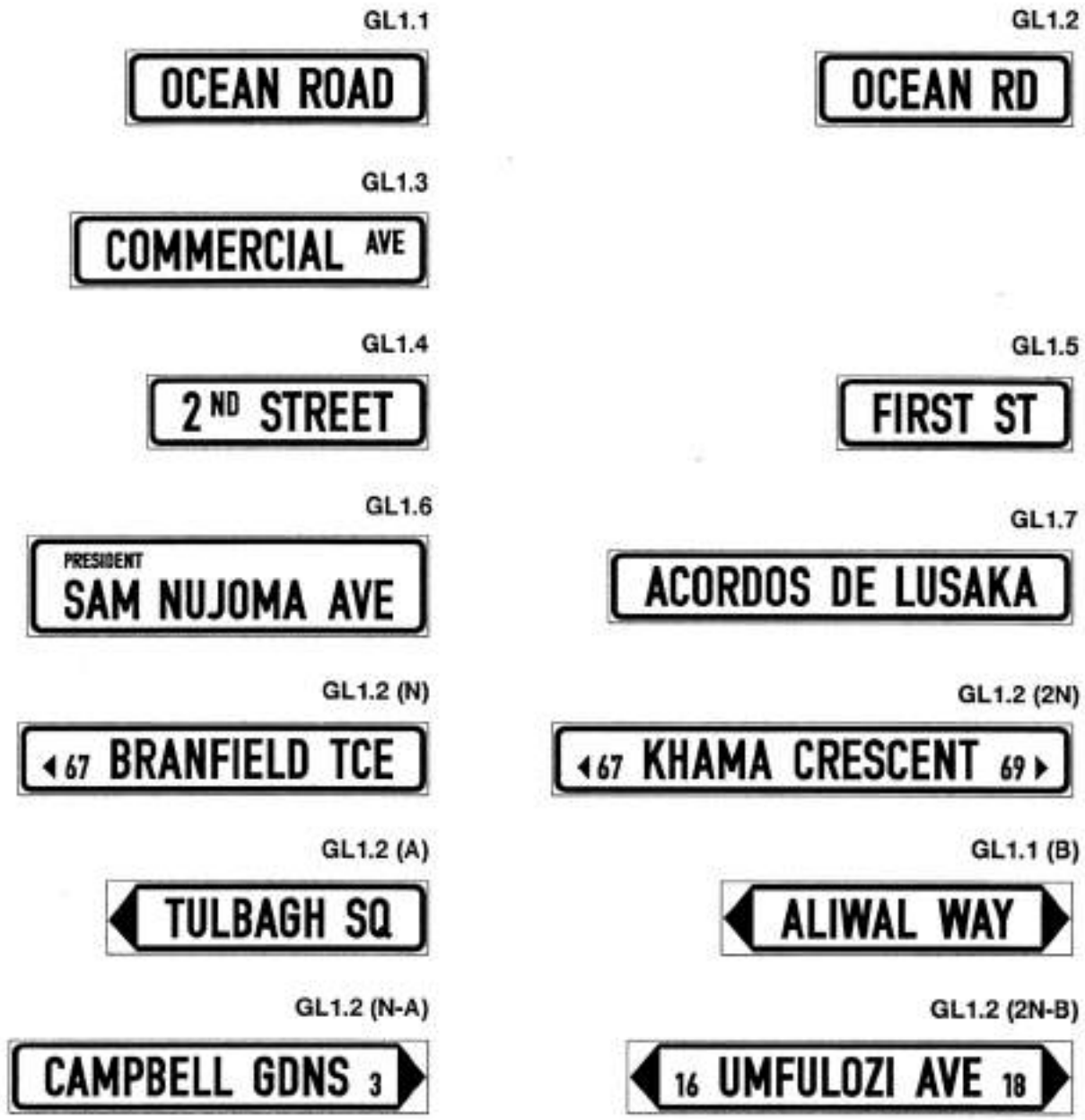
COLOURS:

PERMANENT

Border: Black semi-matt
Legend: Black semi-matt
DINA or DINB
Background: White semi-matt or
retroreflective

4.6.4 Street Name

- 1 STREET NAME signs GL1 shall be provided at all junctions of named streets **to guide road users to destinations within specific streets**. STREET NAME signs represent the absolute minimum level of road traffic signing required for all urban Class B, C and D streets, including pedestrianised streets and cul-de-sac. It is strongly recommended that this minimum level of urban signing be extended to peri-urban areas as soon as there is any significant change in land use patterns resulting in even moderate increases in traffic. Such STREET NAME signs should be sized according to the operating speed on the peri-urban road, particularly when this is a Class B road. (The detail given in this Subsection applies to "stand-alone" or individual pole-mounted street name signs. In the main, the principles are equally applicable to display of street names in locational panels on DIRECTION signs as described in paragraph 4.6.1.4 and detailed in examples in Sections 4.8 and 4.9.)
- 2 Notwithstanding the general colour code and dimensioning of signs GL1 signs, if the traffic involvement, within a self-contained and localised historic or other environmentally sensitive area, is mainly pedestrian and/or low speed vehicular traffic (in the range 15 km/h to 35 km/h) the street name signs may take on a form which is considered harmonious with the area and consistent with necessary legibility requirements.
- 3 To achieve an acceptable target value for signs with short street names it is recommended that the minimum length of STREET NAME signs be 500 mm. In practice maximum lengths are dependent on the type of sign manufacture specified. The vertical dimension may be varied according to the method of presentation. The various examples given in Figure 4.49 indicate ways in which the overall length of a street name sign may be kept within practical limits. Full dimensional details are given in Volume 4.
- 4 An indication of property numbers may be included in a GL1 sign and if, for whatever reason, there are indications that traffic has difficulty interpreting the position of specific streets, a small directional component may be used to clarify this message (see Figure 4.49).
- 5 The importance of adopting a consistent and disciplined policy towards street name signing shall be recognised since adequate street name signing is fundamental to the navigational process. It is a general policy in metropolitan areas served by freeways that the principle exit destination, indicated at access interchanges, is the name of the CROSS STREET. Such cross streets are commonly Class B routes and shall be identifiable as such by travellers. For this reason larger lettering is recommended for Class B street name signs. This recommendation applies to the signs erected in a Class B street for the Class B street **AND** the intersecting streets, whether they be Class B, C or D. It is recommended that street name signs be located in the far left corner of Class B route junctions for **BOTH** directions of travel. When placing GL1 signs throughout a new area or when replacing signs as part of an area-wide maintenance or rehabilitation programme, the location of signs should be built up around the preferred placement on the Class B routes in, or abutting the area. At junctions of Class C and D streets one GL1 sign for each intersecting street will normally be adequate. Figure 4.49 illustrates a typical situation.
- 6 The use of letter Style "A" (compressed) is recommended for STREET NAME signs. The minimum letter height recommended for the principal name for Class B streets is 140 mm. The letter height may be reduced to 105 mm for Class C and D streets. Various adjuncts to the street name may be indicated in reduced letter sizes as shown by sign types GL1.1 to GL1.8. The minimum recommended letter heights for adjuncts placed over or under the principal name are 63 mm with 140 mm lettering and 42 mm with 105 mm lettering.
- 7 The more common street adjuncts are listed with their abbreviations in Table 4.7. It is generally recommended that street adjuncts be abbreviated except when used with very short names. Table 4.8 lists a selection of numbers commonly used as street names together with their abbreviations.
- 8 Street names may commonly originate from a language used in the SADC region, other than English. The language of origin should be retained and should not be anglicised. In such instances it may be advisable to use English adjuncts to improve the overall chance of non-speakers of the local language understanding such street names.



NOTES:-

- 1 Basic STREET NAME sign types are illustrated by examples GL1.1 to GL1.5.
- 2 Examples GL1.6 and GL1.7 show ways in which sign length may be reduced. GL1.6 uses reduced letter size for a name prefix or title. GL1.7 omits the adjunct.
- 3 The remaining examples show the inclusion of property numbers and/or a small "directional" arrow together with recommended sign number variations (see Volume 4, Chapter 4).

Fig 4.49 Variations in Street Name Sign Layout

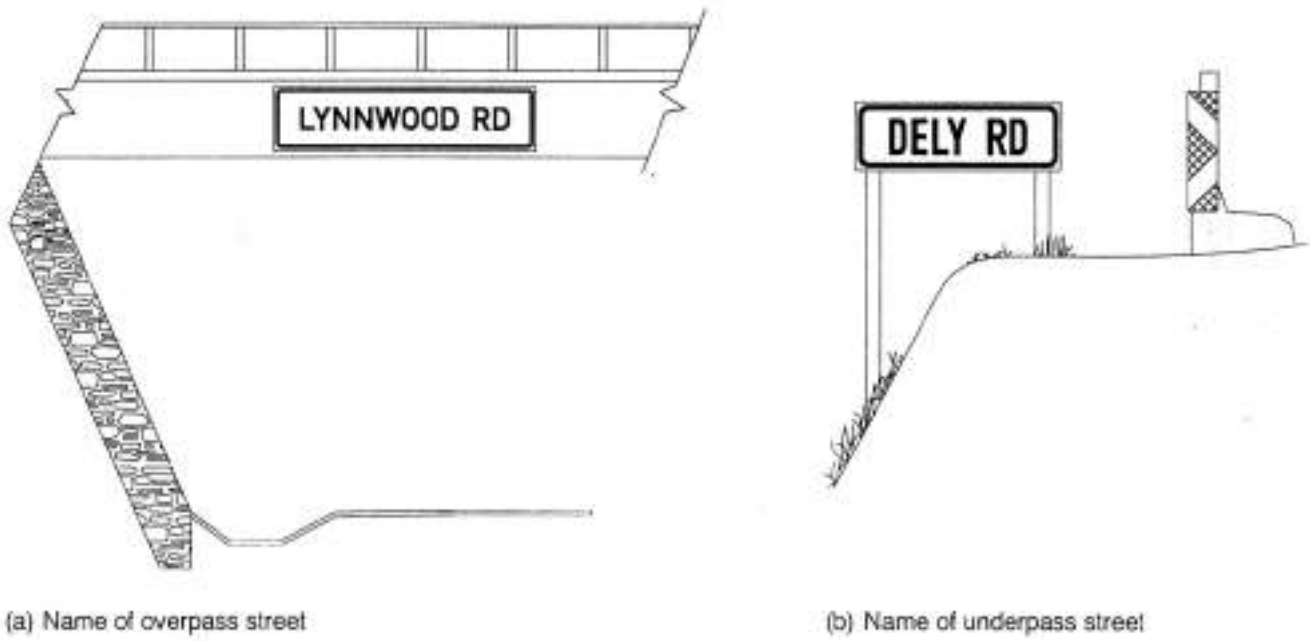


Fig 4.50 Typical Treatment at Freeway Bridges

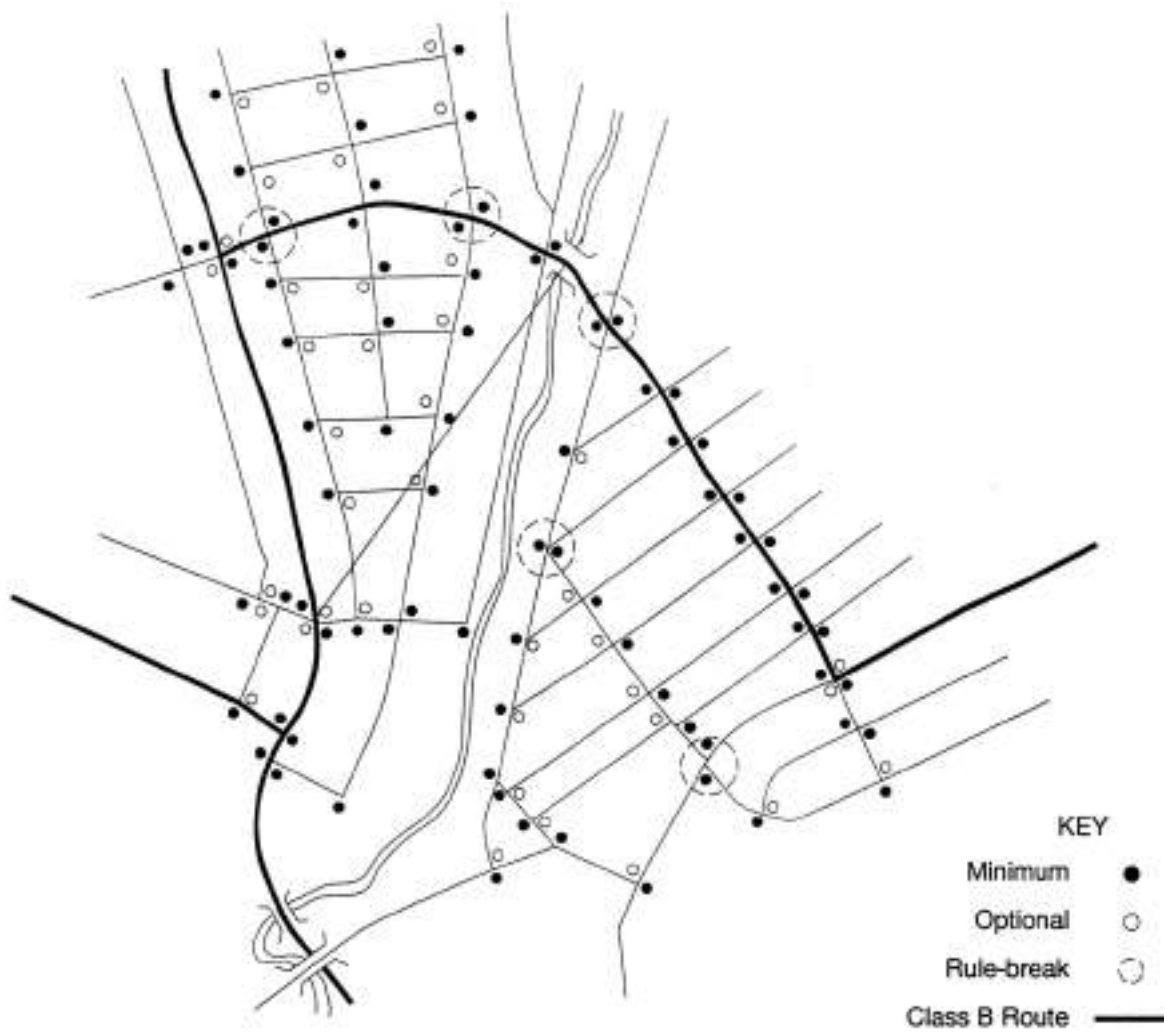


Fig 4.51 Typical Network of Street Name Signs

TABLE 4.7

STREET NAME ADJUNCTS

TABLE 4.7

Full Length Adjunct	Abbreviation	Full Length Adjunct	Abbreviation
AVENUE	AVE	PARADE	PDE
BOULEVARD	BLVD	PLACE	PLACE
CRESCENT	CRES	ROAD	RD
DRIVE	DR	SQUARE	SQ
EXPRESSWAY	none	STREET	ST
GARDENS	GDNS	TERRACE	TCE
HIGHWAY LANE	none	WAY	WAY
	LN		

NOTES:

- (1) Special names may also be used for streets which do not lend themselves to adequate abbreviation, e.g. **KINGSWAY, BROADWAY** etc.

TABLE 4.8

NUMBERED STREET NAMES AND ABBREVIATIONS

TABLE 4.8

FIRST	1ST
SECOND	2ND
THIRD	3RD
FOURTH	4TH

9 Street name signs may be attached to suitably located existing street furniture or to poles specifically provided for them. The latter should be located as near as practical to the junction so that they will offer the optimum chance of being seen by drivers and pedestrians. On kerbed streets no sign or support pole should be closer than 300 mm to the kerb face. If mountable kerbing is used, or there is no kerbing, this minimum set-back should be increased to 500 mm. It is generally recommended that the minimum clearance to the underside of a street name sign be 2100 mm and the maximum clearance 3000 mm (see paragraph 4.6.4.10).

10 The following factors are considered relevant in the development of an effective local street name signing policy:

(a) supplementary street name indications may be given on kerb faces at junctions but these should **NOT** replace stand-alone street name signs;

(b) when new suburbs are developed there can be advantages to adopting an alphabetic or numerical order to the naming of streets intersecting the principal routes, e.g. :

- ALPHA
- BRAVO
- CHARLIE
- DELTA

or FIRST
SECOND
THIRD
FOURTH;

(c) in central business districts, and particularly when one-way streets are commonplace, special measures to make street name signs more visible should be considered; this could involve the use of larger letter sizes so that the signs are legible from at least half a city block away, to facilitate correct lane selection for the junction ahead, and/or the placement of the signs in an advantageous

position such as overhead, or on a building canopy, or a traffic signal cantilevered support;

(d) the incorporation of advertising with street name signs has become a widespread practice in towns and cities; provided the authority concerned ensures that the resultant street name signs conform to the principles of this Subsection, and that control is exercised over the details of advertising panels, good and effective street name signs which are to the benefit of the road user can be achieved; valuable subsidies achieved from the advertising can offset the cost of the street name signs (see Chapter 1, Section 1.9 for details of recommended constraints on the content and manufacture of advertising panels used in conjunction with road traffic signs);

(e) in an urban area when a freeway is crossed by a street which does not have access to the freeway it can be of valuable assistance to strangers to the area to display the name of the cross street on the overbridge above the freeway, or for a cross-street underpass beside the freeway; the letter sizing for such signs should be determined in accordance with the provisions of Section 4.4 using Style "B" lettering (see Figure 4.29);

(f) a discontinuity or change in street name, particularly on Class B routes, represents a significant problem in the provision of an effective urban navigation system; road authorities should ensure, if possible, that the names of Class B streets are not changed with each new suburban development which occurs along them; this comment applies particularly to development abutting a freeway in an urban or peri-urban area when that development is extended beyond the freeway.

11 Street name signs are commonly removed during construction work. It is very important that these be relocated temporarily for the duration of the work. In such instances the signs need not be provided in temporary colours.

SUBURB NAME

For dimensions
ref. Vol. 4
pages
4.2.5



COLOURS:

PERMANENT

Border: Black semi-matt
Legend: Black semi-matt
B MOD or DIN A
Background: White semi-matt or
retroreflective

4.6.5 Suburb Name

- 1 SUBURB NAME signs GL2 may be used **to indicate the approximate point of entry into a suburb thereby offering guidance to road users regarding their progress towards their destinations.**
- 2 Suburb names are commonly used by those people giving strangers directions as to how to reach a specific address. It is important that drivers are able to identify one suburb from another. The only legend which may appear on a GL2 sign is a suburb name.
- 3 As a supplement to the policy on street name signing, particularly with regard to Class B routes, it is recommended that the minimum level of signing for such streets include SUBURB NAME signs, GL2. GL2 signs may also be used to advantage on other classes of street to assist strangers. They are not recommended for use on freeways (see Subsection 4.8.1).
- 4 The use of Style "B MOD" lettering is recommended although Style "A" (compressed) may be used for particularly long names. The minimum letter height recommended for GL2 signs used on Class B streets is 175 mm in an overall sign height of 400 mm. This may be reduced to 140 mm in an overall sign height of 320 mm for GL2 signs used on lower classes of road.
- 5 It is recommended that the installation of GL2 signs be planned on an area-wide basis. The longest name required can be identified and a standard sign length determined based on accommodating this name. The use of a standard length will enhance uniformity of the signs and will facilitate the incorporation of an advertising message in a standardised form below sign GL2 (see 4.6.4.10(d) and Chapter 1, Section 1.9).
- 6 Signs GL2 should be located on the left side of the roadway close to the suburb boundary, taking into account the location of junctions, other road traffic signs and street furniture. The lateral and vertical location of GL2 signs should conform with the provisions of Chapter 1 (see Figure 4.52).
- 7 Where it becomes necessary, particularly as a result of the general use of sign GL2, to sign suburbs which do not abut or cross a Class B street as a local destination, the signing to these suburbs should be achieved using LOCAL DIRECTION signs GDL1 to GDL3 as appropriate (see Section 4.11). The location of GD1 or GD2 signs should take precedence over any GL2 signs required in close proximity.
- 8 The following factors should be considered when developing a local policy for the use of GL2 signs:
 - (a) the signing of minor suburbs (under 100 dwelling units potential development) and "extensions" of a larger suburb is not warranted;
 - (b) a logical and systematic approach to the signing of suburbs is likely to be a compromise between non-directional suburb name signs and suburb direction signs, with both types of sign being used;
 - (c) if access points to larger suburbs from arterial Class B routes are limited the use of SUBURB NAME and DIRECTION signs may be appropriate;
 - (d) Class B routes may separate suburbs so that they lie wholly to one side or the other side of the route; it may then be appropriate to place a GL2 sign with the right hand side suburb name, on the right-hand side of the roadway.

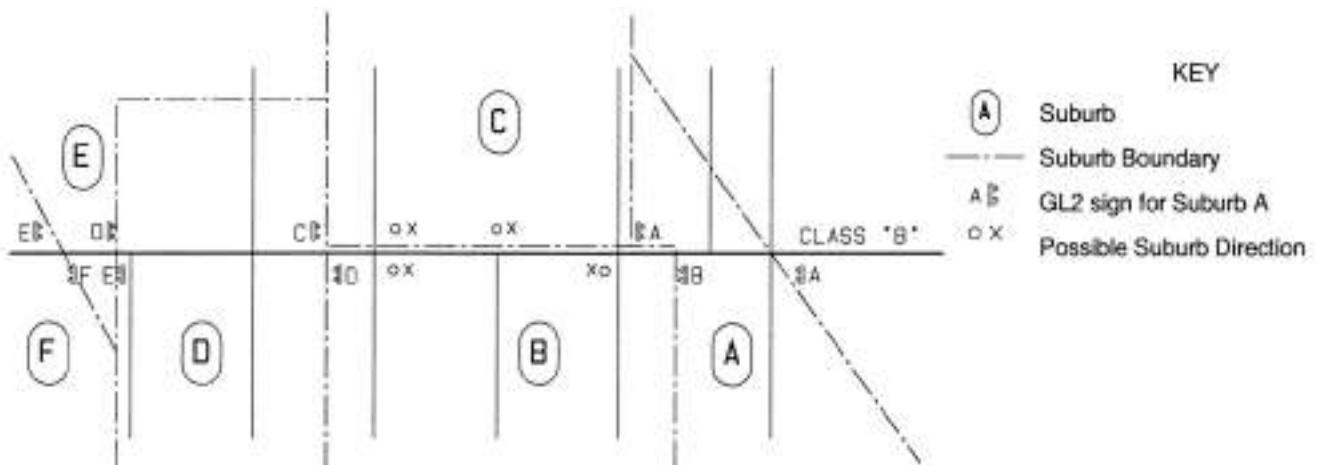


Fig 4.52

Typical Suburb Name Sign Treatment

COLOURS:

PERMANENT

- Border: Black semi-matt
- Legend: Black semi-matt
- B MOD
- Crest: Full colour
- Background: White semi-matt or retroreflective

GL3.1



For dimensions
ref. Vol. 4
pages

4.2.6
4.2.7

GL3.2



4.6.6 Town or City Name

- 1 TOWN or CITY NAME signs GL3.1 or GL3.2 may be used **to indicate to road users the approximate point of entry into a town or city either from the open road or from an adjoining town or city, thereby offering guidance to road users regarding their progress towards their destinations.**
- 2 Signs GL3.1 and GL3.2 may be used on any class of road. When used in metropolitan areas the use of a TOWN or CITY NAME sign should take precedence over a SUBURB NAME sign, GI2. The town or city crest coat-of-arms or other appropriate device may be incorporated into the sign above the place name as shown in example GL3.2. When the place name is a two-part name the name may be displayed in two lines to reduce sign length. The size of lettering used should be determined in accordance with the provisions of

Section 4.4 using Style "B MOD" lettering. (Dimensional details are given in Volume 4.)

- 3 Signs GL3.1 and GL3.2 should be located on the left side of the roadway approximately where the town or city boundary crosses the route. It is common practice on rural routes to indicate a reduction in speed limit in such positions using SPEED LIMIT sign, R201. In such cases signs GL3.1 or GL3.2 should be located at sign R201 or 100m beyond sign R201.
- 4 Apart from providing general information, TOWN or CITY NAME signs, even when located on access controlled routes such as freeways, can also fulfil the function of indicating to drivers which traffic authority should be contacted in an emergency.

RIVER NAME

COLOURS:

PERMANENT

- Border: Black semi-matt
- Legend: Black semi-matt
- B MOD
- Crest: Full colour
- Background: White semi-matt or retroreflective

GL4



For dimensions
ref. Vol. 4
pages

4.2.8

4.6.7 River Name

- 1 A RIVER NAME sign may be used **to indicate the location of rivers of interest to road users.**
- 2 Sign GL4 should be located on the left side of the roadway, on each approach to the river, in the most suitable position as near as possible to the bridge. As a general rule a RIVER NAME sign is not warranted if the

structure carrying the road over the watercourse is not classed as a bridge.

- 3 The sign size may be dictated by symbol GLS-1 for short river names. Letter sizes should be determined in accordance with the provisions of Section 4.4 using Style "B MOD" lettering.

NATIONAL or PROVINCIAL BORDER

For dimensions
ref. Vol. 4
pages
4.2.9
4.2.10

GL5.1



GL5.2



COLOURS:

PERMANENT

Border: Black semi-matt
Legend: Black semi-matt
B MOD
Crest: Full colour
Background: White semi-matt or
retroreflective

4.6.8 National or Provincial Border

- 1 A NATIONAL or PROVINCIAL BORDER sign, GL5.1 or GL5.2 respectively may be used *to indicate the location of national or provincial borders to road users.*
- 2 Signs GL5.1 and GL5.2 may be considered for Class A or rural Class B routes. The national or provincial crest or coat-of-arms may be incorporated as shown in Volume 4, Chapter 4.
- 3 Signs GL5.1 and GL5.2 may incorporate the words "WELCOME TO".
- 4 The signs should be located on the left side of the roadway in the approximate position where the national or provincial border crosses the route. Only the name of the country or province about to be entered should be displayed. The sign lettering size should be determined in accordance with the provisions of Section 4.4 using Style "B MOD" lettering.

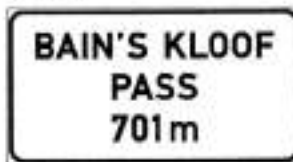
GEOGRAPHICAL LOCATION

For dimensions
ref. Vol. 4
pages
4.2.11
4.2.12

GL6.1



GL6.2



COLOURS:

PERMANENT

Border: Black semi-matt
Legend: Black semi-matt
B MOD
Background: White semi-matt or
retroreflective

GL6.3



GL6.4



4.6.9 Geographical Location

- 1 A GEOGRAPHICAL LOCATION sign GL6 may be used *to indicate to road users a location along the roadway of particular geographical interest.* Such locations may include tunnels, major dams, toll plazas, mountain passes and other unique features.
- 2 Additional information such as the altitude of a mountain pass may be incorporated into the signs as shown by example GL6.2. The sign message may be arranged in more than one line to reduce sign length.
- 3 GL6 signs should normally be located on the left side of the roadway. However, it may occasionally be appropriate to use a double-sided sign. The sign lettering size should be determined in accordance with the provisions of Section 4.4 using Style "B MOD" lettering.
- 4 GL6.3 and GL6.4 are special versions of the GEOGRAPHICAL LOCATION sign utilizing an exclusive symbol to re-present a CONSERVANCY AREA and a HIGH DENSITY TOURISM AREA. In the latter case an appropriate tourism symbol may be displayed.

ROUTE NAME

COLOURS:

PERMANENT

Border: Black semi-matt

Legend: Black semi-matt

B MOD

Symbol: Black or black on yellow retroreflective

Background: White semi-matt or retroreflective



For dimensions
ref. Vol. 4
pages

4.2.13

4.6.10 Route Name

- When a major route of national or provincial importance has been given a name in addition to a route number, ROUTE NAME signs GL7.1, GL7.2 or GL7.3 may be used **to indicate to road users that the route in question has been named for ease of reference and/or to honour the achievement of an important person.**
- When the route in question is a toll route the signs shall incorporate the TOLL ROUTE symbol, GLS-2, as indicated by example GL7.2. Sign GL7.3 shall be used to indicate the end of the named toll route and shall incorporate END OF TOLL ROUTE symbol GLS-3.
- Signs GL7.1, GL7.2 and GL7.3 should be located on the left side of the roadway in the approximate position where the named route commences.
- Since signs GL7.1, GL7.2 and GL7.3 will normally be installed on high speed roads the use of Style "B MOD" lettering is recommended with a minimum letter height of 140 mm. No message other than the route name, and where appropriate the TOLL ROUTE symbol or END OF TOLL ROUTE symbol and/or the relevant FREEWAY ROUTE symbol GLS-4 (Class A1) or GLS-5 (Class A2) shall be included on the sign.

INTERCHANGE NAME

COLOURS:

PERMANENT

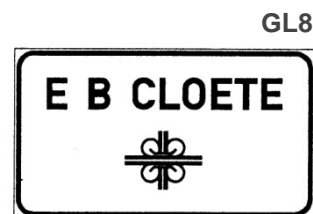
Border: Black semi-matt

Legend: Black semi-matt

B MOD

Symbol: Black semi-matt

Background: Whitesemi-matt or retroreflective



For dimensions
ref. Vol. 4
pages

4.2.14

4.5.11 Interchange Name

- When an important interchange has been given a name an INTERCHANGE NAME sign GL8 may be used **to indicate to road users that the interchange has been named for ease of reference and/or to honour the achievement of an important person.**
- Sign GL8 may be located in any safe and convenient position on the approach to the interchange.
- The sign should only contain the interchange name in Style "B MOD" lettering and INTERCHANGE NAME symbol GLS-6. A minimum letter height of 140 mm is recommended.

4.7 ROUTE MARKER

4.7.1 General

- 1 Route marker signs may be used to indicate to drivers, by "trailblazing", the way in which traffic should travel in order to reach a specific numbered route or transport terminal of regional importance. Route marker signs may also be used to indicate to drivers the number allocated to a specific route by means of signs placed along the route. This includes the use of route marker direction signs, when the route in question changes direction, or at junctions where drivers enter a numbered route. In comparison to destination direction signs route marker signs are compact in size. A function of ROUTE MARKER signs is therefore to replace or supplement destination DIRECTION signs in order to generally reduce sign areas and the number of destination direction signs which might otherwise be required. Their use requires driver knowledge of route numbers in a specific region. This knowledge can only be acquired through active publicity and the availability of accurate up to date route maps. Route marker signs are particularly relevant in metropolitan areas where road networks are complex and space for direction signs is often limited. For further details on the navigational principles used in developing the direction signing system see Chapter 8. For examples of the application of route marker signs, on their own, and with direction signs refer to Volume 2, Chapter 9: *Urban Guidance Signing*.
- 2 The route marker group of guidance signs is subdivided as follows:
 - (a) TRAILBLAZER signs comprising advance direction and direction signs;
 - (b) TRANSPORT TRAILBLAZER signs comprising advance direction and direction signs;
 - (c) ROUTE MARKER signs comprising confirmation, direction and advance direction signs.
- 3 TRAILBLAZER signs impart the message "TO ROUTE.... (identified by number)". These signs are therefore giving an "indirect" indication towards the route displayed, in that, when following the direction given by the sign, a driver does not turn directly onto the route displayed. The number of the route displayed shall therefore be placed within brackets to indicate the "indirect" nature of the guidance message. If the route being trailblazed is a toll route, or an alternative route to a toll route, the TOLL ROUTE symbol GDS-9 or the ALTERNATIVE ROUTE symbol GDS-10 shall be displayed after the route number and within the brackets.
- 4 TRAILBLAZER signs should ideally be located in relation to exit points from destinations of regional significance where a change of transport mode may occur, or where traffic has collected which may have been generated from outside the region. Such destination types are:
 - (a) transport terminals;
 - (b) graded accommodation;
 - (c) sports stadiums;
 - (d) regional hospitals;
 - (e) regional educational establishments;
 - (f) conference centres;
 - (g) approved information centres.
- 5 Trailblazer signs may commonly commence on Class C or even Class D routes. Once used, they should continue to be used through to the Class B route which leads to the route being trailblazed. Trailblazer signs should only be used to "trailblaze" a route of equal or higher status in the road hierarchy to the one on which the sign is displayed. If destinations served by the route being trailblazed start to appear on ADVANCE DIRECTION signs GD1, and/or DIRECTION signs GD2, on a Class B route, trailblazer signs are no longer necessary.
- 6 TRANSPORT TRAILBLAZER signs, indicating a preferred route to a regional transport terminal, shall only be used on Class B or lower routes when these lead to a terminal, i.e. downwards in the road hierarchy.
- 7 All route marker signs except the CONFIRMATION ROUTE MARKER signs incorporate an arrow. Their function is thus either that of guidance by direction or guidance by confirmation. They represent the simplest and most compact guidance signs available to road authorities and designers.
- 8 ROUTE MARKER signs are most commonly used on numbered Class B and Class A routes, although their use on Class A routes is likely to be limited to that of giving confirmation or reassurance. Trailblazer signs shall not be used on Class A routes. The use of all types of ROUTE MARKER signs is recommended in addition to STREET NAME GL1 and SUBURB NAME GL2 signs on all urban and metropolitan Class B numbered routes. **Collectively these three sign types represent the recommended MINIMUM signing requirement for metropolitan Class B routes.** This does not preclude the use of destination DIRECTION signs to enhance this recommended minimum level of signing (see Section 4.5 and Volume 2, Chapter 9).
- 9 TRAILBLAZER and ROUTE MARKER signs may be used to indicate METROPOLITAN, REGIONAL, PROVINCIAL or TERRITORIAL, or NATIONAL routes. The signs may incorporate a route identification letter or transport terminal symbol as follows:

(a) metropolitan routes	-M
(b) regional routes;	-C
(c) provincial routes;	-B
(d) national routes	-A
(e) transport terminal symbols	- GDS-1, GDS-2, GDS-3, GDS-11 or GDS-13.
- 10 **TRAILBLAZER and ROUTE MARKER signs shall not include any destination names.**
- 11 TRAILBLAZER information may also be incorporated into various types of direction sign (see Sections 4.8 and 4.9, and Chapter 8).

4.7.2 Orientation

- 1 Since ROUTE MARKER signs do not include destination names they require a component which will offer orientation to drivers. Orientation is achieved by the inclusion of a stylised letter, normally located below the route number, representing one of the CARDINAL

DIRECTIONS of the compass.

- 2 Although paragraph 4.7.1.9 indicates a designatory letter appropriate to each class of numbered route, several countries in the region use different letter sets (see Section 4.15). In some countries the letter "N" is used to designate the highest order or "National" routes. Since this can lead to confusion if the same letter "N" is used to indicate the cardinal direction "North" a set of four unique styled letters has been adopted for the indication of abbreviated cardinal directions.

- 3 The cardinal directions shall be indicated in an abbreviated form as follows:

(a) north



(b) south



(c) east



(d) west



- 4 Although a route may deviate from a true "north-south" or "east-west" direction due to topographical features, or urban street networks, the cardinal direction indicated to represent the general direction of the route shall be retained through any such deviations of route.

4.7.3 Shape, Size and Colours

- 1 TRAILBLAZER signs shall be rectangular in shape with a vertical format.
- 2 ROUTE MARKER signs shall also have a rectangular format. Advance direction and direction route marker signs shall have a horizontal format and confirmation route marker signs a vertical format.
- 3 All ROUTE MARKER signs incorporate a symbolic background shape related to the class of route. These shapes are:

- (a) metropolitan - a vertical rectangle. (However, a metropolitan area may incorporate a unique background shape of a generally vertical format - see Figure 4.53.);
- (b) regional - a horizontal rectangle;
- (c) provincial or territorial - a diamond;
- (d) national - a pentagon.

- 4 Signs shall be as compact as possible. Details of fixed urban and rural dimensions are given in Volume 4.
- 5 Route marker signs conform to the guidance sign colour code in that Class A1 freeway signs have a blue background and all others a green background **EXCEPT** that TRAILBLAZER signs directing traffic upwards in the road hierarchy towards a Class A1 freeway shall utilise a blue background even though they may be located on any class of non-freeway road. TRAILBLAZER signs directing traffic towards a Class A2 freeway and any Class B route shall use a green background.
- 6 On all route marker signs, route number, brackets and cardinal direction (when included – see Subsection 4.7.2) shall be displayed in yellow. TRAILBLAZER signs indicating freeways shall incorporate Freeway (Class A1) symbol GDS-4, or Freeway (Class A2) symbol GDS-5. The freeway symbol, arrow and border shall be white.

On all route marker signs, route number, brackets and

- 7 TRAILBLAZER and ROUTE MARKER signs may be used in TEMPORARY forms. Temporary route marker signs should conform to the general temporary sign colour code of a yellow background with a black border, symbols and legend.

4.7.4 Retroreflectivity

- 1 It is recommended that all route marker signs be fully retroreflective because of their compact size, excluding the black portions of TEMPORARY signs which should be semi-matt.
- 2 The retroreflective materials used shall conform to the requirements of Chapter 1.

ADVANCE TRAILBLAZER

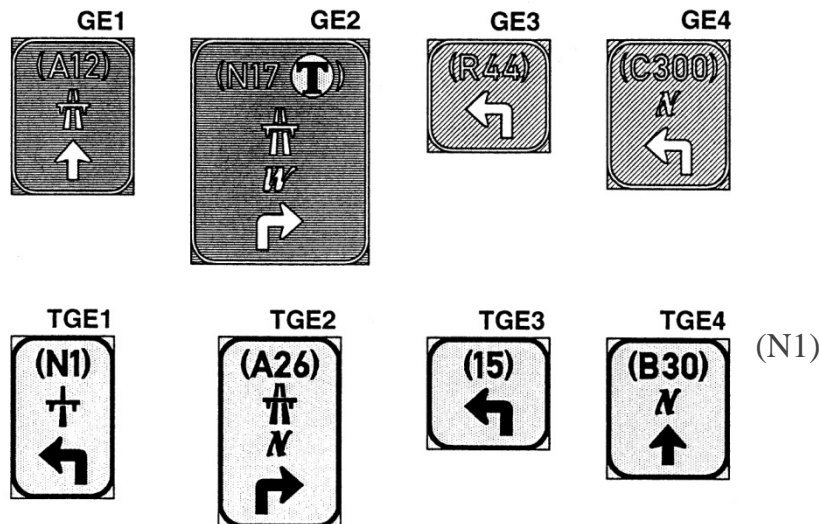
COLOURS:

PERMANENT

Border & arrow: White retroreflective
 Legend: Yellow retroreflective
 Symbol: White retroreflective
 Background: Blue or green

TEMPORARY

Border & arrow: Black semi-matt
 Legend & symbol: Black semi-matt
 Background: Yellow retroreflective



For dimensions
 ref. Vol. 4
 pages
 4.3.1
 4.3.1.3.2
 4.3.2.3 retroreflective 4.3.3
 4.3.4

4.7.5 Advance Trailblazer

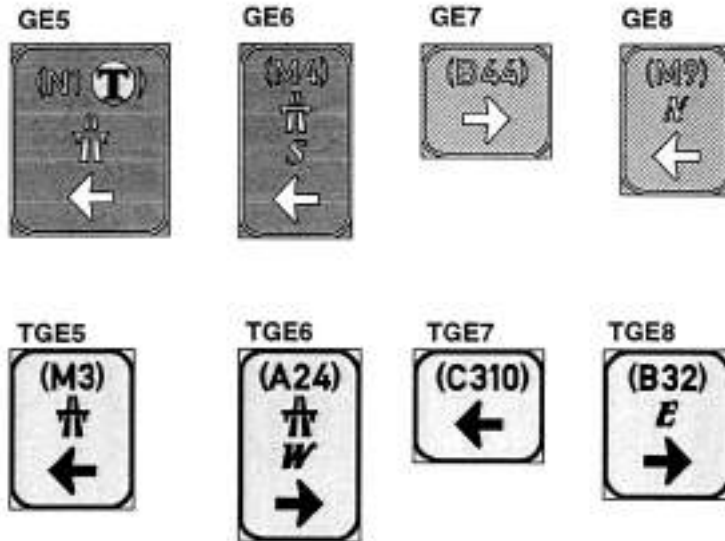
- 1 An ADVANCE TRAILBLAZER sign of one of the types GE1, GE2, GE3 or GE4 may be used in advance of a junction **to indicate to drivers the direction to a numbered route, of equal or higher status in the road hierarchy to the one in which the sign is displayed, and which is appropriate to their need to leave the general area.**
- 2 Signs of the types GE1, GE2, GE3 and GE4 should be located on the left side of the roadway in accordance with the provisions of Figure 4.58. In certain circumstances, if a median island is available, it may be beneficial to traffic wishing to make a subsequent right turn movement to locate an ADVANCE TRAILBLAZER sign on the median island in advance of the start of a right turn lane which is developed from the median island.
- 3 ADVANCE TRAILBLAZER signs may be used to supplement existing ADVANCE DIRECTION signs GD1 and/ or DIRECTION signs GD2 which do not incorporate destinations on the route being trailblazed. They may alternatively be used on their own or in combination with TRAILBLAZER signs of the types GE5, GE6, GE7 or GE8 as appropriate.
- 4 Sign type GE1 should be used to direct traffic towards a metropolitan, regional, provincial, or national **freeway** when access in either direction of travel is available. If access to the **freeway** is limited to one direction of travel, or appropriate in one direction because a more appropriate entry point may apply

for the opposite direction of travel, a cardinal direction should be incorporated as shown by sign type GE2. The symbol used on signs GE1 or GE2 shall indicate the class of freeway being trailblazed e.g. symbol GDS-4 for Freeway (Class A1) and symbol GDS-5 for Freeway (Class A2). In the event that the class of a freeway route changes at the interchange being trailblazed, sign GE1 should indicate the higher class. Sign GE2, because it indicates only one direction of travel on the freeway, shall indicate the class appropriate to that direction of travel. It should be noted that the background colour of ADVANCE TRAILBLAZER signs shall also change from blue (Class A1) to green (Class A2) or *vice versa* if the route class alters.

- 5 Sign types GE3 and GE4 may be used in a similar manner to trailblaze **Class B** (non-freeway) routes.
- 6 The use of sign types GE2 and GE4 may be particularly appropriate either within urban one-way systems or for the trailblazing of numbered urban one-way routes.
- 7 In the event of a route becoming discontinuous or not accessible due to temporary road closure (for whatever reason) TEMPORARY advance trailblazer sign types TGE1, TGE2, TGE3 and TGE4 may be used to trailblaze an alternative route as part of a co-ordinated system of detour signing. The use of these relatively compact temporary signs may offer an economic alternative to temporary direction signs.

TRAILBLAZER

For dimensions
ref. Vol. 4
pages
4.3.5
4.3.6
4.3.7
4.3.8



COLOURS:
PERMANENT
Border & arrow:
Legend:
Symbol:
Background:

White retroreflective
Yellow retroreflective
White retroreflective
Blue or green
retroreflective

TEMPORARY
Border & arrow:
Legend & symbol:
Background:

Black semi-matt
Black semi-matt
Yellow retroreflective

4.7.6 Trailblazer

- 1 A TRAILBLAZER sign of one of the types GE5, GE6, GE7 or GE8 may be used at a junction **to indicate to drivers the direction to a numbered route, of equal or higher status in the road hierarchy to the one in which the sign is displayed, and which is appropriate to their need to leave the general area.**
- 2 Signs of the types GE5, GE6, GE7 and GE8 should generally be located in the far left corner of a junction.
- 3 TRAILBLAZER signs may be used to supplement existing ADVANCE DIRECTION signs GD1 and/or DIRECTION signs GD2 which do not incorporate destinations on the route being trailblazed. They may alternatively be used on their own or in combination with ADVANCE TRAILBLAZER signs of the types GE1, GE2, GE3 and GE4 as appropriate.
- 4 Sign type GE5 should be used to direct traffic towards a metropolitan, regional, provincial or national **freeway** when access in either direction of travel is available. If access to the **freeway** is limited to one direction of travel, or appropriate in one direction because a more appropriate entry point may apply for the opposite direction of travel, a cardinal direction should be incorporated as shown by sign type GE6. The symbol used on signs GE5 or GE6 shall reflect the class of

freeway being trailblazed e.g. symbol GDS-4 for Freeway (Class A1) and symbol GDS-5 for Freeway (Class A2). In the event that the class of freeway route changes at the interchange being trailblazed sign GE5 should indicate the higher class. Sign GE6, because it indicates only one direction of travel on the freeway, shall indicate the class appropriate to that direction of travel. It should be noted that the background colour of TRAILBLAZER signs shall also change from blue (Class A1) to green (Class A2), or *vice versa*, if the route class alters.

- 5 Sign types GE7 and GE8 may be used in a similar manner to trailblaze **Class B** (non-freeway) routes.
- 6 The use of sign types GE5 and GE6 may be particularly appropriate either within urban one-way systems or for the trailblazing of numbered urban one-way routes.
- 7 In the event of a route becoming discontinuous or not accessible due to temporary road closure (for whatever reason) TEMPORARY trailblazer sign types TGE5, TGE6, TGE7 and TGE8 may be used to trailblaze an alternative route as part of a co-ordinated system of detour signing. The use of these relatively compact temporary signs may offer an economic alternative to temporary direction signs.

ADVANCE TRANSPORT TRAILBLAZER

COLOURS:

PERMANENT

Border & arrow: White retroreflective
 Symbol: White retroreflective
 Background: Green retroreflective



For dimensions
 ref. Vol. 4
 page

4.3.9

4.7.7 Advance Transport Trailblazer

- 1 ADVANCE TRANSPORT TRAILBLAZER signs GE9 may be used in advance of a junction, with the appropriate DIRECTION SIGN SYMBOL, **to indicate to drivers the direction to a transport terminal of regional importance from a route which would otherwise by-pass the area in which the terminal is located.**
- 2 GE9 type signs may be located on Class Band other routes leading towards a transport terminal. Several changes of route may be required. These signs will, under such circumstances, significantly reduce the DIRECTION sign area otherwise required if the distance involved is considerable e.g. over 10 km in metropolitan areas. If two or more terminals serving the same transport mode are located close to each other, direction signs incorporating the full terminal name shall be used. **Signs GE9 shall not be used on freeways.**
- 3 The straight-on version of sign GE9 may be particularly effective, when distances are considerable, if repeated at 500 m to 1 km intervals.
- 4 The signs should be located on the left side of the roadway and in accordance with the provisions of Figure 4.58. If ADVANCE DIRECTION signs GD1 are in use signs GE9 should be positioned 60 m to 150 m in advance of the GD1 signs according to the operating speed of the road.
- 5 Regional transport termini may include:
 - (a) airports (symbol GDS-3);
 - (b) bus stations (symbol GDS-2);
 - (c) railway stations (symbol GDS-1);
 - (d) harbours (symbol GDS-13);
 - (e) heliports (symbol GDS-11).
- 6 When the symbol is not a "head-on" pictogram the symbol should be oriented to match the direction indicated by the arrow. Signs should be ordered by quoting sign and symbol numbers e.g. GE9 (GDS-3).
- 7 Temporary advance transport trailblazer signs are unlikely to be required.

TRANSPORT TRAILBLAZER

COLOURS:

PERMANENT

Border & arrow: White retroreflective
 Symbol: White retroreflective
 Background: Green retroreflective



For dimensions
 ref. Vol. 4
 page

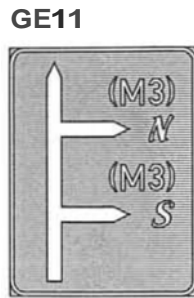
4.3.10

4.7.8 Transport Trailblazer

- 1 TRANSPORT TRAILBLAZER signs GE10 may be used at a junction **to indicate to drivers the direction to a transport terminal of regional importance as part of a sequence of such signs along a route.** These signs should not be used as local direction signs. If it is required to give conventional directional guidance to a transport terminal on a local route, then LOCAL DIRECTION signs GD2 or GD3 should be used.
- 2 GE10 type signs may be used in conjunction with ADVANCE TRANSPORT TRAILBLAZER signs GE9 or as a supplement to normal direction signs to avoid the need to change such signs until they are due for replacement.
- 3 The signs should generally be located in the far left corner of a junction.
- 4 Regional transport termini which may be signed in this manner include:
 - (a) airports (symbol GDS-3);
 - (b) bus stations (symbol GDS-2);
 - (c) railway stations (symbol GDS-1);
 - (d) harbours (symbol GDS-13);
 - (e) heliports (symbol GDS-11).
- 5 When the symbol is not a "head-on" pictogram the symbol should be oriented to match the direction indicated by the arrow. Signs should be ordered by quoting sign and symbol numbers, e.g. GE10 (GDS-3).
- 6 Temporary transport trailblazer signs are unlikely to be required.

4.7.6 MAP-TYPE ADVANCE TRAILBLAZER

For dimensions
ref. Vol. 4
page
4.3.11



COLOURS :

PERMANENT
Border & arrow: White retroreflective
Legend: Yellow retroreflective
Background: Blue or green retroreflective

4.7.9 Map-Type Advance Trailblazer

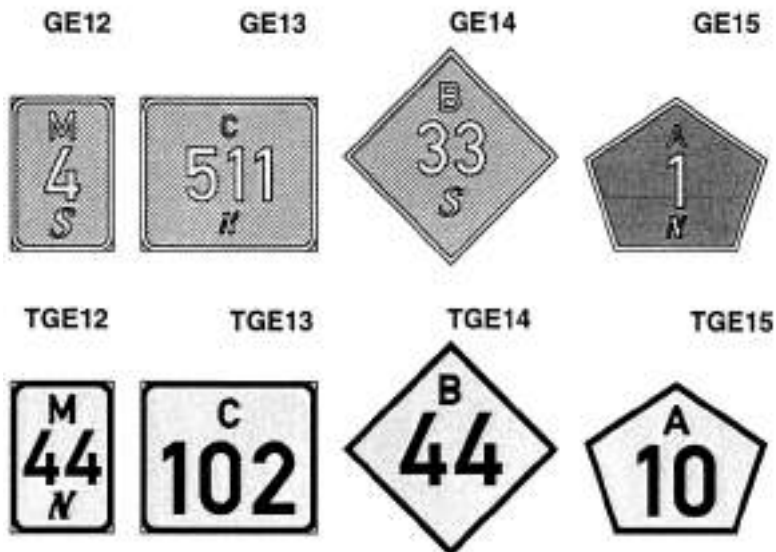
- 1 A MAP-TYPE ADVANCE TRAILBLAZER sign GE11 may be used in advance of a complex road junction **to indicate to drivers the direction to a numbered route, of equal or higher status in the road hierarchy to the one in which the sign is displayed, and is appropriate to their need to leave the general area.**
- 2 MAP-TYPE ADVANCE TRAILBLAZER sign may be warranted when access to a numbered route is provided by a pair of one-way roadways. The indication of the split between the two opposing cardinal directions of movement should be incorporated into the MAP-TYPE arrow used on such a sign. The cardinal directions shall be indicated with the route number which shall be contained within brackets. Such a sign may be required as the last trailblazer sign in a sequence of ADVANCE TRAILBLAZER and/or TRAILBLAZER signs.
- 3 Sign GE11 should be located on - the left side of a roadway generally in accordance With the provisions of Figure 4.58.
- 4 Sign GE11 will generally require special design according to the geometry of the junction it serves. The above example is representative of the style of such signs. Specific detail shall must be supplied to the sign manufacturer to enable aGE11 sign to be manufactured (see Figure 4.7).
- 5 It should be noted that an almost identical MAP-TYPE DIRECTION sign GD7 may be specified for direct turns onto, specifically, a freeway. Such a sign would differ from sign GE11 by the omission of the brackets (see Subsection 4.8.10).

CONFIRMATION ROUTE MARKER

COLOURS:

PERMANENT
 Border & arrow: White retroreflective
 Legend: Yellow retroreflective
 Background: Blue or green retroreflective

TEMPORARY
 Border & arrow: Black semi-matt
 Legend: Black semi-matt
 Background: Yellow retroreflective



For dimensions
 ref. Vol. 4
 pages

4.3.12
 to
 4.3.17
 and
 4.3.29

4.7.10 Confirmation Route Marker

- 1 CONFIRMATION ROUTE MARKER signs GE12, GE13, GE14 and GE15, may be used, as appropriate, **to indicate to drivers, by way of confirmation or reassurance, the number and status of the route on which they are travelling. The signs have a unique shape for each class of route.**
- 2 The applicability of CONFIRMATION ROUTE MARKER signs GE12 to GE15 is as follows:
 - (a) GE12 to numbered metropolitan routes;
 - (b) GE13 to numbered regional routes;
 - (c) GE14 to numbered provincial routes;
 - (d) GE15 to numbered national routes.
- 3 TOURIST ROUTE MARKER signs GE18 are available to indicate tourist routes on otherwise un-numbered routes (see Subsection 4.7.16). On a regional basis a network of SADC numbered routes have been identified. These routes are superimposed upon local numbered routes in individual countries and are indicated by SADC ROUTE MARKER signs GE19 (see Subsection 4.7.17).
- 4 Signs GE12 to GE15 should be displayed on the relevant Class A or Class B routes when CONFIRMATION DIRECTION signs GA7 or GD3 are not used. Since GA7 signs are a standard requirement on freeways the use of signs GE12 to GE15 is likely to be limited on freeways, and in fact on the more important provincial routes for the same reason. Signs GE12 to GE15 may be used to supplement GA7 or GD3 signs when these are spaced more than 10 km apart. However, all types may be used to give route confirmation in urban areas where metropolitan, regional, provincial and national routes may change direction one or more times within such areas. **The METROPOLITAN CONFIRMATION ROUTE MARKER sign GE12, in particular, is recommended for consistent use in metropolitan areas on all numbered routes.**
- 5 When used on Class A1 freeways the sign background colour shall be blue.
- 6 Signs GE12 to GE15 should be located on the left side of the roadway. METROPOLITAN confirmation route marker signs GE12, should be positioned 60 m to 100 m beyond all Class B/Class B junctions and any other junctions with Class 8 routes where significant volumes of traffic enter the Class B route. Ideally such signs should be clearly visible to drivers of vehicles which are stationary at a preceding STOP LINE RTM1. Sign GE12 should be repeated at approximately 500 m intervals depending on junction spacing. **Sign GE12 constitutes part of the recommended minimum level of signing for urban Class B routes.** Signs GE13, GE14 and GE15 should be applied in the same manner as sign GE12 when used in developed urban areas. Otherwise they should be erected at approximately 10 km intervals.
- 7 Sign GE12 should always incorporate a cardinal direction indicated in the special stylised lettering (see Subsection 4.7.2). This requirement should be applied carefully on "circular" routes which gradually change direction. The use of cardinal directions on regional, provincial, and national CONFIRMATION ROUTE MARKER signs GE13, GE14 and GE15 is not normally necessary although it may be advantageous to include a cardinal direction in urban areas.
- 8 It is recommended that metropolitan areas adopt unique background shapes for use on ROUTE MARKER signs. A number of possible shapes together with those already in use are indicated in Figure 4.53.
- 9 It is relatively common in metropolitan areas that routes will overlap for short distances. When this occurs, two or more CONFIRMATION ROUTE MARKER signs shall be displayed one above the other on a common support.
- 10 TEMPORARY confirmation route marker signs TGE12, TGE13, TGE14 and TGE15 may be used when detours are in operation during rural or urban roadworks. The manner of use of TEMPORARY signs should be similar to that for PERMANENT signs.

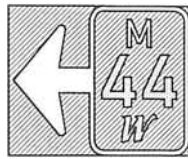
DIRECTION ROUTE MARKER

For dimensions
ref. Vol. 4
pages
4.3.18
4.3.20
4.3.22
4.3.24
and
4.3.29

GE12.1



GE12.2



TGE12.1



TGE12.2



COLOURS:

PERMANENT	White retroreflective
Border & arrow:	Yellow retroreflective
Legend:	Green retroreflective
.Background:	
TEMPORARY	Black semi-matt
Border & arrow:	Black semi-matt
Legend:	Yellow retroreflective
Background:	

4.7.11 Direction Route Marker

- 1 DIRECTION ROUTE MARKER signs GE12.1 and GE12.2 to GE15.1 and GE15.2 may be used to **indicate to drivers the route number of an intersecting Class B route**. Separate signs shall be used to indicate right and left directions. In so doing each sign links a direction of movement to a cardinal direction which represents the general heading of the route.
- 2 The detail given in this subsection relates particularly to METROPOLITAN DIRECTION ROUTE MARKER signs because these are the most commonly used of this type of sign. Signs GE13.1 and GE13.2 (REGIONAL), GE14.1 and GE14.2 (PROVINCIAL) and GE15.1 and GE15.2 (NATIONAL) direction route markers may be used on the respective types of route as a minimum level of direction signing. These signs will most commonly be used in urban areas when space for DIRECTION signs GD2 is limited. They may also be appropriate at rural junctions particularly in the TEMPORARY forms when detours are in operation (see Figure 4.54).
- 3 Signs GE12.1 and GE12.2 may be used singly, as at a route change of direction, or in combination at an intersecting cross route. The signs should be located on the far side of the junction. It is recommended that the signs be located as close as possible to STREET NAME signs GL1 and/or a traffic signal head when the junction is signalised. In this way information relevant to the negotiation of the junction will be located within the driver's cone of vision when observing the traffic signal. When both right and left signs are displayed on a common support the right direction sign shall always be located above the left direction sign to conform to standard STACK-TYPE DIRECTION sign practice.
- 4 In metropolitan areas two or more routes may overlap for short distances. In such situations it is recommended that right direction route marker signs be displayed on a support to the right of the junction and left direction route marker signs on the left of the junction. If deemed advantageous this practice may also be used for single right and left signs.

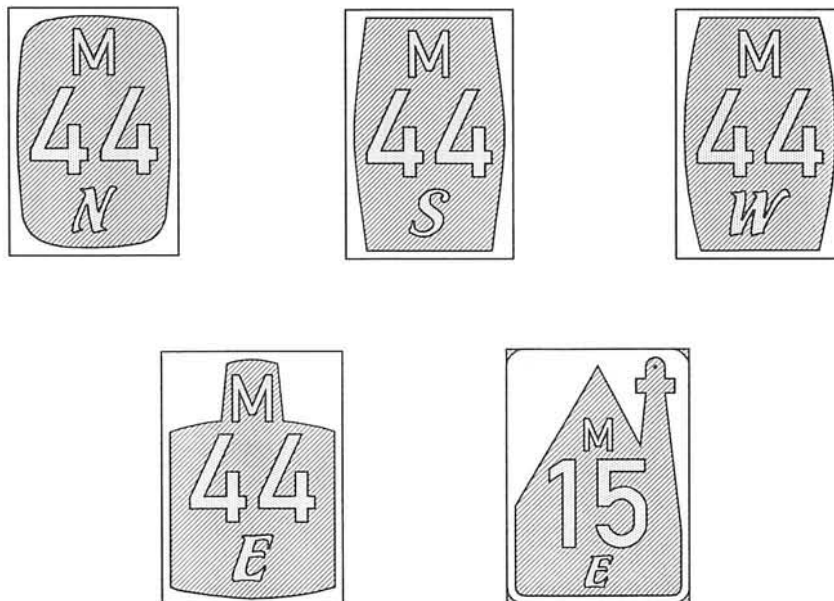


Fig 4.53 Examples of Background Shapes for Metropolitan Route Marker Signs

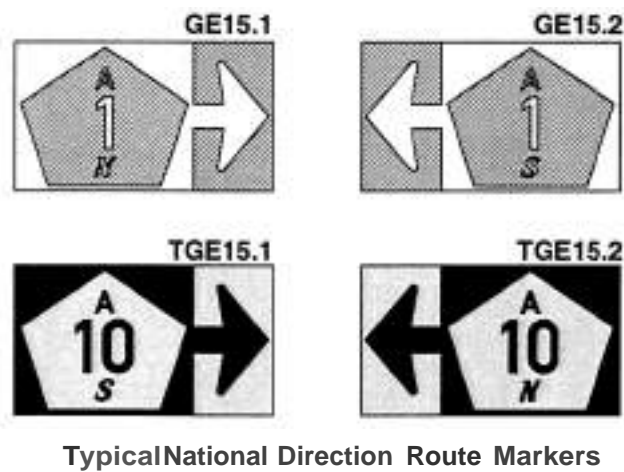
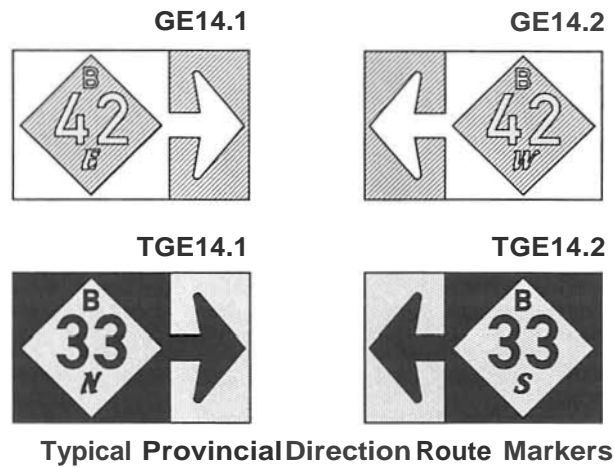
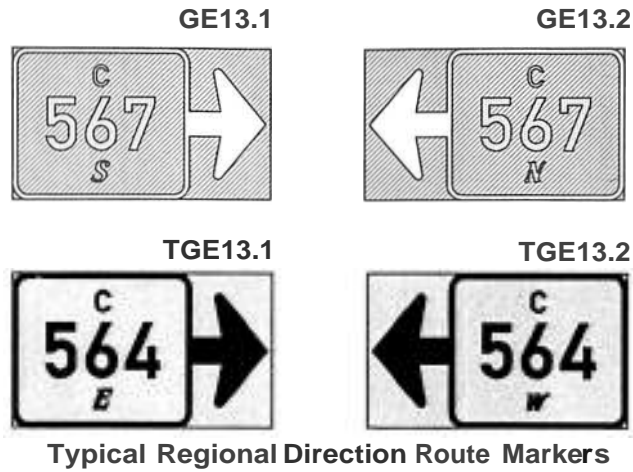


Fig 4.54

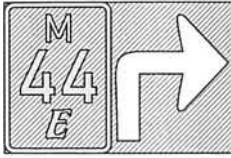
Examples of Direction Route Marker Signs

ADVANCE DIRECTION ROUTE MARKER

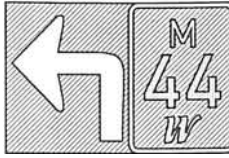
For dimensions
ref. Vol. 4
pages

4.3.19
4.3.21
4.3.23
4.3.25
and
4.3.29

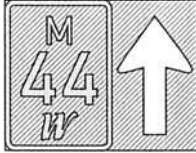
GE12.3



GE12.4



GE12.5



TGE12.3



TGE12.4



TGE12.5



COLOURS:

PERMANENT

Border & arrow: White retroreflective
Legend: Yellow retroreflective
Background: Green retroreflective

TEMPORARY

Border & arrow: Black semi-matt Black
Legend: semi matt Yellow
Background: retroreflective

4.7.12 Advance Direction Route Marker

- 1 ADVANCE DIRECTION ROUTE MARKER signs GE12.3, GE12.4 and GE12.5 to GE15.3, GE15.4 and GE15.5 may be used **to give an advance indication to drivers that a particular numbered route changes direction at the junction ahead, or that the cross street at the junction ahead is a numbered Class B route.**
- 2 Signs GE12.3, GE12.4 and GE12.5 should be located on the left side of the roadway although it may be advantageous to locate sign GE12.3 on a median island (see paragraph 4.7.11.2 and Figure 4.55).
- 3 The use of signs GE12.3 and GE12.4 should be reserved for complex road junctions to enable drivers to select turn lanes early if space does not permit the

use of ADVANCE DIRECTION signs GD1. If, for some reason, it may not be clear that the route on which traffic is travelling continues beyond a junction ahead, sign GE12.5 may be located in advance of the junction to clarify that the route does in fact continue straight on. Sign GE12.5 should not be used as a confirmation sign in place of sign GE12. When displayed on common supports signs GE12.3, GE12.4 and GE12.5 shall be mounted in a similar manner to a STACK-TYPE DIRECTION sign (see Subsection 4.8.2).

- 4 TEMPORARY forms of the signs may be particularly appropriate when detours are in operation to reduce the area of temporary signs required.

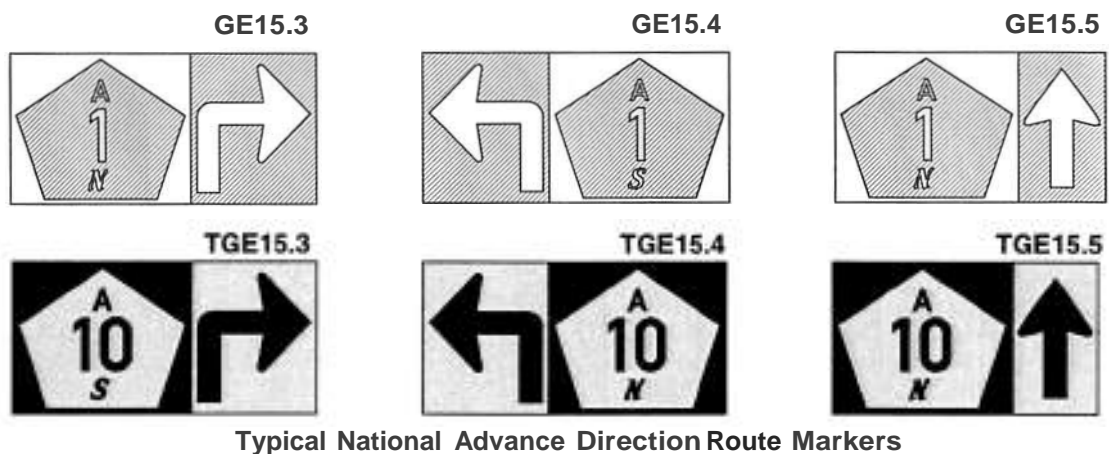
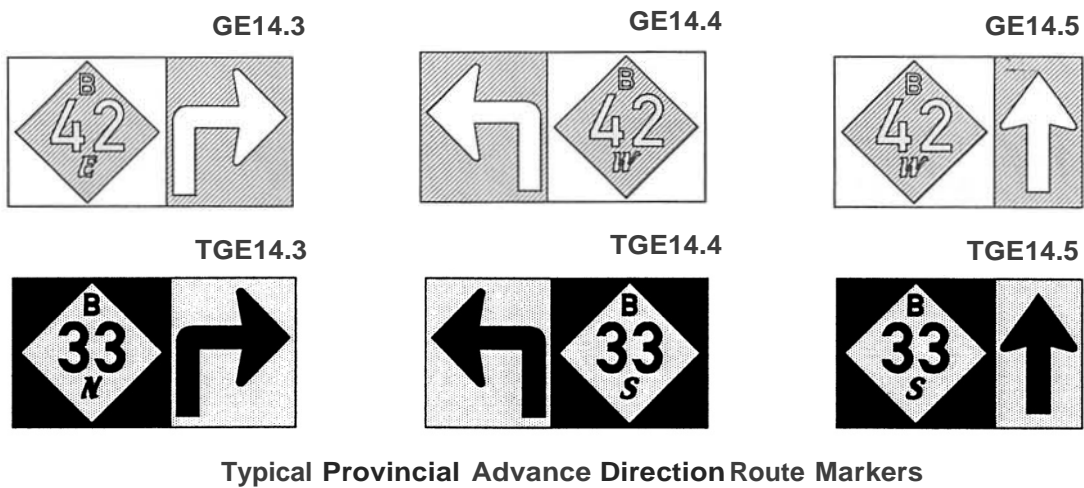
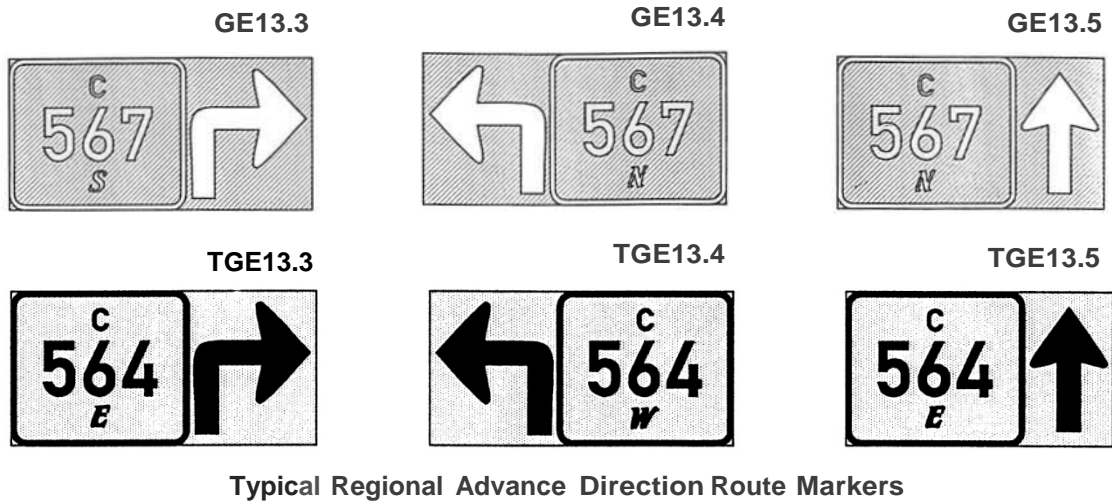


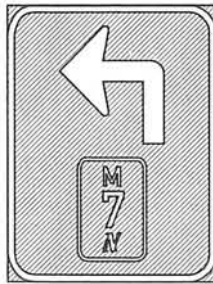
Fig 4.55 Examples of Advance Direction Route Marker Signs

OVERHEAD ROUTE MARKER

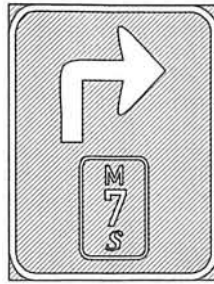
For dimensions
ref. Vol. 4
pages

4.3.26
4.3.27
4.3.28

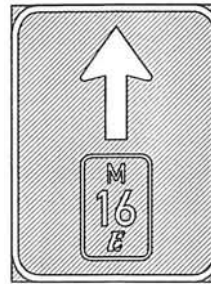
GE12.6



GE12.7



GE12.8



COLOURS :

PERMANENT
Border & arrow:
Legend:
Background:

White retroreflective
Yellow retroreflective
Green retroreflective-

4.7.13 Overhead Route Marker

- 1 OVERHEAD ROUTEMARKER signs GE12.6, GE12.7 and GE12.8 to GE15.6, GE15.7 and GE15.8 may be used in conditions of extreme space limitations and traffic congestion **to give an advance indication to drivers that a particular numbered route changes direction at the junction ahead or that the cross street at the junction ahead is a numbered Class B route.**
- 2 Signs GE12.6, GE12.7 and GE12.8 should be considered **instead of** ADVANCE DIRECTION ROUTE MARKER signs GE12.3, GE12.4 and GE12.5 respectively, when circumstances warranting the use of overhead direction signs pertain, in order that turning traffic may be correctly located well in advance of a junction (see Subsection 4.1.6 and paragraph 4.7.11.2).
- 3 These signs may be used in addition to ground-mounted DIRECTION ROUTE MARKER signs GE12.1 or GE12.2 or DIRECTION signs GD2. They should normally be positioned over the lane or lanes most appropriate to the movement being indicated. They may therefore be used to supplement conventional signs if located *above* multi-lane freeway off-ramps at their junctions with cross-streets. When used in this manner the background colour should remain green.
- 4 OVERHEAD ROUTE MARKER signs are unlikely to be required in place of DIRECTION ROUTE MARKER signs GE12.1 or GE12.2. They are also unlikely to be cost-effective in a TEMPORARY form.

ALTERNATIVE ROUTE MARKER

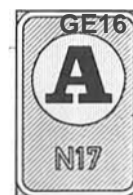
COLOURS:

PERMANENT

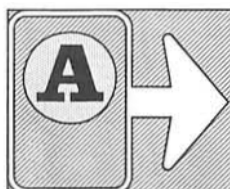
- Border: White retroreflective
- Legend: Yellow retroreflective
- Symbol: Black semi-matt on yellow retroreflective
- Background: Green retroreflective

For dimensions
ref. Vol. 4
pages

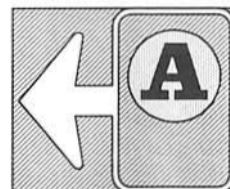
4.3.30
4.3.31
4.3.32



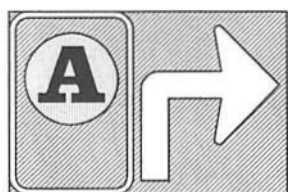
GE16.1



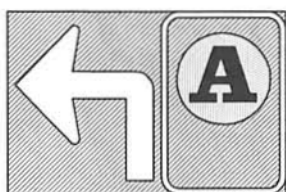
GE16.2



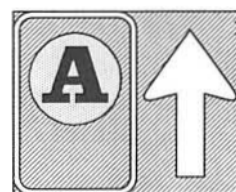
GE16.3



GE16.4



GE16.5



4.7.14 Alternative Route Marker

- 1 ALTERNATIVE ROUTE MARKER signs GE16 to GE16.5 may be used **to indicate to drivers in the form of advance direction, direction and/or confirmation messages the existence of an alternative route to a toll route**. The term "alternative route" is applicable only to a route or routes which offer an alternative to the payment of toll on a toll route.
- 2 The various signs have similar functions to normal ROUTE MARKER signs, namely:
 - (a) GE16 - confirmation alternative route marker;
 - (b) GE16.1 and GE16.2 - direction alternative route markers;
 - (c) GE16.3, GE16.4 and GE16.5 - advance direction alternative route marker.
- 3 The application of ALTERNATIVE ROUTE MARKER signs shall follow the principles used for normal ROUTE MARKER signs as detailed in Subsections 4.7.10 to 4.7.13.
- 4 An alternative route to a toll route may commonly comprise more than one numbered route in the national, provincial, regional or metropolitan systems, or it may comprise a combination of numbered and un-numbered routes. An "alternative route" message may be incorporated into the relevant DIRECTION signs on the approach to the junction of a toll route and a designated "alternative route".
- 5 ALTERNATIVE ROUTE MARKER signs GE16 to GE16.5 may be used to supplement existing DIRECTION signs:
 - (a) to avoid replacement of the DIRECTION signs before the expiry of their useful life;
 - (b) to reduce the complexity of DIRECTION signs which may result from incorporation of the "alternative route" message into the DIRECTION signs.
- 6 Signs GE16 to GE16.5 should only be used at the junction of the toll and alternative routes and so far along the alternative route as is necessary to ensure that drivers are aware that they are *en route* to the same destination as is served by the toll route. In the majority of instances this will be evident from the display, on DIRECTION signs on the alternative route, of the same destination as is displayed on the DIRECTION signs on the toll route.
- 7 The display of the toll route number on the ALTERNATIVE ROUTE MARKER signs is optional and should only be used if it is deemed necessary to clarify the function of the alternative route being signed (see Section 4.14 for details of toll route signing).

BICYCLE ROUTE MARKER

For dimensions
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pages

4.3.33
4.3.34
4.3.35

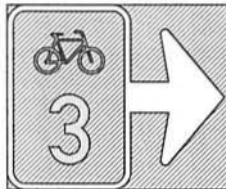


COLOURS:

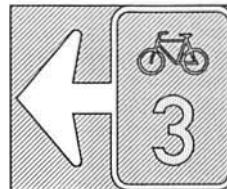
PERMANENT

Border: White retroreflective
Legend: Yellow retroreflective
Symbol: White retroreflective
Background: Green retroreflective

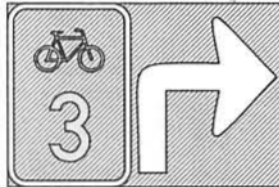
GE17.1



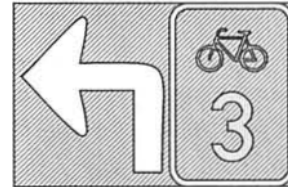
GE17.2



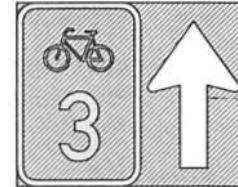
GE17.3



GE17.4



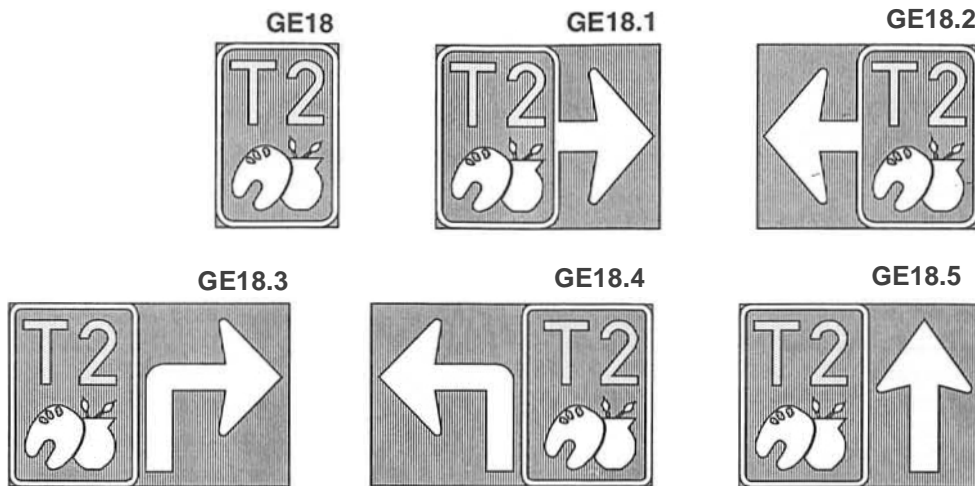
GE17.5



4.7.15 Bicycle Route Marker

- 1 BICYCLE ROUTE MARKER signs GE17 to GE17.5 may be used **to indicate to cyclists and other road users in the form of advance direction, direction and/or confirmation messages the existence of an exclusive bicycle route.**
- 2 The various signs have similar functions to normal ROUTE MARKER signs, namely:
 - (a) GE17 - confirmation bicycle route marker;
 - (b) GE17.1 and GE17.2 - direction bicycle route markers;
 - (c) GE17.3, GE17.4 and GE17.5 - advance direction bicycle route markers.
- 3 The application of BICYCLE ROUTE MARKER signs shall follow the principles used for normal ROUTE MARKER signs as detailed in Subsections 4.7.10 to 4.7.13. The use of signs GE17 to GE17.5 is, however, only recommended for a developed network of bicycle routes. The signs are appropriate to indicate to cyclists the route number of the path on which they are travelling and to establish route continuity throughout the network of bicycle paths. The size recommended is therefore half that used for normal ROUTE MARKER signs (see Volume 4, Chapter 4).
- 4 The use of signs GE17 to GE17.5 shall be supplementary to the use of any of the regulatory signs R111, R112, R113, R114, R115, R219, R220 and R304-P or warning sign W309 and should not replace such signs.
- 5 Signs GE17 to GE17.5 may if necessary be supplemented by DIRECTION signs GD2, FINGERBOARD signs GD4 or LOCAL DIRECTION signs GDL2 or GDL3 in order to direct cyclists towards bicycle paths or routes (see Sections 4.8 and 4.13).

TOURIST ROUTE MARKER



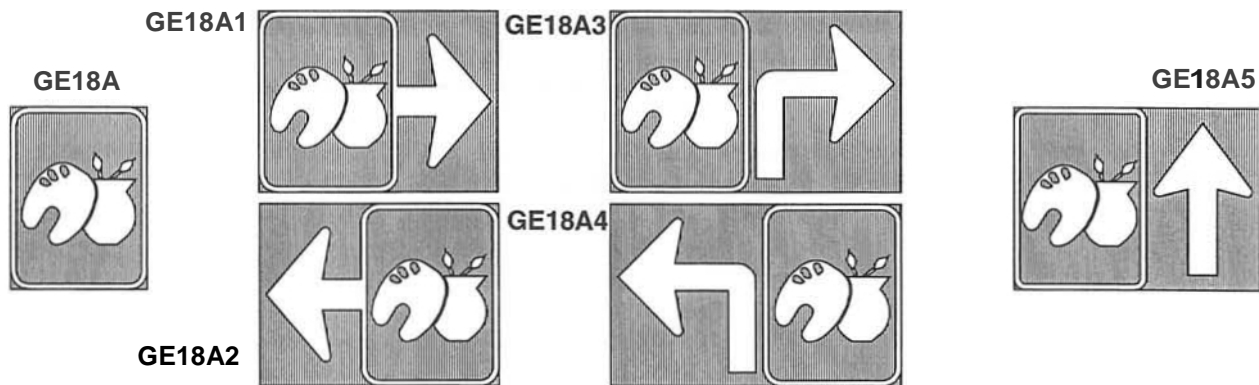
For dimensions
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pages
4.3.33
4.3.34
4.3.35

COLOURS:

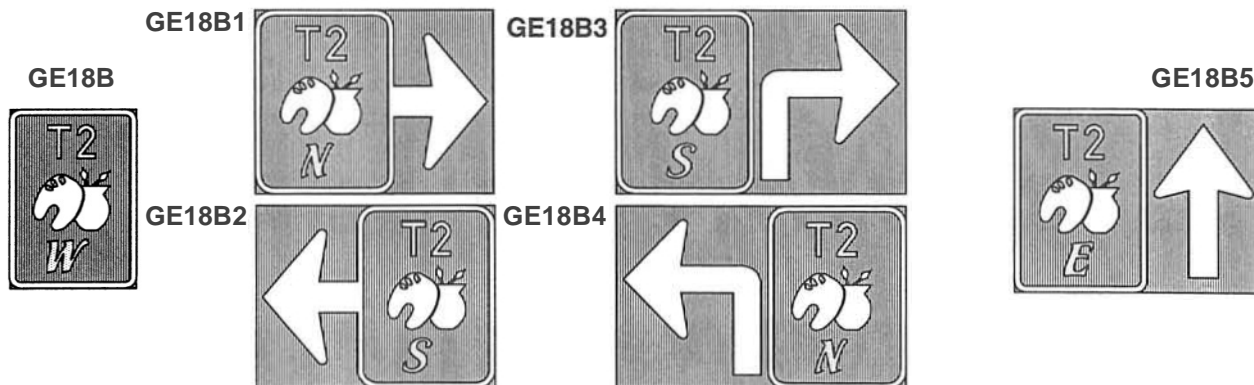
PERMANENT
Border & arrow: White retroreflective
Symbol & legend: Yellow retroreflective
Route Number: Yellow retroreflective
Cardinal Direction: Yellow retroreflective
Background: Brown retroreflective



Alternative A - No Tourist Route Number



Alternative B - Route Number with CARDINAL DIRECTION



4.7.16 Tourist Route Marker

- 1 TOURIST ROUTE MARKER signs GE18 to GE18.5 may be used to *indicate to drivers in the form of advance direction, direction and/or confirmation messages the existence of a tourist route*. A tourist route is a route, established after detailed investigation, which links a number of tourist facilities over some distance. Such a route can exist on its own or it may, along with other tourist routes, form part of a "high density tourist area" (see Section 4.10 and Volume 2, Chapter 4: *Tourism Signing*).
- 2 Tourist routes may be superimposed upon one or more other numbered routes in which case the tourist route itself shall not be numbered and GE18 Alternative A signs in the GE18A set shall be used as appropriate. These signs include only the TOURISM SYMBOL relevant to the theme of the route e.g. symbol GFSAB-5 for a "Dolphin Route".
- 3 Tourist Routes may also be established over roads which do not form part of other numbered routes. In this case such tourist routes may be numbered on an area basis (see paragraph 4.7.16.7 below). When necessary, TOURIST ROUTE MARKER signs on numbered tourist routes, may be provided according to GE18 Alternative B in the GE18B set, including a relevant CARDINAL DIRECTION letter. Use of cardinal letters is not recommended unless the route has a very clear orientation.
- 4 The various signs have similar functions to normal ROUTE MARKER signs, namely:
 - (a) GE18 (GE18A, GE18B) - Confirmation tourist route markers;
 - (b) GE18.1(GE18A.1,GE188.1)and GE18.2(GE18A.2, GE188.2)- direction tourist route markers;
 - (c) GE18.3(GE18A.3,GE188.3)and GE18.4 (GE18A.4, GE188.4) and GE18.5 (GE18A.5, GE188.5) - advance direction tourist route markers.
- 5 In addition signs GE18E (GE18EA) may be specified to indicate the end of a tourist route, since, unlike normal numbered routes a tourist route may end at an otherwise undefined point on a road.
- 6 TOURIST ROUTE MARKER signs may be specified in urban and rural environments, and a specific route may include both types of environment within its length. The primary function of the signs is to provide continuity of message in an area. that may be environmentally sensitive in which larger signs would be intrusive. Tourist routes should be developed round a "theme", preferable one of the generic group themes into which the tourism symbols are classified (see Sections 4.0 and 4.10).In this context FREEWAY ADVANCE EXIT GF1, ADVANCE TURN GF2 and FINAL TURN GF3 tourism signs may be used from an adjacent main route to direct drivers towards the tourist route. Such GF1, GF2 and/or GF3 signs should display the same theme symbol as is used on the TOURIST ROUTE MARKER signs.
- 7 It is anticipated that, in developing tourist routes in an identified "high density tourist area", there are unlikely to be more than nine such routes (therefore requiring only a single digit T number on the TOURIST ROUTE MARKER signs GE18).If two or more contiguous "high density tourist areas" are developed there is potential for a duplication of tourist route numbers in relatively close proximity to one another. This need not be a source of confusion if, in the planning process, the needs of each area are co-ordinated with those of the other(s). In such a manner routes with the same T number can be spaced as far apart as possible, without direct connection, and if possible each area should choose a different "theme" symbol for the TOURIST ROUTE MARKER and other tourist signs in the area. If it is impossible to achieve this type of treatment a total number of routes in the contiguous areas in excess of nine may be considered. In this case the sign size should be increased based on the dimensional principles of signs GE18 given in Volume 4, Chapter 4, rather than reducing the letter size used for the T number group.
- 8 The display of TEMPORARY tourist route marker signs is not likely to be necessary (there is only one specific temporary sign for tourism purposes - see Section 4.10).

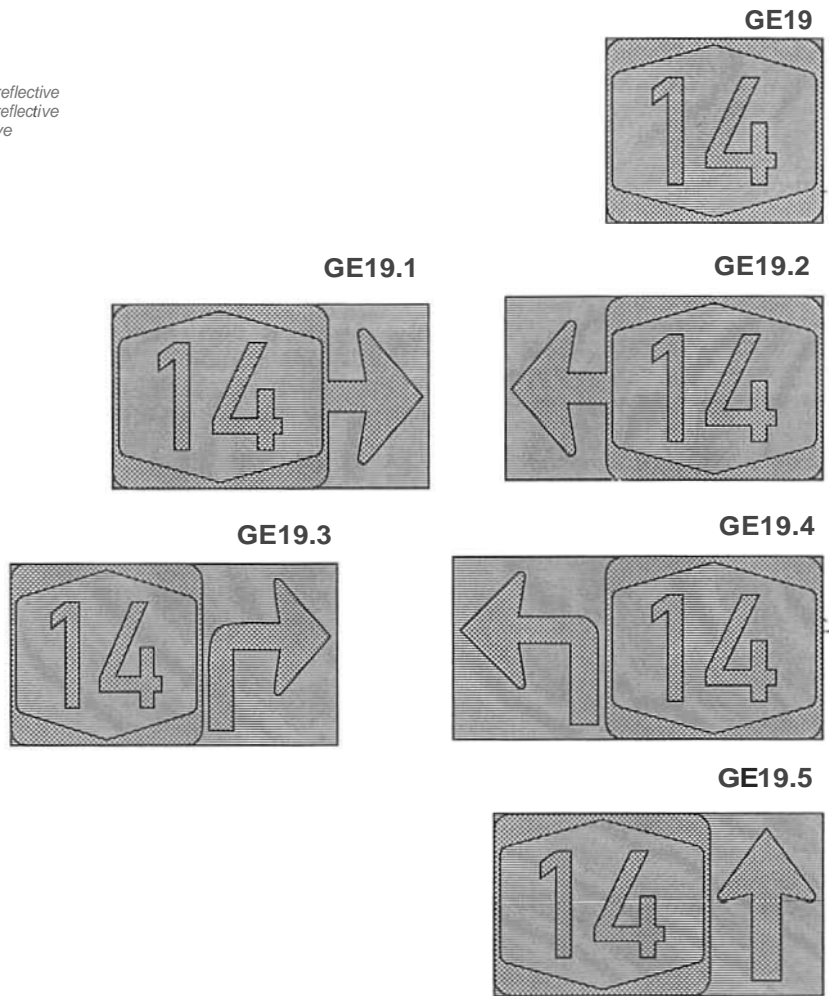
SADC ROUTE MARKER

COLOURS:

PERMANENT

Border & arrow: Orange retroreflective
 Route Number: Orange retroreflective
 Background: Blue retroreflective

For dimensions ref.
 Vol. 4
 pages
 4.3.46 **
 to
 4.3.48



4.7.17 SADC Route Marker

- 1 SADC ROUTE MARKER signs GE19 to GE19.5 may be used **to indicate to drivers in the form of advance direction, direction and/or confirmation messages the existence of a SADC (Southern African Development Community) numbered route.**
- 2 SADC Routes are strategic regional numbered routes which cross national borders within the SADC region. They will almost invariably coincide with national (or provincial) numbered routes within member countries. In so doing such routes will have two numbers (or more, subject to local route numbering practices).
- 3 Because SADC ROUTE MARKER signs are in addition to existing route numbers SADC route numbers will only appear on GE19 type signs. GE19 type signs will therefore be stand-alone route marker signs and may often be additional to conventional ADVANCE DIRECTION GD1, DIRECTION GD2 or CONFIRMATION GD3 signs on non-freeway routes. It is recommended that, when the space is available, GE19 signs be positioned in the conventional LOCAL DIRECTION or TOURIST DIRECTION sign positions, namely approximately 2/3 of the distance from the junction of the GD1 sign.
- 4 The various signs have similar functions to normal ROUTE MARKER signs, namely:
 - (a) GE19 - Confirmation route marker;
 - (b) GE19.1 and GE19.2 - direction route marker;
 - (c) GE19.3, GE19.4 and GE19.5 - ADVANCE DIRECTION ROUTE MARKER.
- 5 Because SADC ROUTE MARKER signs are used in a supplementary manner, and their use may be required on a freeway, SADC ADVANCE DIRECTION signs GE19.3, GE19.4 and GE19.5 may be used on freeways. It is recommended that when used on a freeway GE19 signs should be increased in size as detailed in Volume 4, Chapter 4 page 4.3.40.
- 6 The map in Figure 8.1 in Chapter 8 illustrates examples of typical SADC routes.

4.8 DIRECTION

4.8.1 General

- 1 DIRECTION signs may be used to indicate to traffic the direction which shall be followed in order to reach the destination(s) named on the signs. The destination name may be given in text form or a combination of symbol and text.
- 2 Policies adopted by road authorities for the use of direction signs differ significantly between rural areas and urban areas. This is principally due to the space, or lack of it, in urban areas available to accommodate what can be large signs. In addition the competition for space on urban direction signs can reach levels which are impossible to accommodate. Apart from the indication of route numbers, destination display should be limited to those destinations which are familiar enough to offer effective orientation to approaching drivers (see Chapter 8). Supplementary LOCAL and TOURISM DIRECTION signs are available to cater for destinations of tertiary level importance, subject to their compliance with warrants (see Sections 4.10 and 4.11).
- 3 Specific urban guidance signing concepts are covered in Section 4.5 and in greater depth in Volume 2, Chapter 9: *Urban Guidance Signing*. The most significant visual difference between the most important rural and urban DIRECTION signs is the inclusion of street names in black-on-white panels on many urban direction signs. This information is to say to drivers "you are here", or "you have reached the named street". The emphasis on adequate and correct display of street names and route numbers in urban areas cannot be overstressed.
- 4 ADVANCE DIRECTION and DIRECTION signs are recommended for use at all junctions of Class B with Class B rural roads and DIRECTION signs are recommended for use at all junctions of Class B with Class C rural roads. The installation policy varies for different junction/road class combinations. A typical detail is given in Figure 4.56. For full details see Volume 2, Chapter 10: *Rural Guidance Signing*.
- 5 As described in Section 4.6, **STREET NAME signs GL1 and SUBURB NAME signs GL2 in combination with ROUTE MARKER signs comprise the MINIMUM level of guidance signing for Class B streets in urban or metropolitan areas** (see Figure 4.57). DIRECTION signs may replace route marker signs to improve the quality of urban guidance signing to a **PREFERRED** higher order of display. DIRECTION signs should only be used in this manner when space permits the consistent use of direction signs along a route in a systematic way. **The random or alternating use of ROUTE MARKER signs and DIRECTION signs at successive junctions is not a recommended practice.**
- 6 Directional guidance signs may be used in advance of junctions and/or at junctions. They may be further supplemented by CONFIRMATION sign GD3. ADVANCE DIRECTION signs should normally only be used if they are followed by DIRECTION signs. DIRECTION signs, however, may be used without ADVANCE DIRECTION signs but should then be preceded by the appropriate "Road Layout" WARNING sign (see Section 3.2). The use of confirmation signs is optional, but recommended in rural areas (see Figure 4.56).
- 7 The selection of destinations for DIRECTION signs is a complex and often difficult task. Policy details related to this and other aspects of the navigational system are covered in Chapter 8. Once a destination name has been included on a DIRECTION sign it should be retained on subsequent DIRECTION signs along the route until the destination is reached. The amount of information which drivers can safely take in from guidance signs is limited by the requirement that drivers' attention should not be diverted from their driving task for greater periods than is absolutely necessary (see Section 4.4). The accumulative effect of such a policy shall therefore be monitored in an effort to limit the number of destination names appearing on any one sign. This requirement to control the amount of information appearing on DIRECTION signs becomes particularly necessary in urban areas where the demand commonly exists to indicate many suburb names. In practical terms these are too numerous to display on DIRECTION signs with any consistency. For this reason emphasis is placed on the inclusion of conspicuous and adequately sized STREET NAME and SUBURB NAME location signs as the minimum signing level in urban areas. Care shall be exercised to avoid confusion between destinations and tourist facilities (see paragraphs 4.8.2.5, 4.8.3.4. and Figure 4.57).
- 8 The DIRECTION sign group within the guidance sign class, covered in this Section, can be subdivided by type as follows:
 - (a) STACK-TYPE signs comprising advance direction, direction and confirmation signs;
 - (b) FINGERBOARD signs;
 - (c) MAP-TYPE signs;
 - (d) OVERHEAD signs comprising advance direction and exit direction signs.
- 9 STACK-TYPE direction signs are recommended for all ground-mounted direction sign applications. They offer a reasonable compromise between overall signface area and destination message space.
- 10 FINGERBOARD direction signs may be specified for minor destination signing since they are more economical in terms of signface area. They are recommended particularly when there is only one destination to be signed at a local level.
- 11 When it is particularly important to portray the layout of the road junction ahead the use of MAP-TYPE direction signs may be justified. They are significantly larger and more costly than STACK-TYPE signs.
- 12 In exceptional circumstances, when Class Broad networks become complex and road-side clutter and heavy traffic volumes make ROUTE MARKER signs difficult to see, and ground-mounted DIRECTION signs cannot be accommodated in the available space, OVERHEAD DIRECTION signs should be considered.

4.8.2 Signface Design Principles

- 1 The general principles relating to guidance signface design and layout are covered in Chapter 1 and in Sections 4.1 to 4.4.
- 2 A number of principles are, however, particularly relevant to the design and layout of DIRECTION signs.

These are:

- (a) the number of "stacks" on a STACK-TYPE advance direction sign shall not exceed three stacks, and on a STACK-TYPE direction sign shall not exceed two stacks;
- (b) on all STACK-TYPE signs which display an arrow there shall only be one arrow per stack, and the STRAIGHT-ON and RIGHT TURN arrows shall appear on the far right side of their respective stacks and be preceded by the route number and destination name in that order, whilst the LEFT TURN arrow shall appear on the far left side of its stack and be followed by the route number and destination name;
- (c) when a STRAIGHT-ON or THROUGH destination name is displayed it shall always appear above the other destinations on the signface;
- (d) when destinations to right and left are displayed on a signface, one above the other, the right destination(s) shall always be placed above the left destination(s);
- (e) where more than one destination is indicated in a stack for a specific direction, the nearest destination shall appear above the other(s);
- (f) a distance may only be included on a direction sign as follows:
 - (i) on a FINGERBOARD or single stack DIRECTION sign - the distance given being the distance to the destination, not the junction;
 - (ii) on a MAP-TYPE advance direction sign - the distance given being the distance to the junction depicted on the sign;
 - (iii) on an OVERHEAD *advance* direction sign - the distance given being the distance to the point of exit from the through route whether to the right or left;
- (g) whenever possible the number of destinations on a DIRECTION sign (and therefore a sequence of signs serving the approach to a junction) should be limited to four names, OR the information displayed should not exceed ten "bits"; the letter size used on direction signs is dependent on, amongst other factors, the number of "bits" of information to be displayed; this in turn will affect overall sign sizes (see Section 4.4);
- (h) route numbers shall be displayed either immediately before a destination (or symbol plus destination), or *above* a destination or number of destinations (see Section 4.3);
- (i) it is recommended that stacks displaying STRAIGHT-ON or THROUGH destinations should be included on ADVANCE DIRECTION signs GD1 but that they should not normally be included on DIRECTION signs GD2; under certain circumstances a combination stack-type direction sign GD1/DG2, comprising a STRAIGHT-ON stack mounted above a normal GD2 sign may be used, and located in the normal position of the GD2 sign (see Subsection 4.8.7 and Volume 2, Chapters 9 and 10);
- (j) the legend on ADVANCE DIRECTION and DIRECTION signfaces shall conform to the requirements of Sections 4.2 to 4.4;
- (k) interchange (exit) numbers may be used on FREEWAY DIRECTION signs and if a route

reduces in category from Class A to Class B it may be beneficial to continue numbering the junctions on the DIRECTION signs on the Class B route; when used, the EXIT number shall appear in black semi-matt "B MOD" numerals, on a white retroreflective background "block" in the top left-hand corner of such signs.

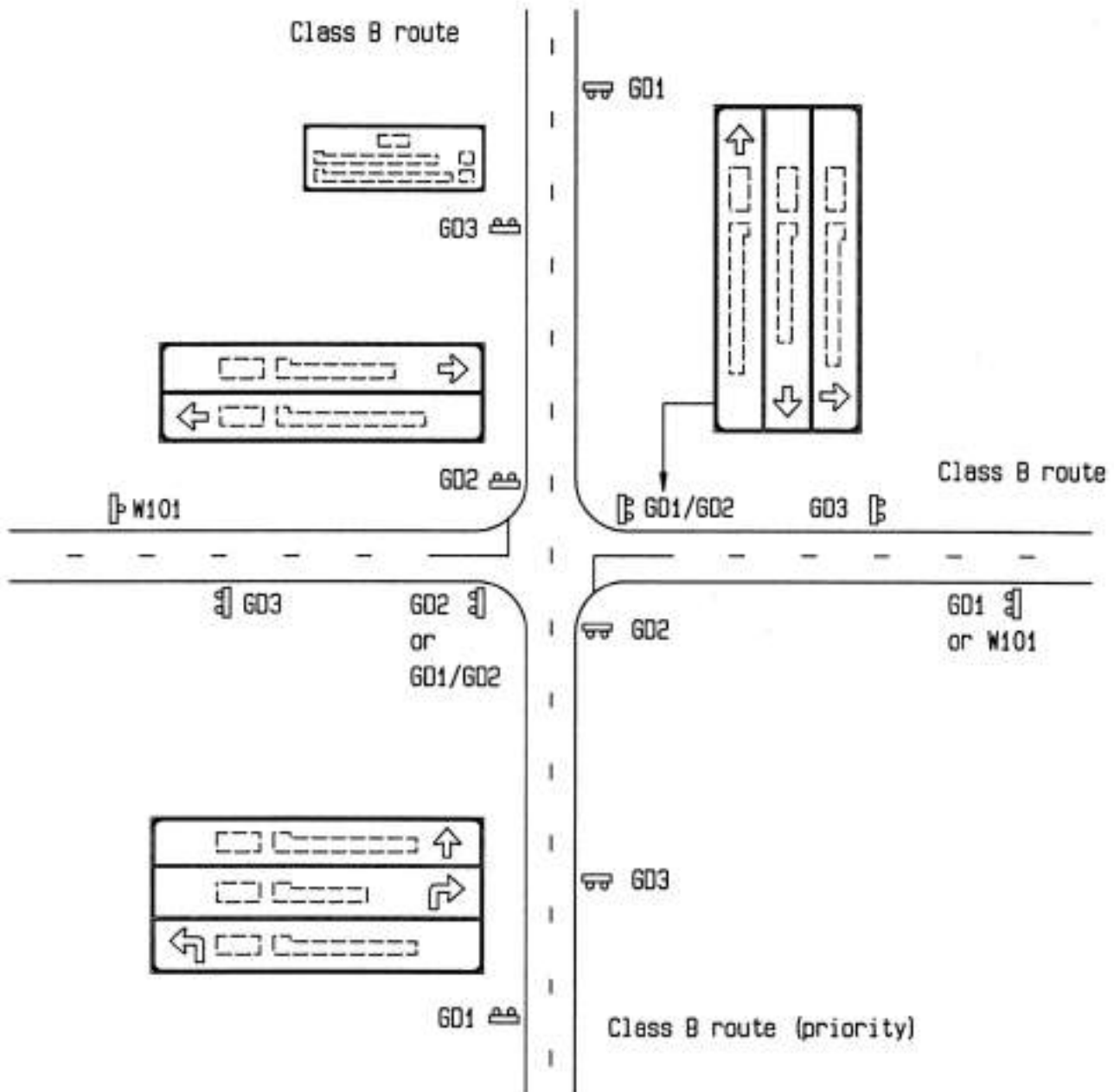
- 3 It is recommended that approved DIRECTION SIGN SYMBOLS be used to replace *common* terms such as "airport" or "station". This will remove the need to display such terms in text, which will in turn reduce sign sizes (see Section 4.3).
- 4 Specialised applications of direction sign types covered in this Section may be used on cross-road approaches to freeway access interchanges. These are numbered in an exclusive series and are detailed in Section 4.9.
- 5 When the destination to be displayed is a terminal destination on the route and it is the only public destination and is classified as a tourist facility, such a destination may be included on a stack-type DIRECTION sign on a STACK or "insert" PANEL.

4.8.3 Shape, Size and Colours

- 1 DIRECTION signs shall be rectangular in shape, with the exception of the FINGERBOARD type sign which shall have one side shaped to a point. All signs shall be provided with a border of a colour which contrasts with the sign background colour. PERMANENT direction signs normally have a horizontal format. TEMPORARY direction signs used within construction sites should, where possible, minimise the horizontal dimension to reduce side space requirements.
- 2 The size of DIRECTION signs is dependent on the destination messages to be displayed and the choice of letter size to be used (see Section 4.3).
- 3 PERMANENT direction signs shall have a basic green background colour with white legend and arrows and yellow route numbers. TEMPORARY direction signs shall have a yellow background with all other sign face details in black.
- 4 Special variations may be made to the background colour when the sign is directing traffic to destinations reached by a Class A1 freeway, in which case the background colour shall be blue, OR when the destination is classified as a tourist facility in which case the background colour shall be brown (see paragraph 4.8.2.5).

4.8.4 Retroreflectivity

- 1 It is recommended that all arrows, legend and borders used on PERMANENT direction signs be retroreflective. The use of retroreflective materials for background areas is recommended for signs of 1 m² or less and optional for larger signs.
- 2 The background to all TEMPORARY direction signs shall be retroreflective and the border and legend semi-matt.
- 3 The retroreflective materials used shall conform to the provisions laid down in Chapter 1.



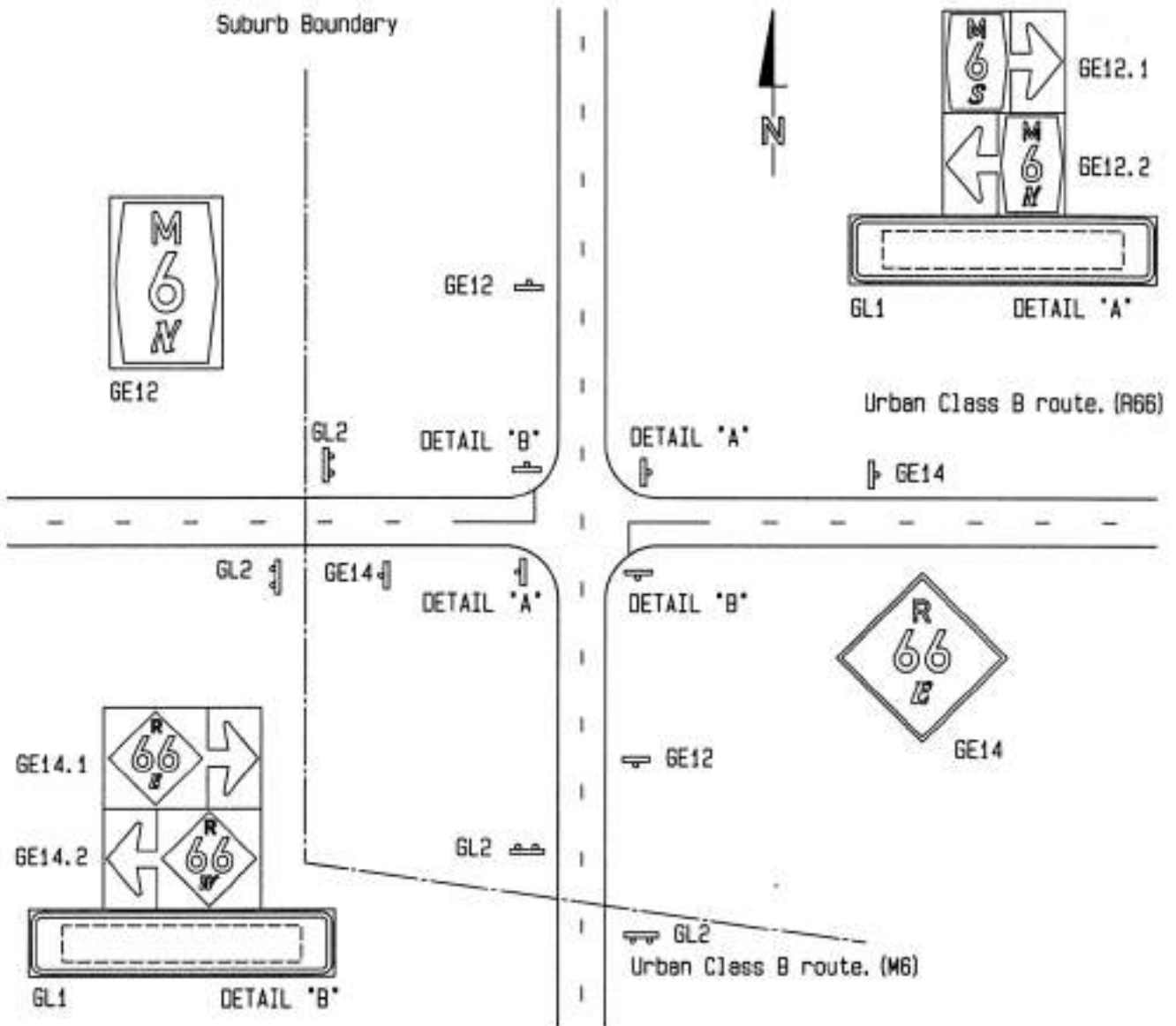
NOTES:

- (1) The level of signing indicated represents the recommended level of guidance signing for rural junctions between Class B and Class B roads. CONFIRMATION sign GD3 is optional but recommended subject to junction spacing.
- (2) The ADVANCE DIRECTION sign GD1 may be replaced by an ADVANCE WARNING sign (W101 or other appropriate to the junction configuration) on non-priority Class B approaches (see Volume 2, Chapter 10).
- (3) When a warning sign is used in advance, the GD2 sign

- may be replaced by a composite GD1/DG2. This sign type may also be specified for lower classes of intersection.
- (4) The level of signing indicated here also represents the PREFERRED level for urban Class B roads. In an urban area the names of the intersecting streets shall also be indicated either separately or in combination with signs GD1 and GD2. See Figure 4.57 for the minimum level of guidance signing for urban Class B roads.

Fig 4.56

Rural Guidance Sign Sequence - Class B



NOTES:

- (1) The level of signing indicated represents the **MINIMUM** level of guidance signing for urban junctions between Class B and Class B roads. This level of signing should be provided at all such junctions whether the urban area is a small town or a metropolitan area unless the **PREFERRED** level of guidance signing indicated in Figure 4.56 is used. The minimum level of guidance signing is appropriate to national, provincial, regional, or metropolitan routes in an urban area.
- (2) Details of STREET NAME signs GL1, SUBURB NAME signs GL2 and the various ROUTE MARKER signs are given in Section 4.6 and 4.7.
- (3) Sign GL1 may be mounted separately although it is recommended that signs GL1 and GE12 (or GE13 to GE15) be mounted together so that they fall within a driver's cone of vision without requiring an extra head movement to see both signs. At traffic signals these signs should be located within the same cone of vision used to observe the traffic signal.

Fig 4.57 Minimum Urban Guidance Signing - Class B

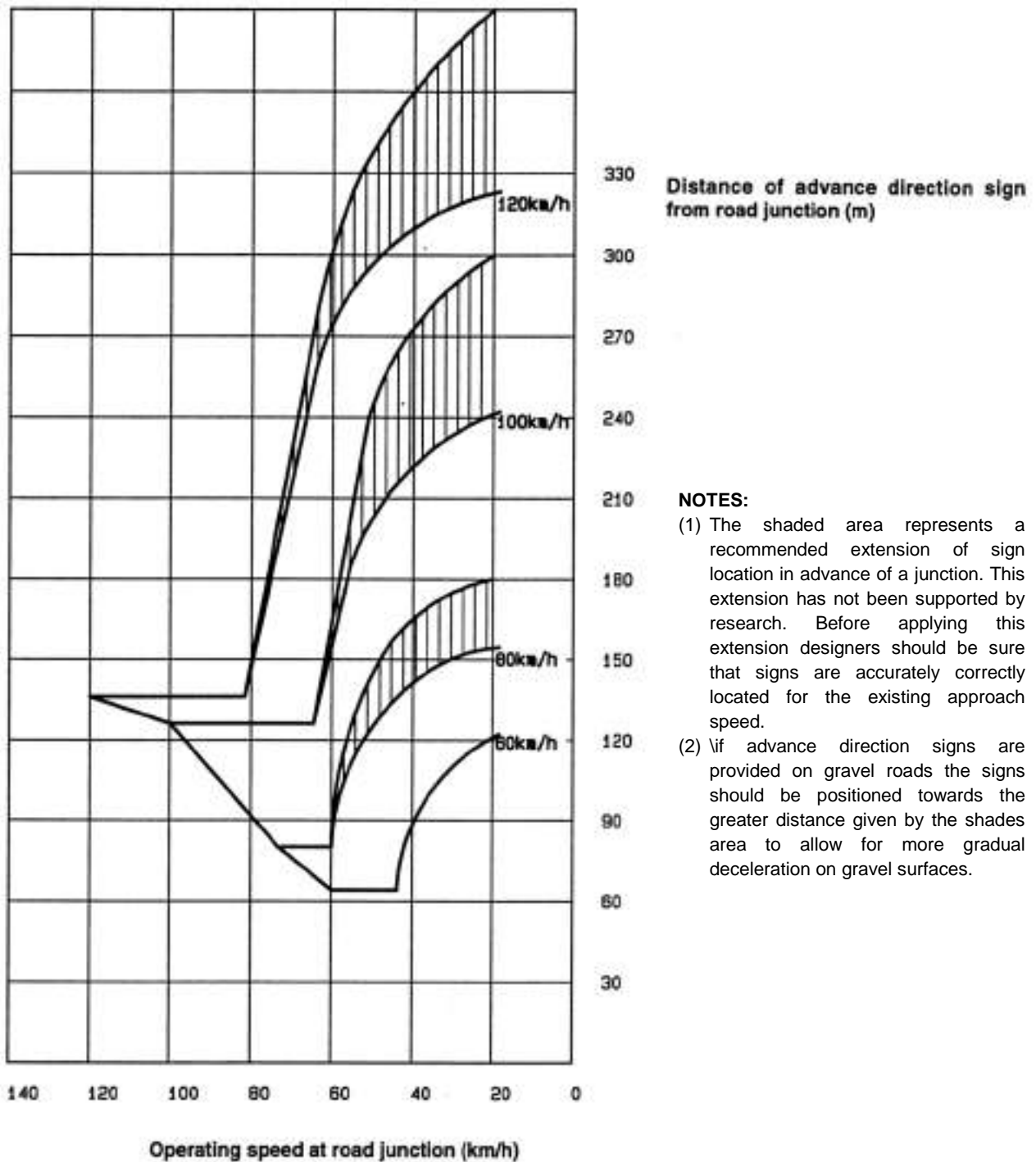
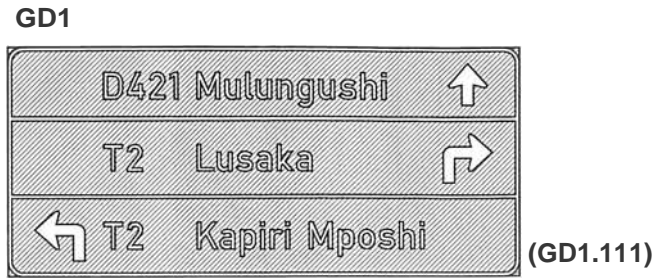


Fig 4.58

Location of Advance Direction Signs

STACK-TYPE ADVANCE DIRECTION

For dimensions
ref. Vol. 4
pages
5.2.1 to
5.2.10,
5.2.19
and
5.2.34 to
5.2.41



COLOURS:

PERMANENT

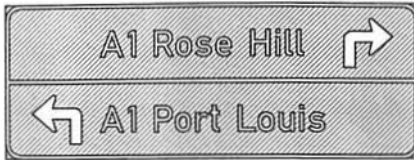
Border & arrows: White retroreflective
Route numbers: Yellow retroreflective
Legend: White retroreflective
Background: Green semi-matt or retroreflective

TEMPORARY

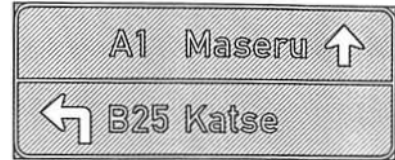
Border & arrows: Black semi-matt
Legend: Black semi-matt
Background: Yellow retroreflective

4.8.5 Stack-Type Advance Direction

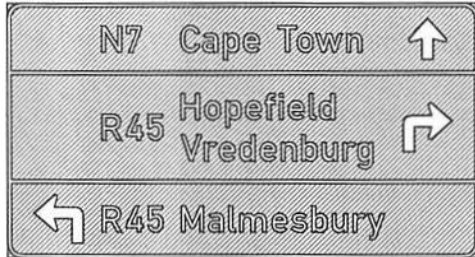
- STACK-TYPE ADVANCE DIRECTION signs of the type GD1 may be used in advance of a junction of Class B or lower roads **to give advance guidance to drivers regarding the numbers allocated to routes leaving the junction ahead, and the destinations which may be reached by following each exit roadway from the junction.** Each direction available to traffic leaving the junction shall be indicated by a "stack". If necessary a minor direction can be indicated by the text "Local" or "Local areas", or by a LOCAL DIRECTION stack or insert panel (see Section 4.11).
- GD1 type signs should be located on the left side of the roadway. The signs should be located in advance of the junction at a distance as given in Figure 4.58. In urban areas street block lengths may influence the distance at which a GD1 type sign may be placed in advance of a road junction. If visibility of a GD1 sign is obstructed in some way when positioned in accordance with Figure 4.58 the sign **should preferably be located at a greater distance from the junction.**
- Route numbers should be displayed immediately in front of destination names (or symbol plus destination name) on STACK-TYPE ADVANCE DIRECTION signs (see Section 4.3).
- Details of arrow types used on GD1 signs are given in Figure 4.5 in Section 4.2. A GD1 sign should normally display a vertical STACK-TYPE 1 or STACK-TYPE 4 arrow to indicate straight-on destinations. STACK-TYPE 5 or STACK-TYPE 6 arrows should normally be used to indicate right or left turns ahead. In advance of a Y-junction or high speed sliproad a STACK-TYPE 7 arrow may be used if appropriate to indicate what is effectively the straight-on direction. Similarly the specialised STACK-TYPE 8 arrow may be used if there is a small offset or misalignment in the approaches to the junction. STACK-TYPE 9 arrow is also a specialised arrow appropriate when a ground-mounted STACK-TYPE ADVANCE DIRECTION sign G01 is used on the collector-distributor road of a freeway systems interchange to indicate a 360° turn ahead. (This latter sign may commonly be located in the gore of a 360° on-ramp not in advance of the turn. See Subsections 4.9.19 and 4.9.20.)
- Distances shall not be displayed on GD1 type signs.
- Subsection 4.8.2 details the principles for the signface design of stack-type direction signs.
- A wide range of GD1 type signs may be specified. The number, GD1, may be qualified by a three digit number group indicating the number of destinations per stack, e.g. GD1.111 indicates a sign with three stacks and one destination per stack; while GO1.201 indicates two destinations in the straight-on (top) stack, no destination (and no stack) to the right (as at a T-junction to the left) and one destination to the left in the bottom stack. On the basis of the recommended maximum number of four destinations per sign the sum of the three digits in the second part of the sign number should not exceed four. A number of representative examples are illustrated, with notes in Figures 4.59 and 4.60.
- STACK-TYPE ADVANCE DIRECTION signs may be used for any configuration of junction. However, in more complex cases consideration should be given to the benefits of using a MAP-TYPE direction sign which can illustrate the junction geometry, or OVER-HEAD direction signs if early lane selection is critical to the correct lane choice to exit the junction. In some instances one of the specialised Stack-Type arrows described in paragraph 4.8.5.4 may be used successfully without recourse to one of the larger map-type signs. In metropolitan areas space is often restricted and ADVANCE DIRECTION ROUTE MARKER sign GE12.3, E12.4 or GE12.5 (or the equivalent GE13, GE14 and GE15 signs) may be used instead of GD1 signs provided that a combination of route marker and direction signs is planned systematically and not mixed randomly with a resultant loss of sign message continuity.
- TEMPORARY versions of G01 type signs, numbered TGD1 may be justified at major roadwork sites particularly if the routes are diverted from their normal direction. It may, however, be economic to convert a PERMANENT GD1 sign to indicate the closure of certain exit roadways from a junction and the revised routes to destinations. This may be achieved by over-laying the affected stack with a red retroreflective/ fluorescent adjustable cross and by temporarily over-laying the appropriate area of the sign with revised destination information in black on a yellow background (see Figure 4.60).



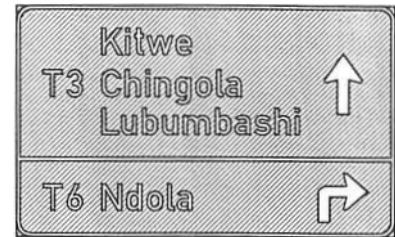
Detail 4.59.1 (GD1.011)



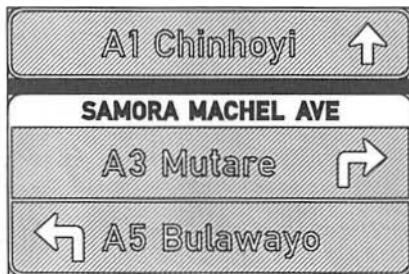
Detail 4.59.2 (GD1.101)



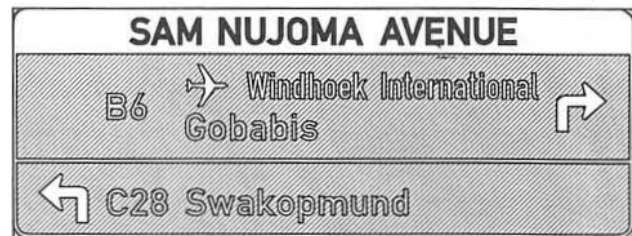
Detail 4.59.3 (GD1.121)



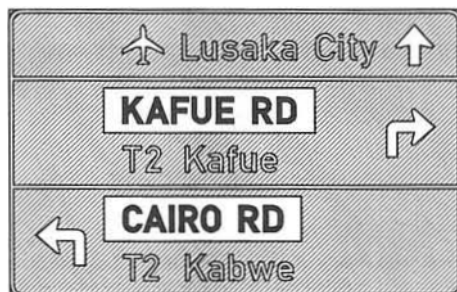
Detail 4.59.4 (GD1.310)



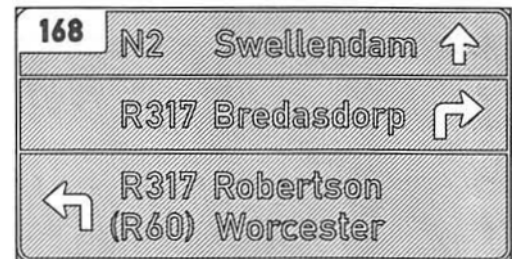
Detail 4.59.5 (GD1.111U)



Detail 4.59.6 (GD1.011U)



Detail 4.59.7 (GD1.111U)



Detail 4.59.8 (GD1.112)

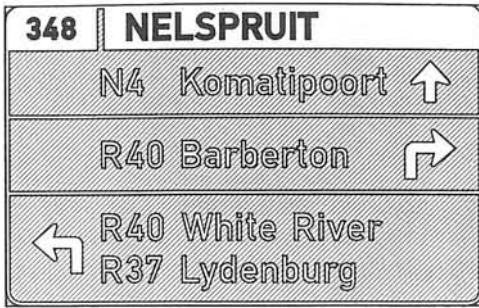
NOTES:

- (1) Details 4.59.1 and 4.59.2 show examples of typical two-stack GD1 signs which are appropriate in advance of T-junctions.
- (2) Details 4.59.3 and 4.59.4 illustrate examples of the maximum four line text display. Detail 4.59.3 is a typical three stack sign with two names in one stack, whereas the three name stack of Detail 4.59.4 is less common. Note the centring of the route number in front of these multiple names.
- (3) Details 4.59.5 to 4.59.7 cover examples of urban GD1 signs, all of which display a street name in black-on-white. Detail 4.59.5 is a typical one-piece three stack

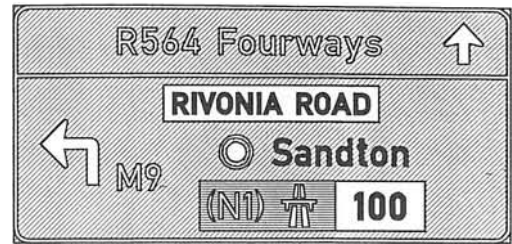
sign in which the straight on stack is located above the street name with a small blank section. Detail 4.59.6 is a similar sign appropriate to a T-junction (note the use of DIN "A" style lettering to reduce sign length). Detail 4.59.7 shows how an urban GD1 sign is treated when the intersecting street has different names to right and left.

- (4) Details 4.59.5 to 4.59.7 also show the permitted range of letter size for the street name, from full size (the same as other text on the sign) to 2/3 to 3/4 of this size.
- (5) Detail 4.59.8 gives an illustration of how a junction number may be incorporated into a GD1 sign.

Fig 4.59 Typical Stack-Type Advance Direction Signs GD1-1



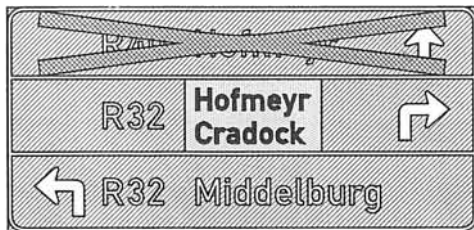
Detail 4.60.1(GD1.112)



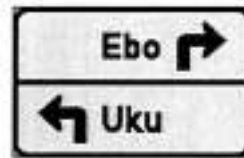
Detail 4.60.2(GD1.102)



Detail 4.60.3(GD1.1011)



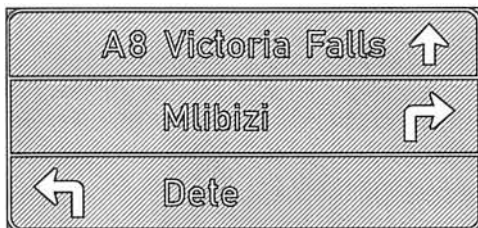
Detail 4.60.4(TGD1.021)



Detail 4.60.5 (TGD1.011)



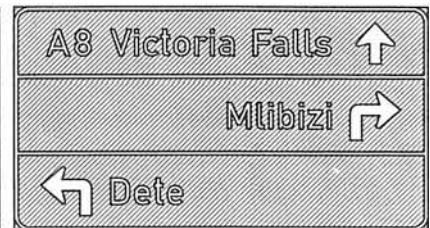
Detail 4.60.6 (TGD1)



Detail 4.60.7 Recommended



Intermediate



Arrow-Linked

NOTES:

- (1) Detail 4.60.1 illustrates a four destination GD1 sign with an additional panel containing a junction number and the "location" of the sign in the form of the town name. This detail also illustrates the treatment of a dual numbered route.
- (2) Details 4.60.2 and 4.60.3 show GD1 signs which include trailblazer panels directing drivers to a higher order route (in this case the blue background indicates this to be a Class A1 freeway). The route numbers, freeway symbol and adjacent interchange numbers are shown as well as, in the one case, the toll route symbol.
- (3) Details 4.60.4 to 4.60.6 show examples of TEMPORARY GD1 signs. Detail 4.60.4 shows a temporary

modification of a signface indicating the temporary closure of the straight-on direction by means of a removable red diagonal "cross" and the inclusion of a temporary cover plate giving the temporary destination details.

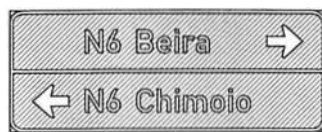
- (4) Details 4.60.7 shows three versions of the same sign in "Recommended", "Intermediate" and "Arrow-Linked" signface layouts (see Section 4.3 and Figure 4.17 to 4.19). Note that the maximum difference between the "Intermediate" and "Arrow-Linked" examples is a "3d" increase in the length of the intermediate example, but with significantly better readability. For more examples see Volume 4, Chapter 5 pages 5.2.34 to 5.2.41.

Fig 4.60 Typical Stack-Type Advance Direction Signs GD1-2

STACK-TYPE DIRECTION

For dimensions
ref. Vol. 4
pages
5.2.11/0
5.2.15
and
5.2.34 to
5.2.41

GD2



(GD2.11)

COLOURS:

PERMANENT

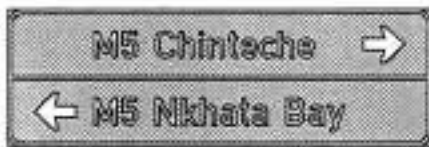
Border & arrows: White retroreflective
Route numbers: Yellow retroreflective
Legend: White retroreflective
Background: Green semi-matt
or retroreflective

TEMPORARY

Border & arrows: Black semi-matt
Legend: -Black semi-matt
Background: Yellow retroreflective

4.8.6 Stack-Type Direction

- 1 STACK-TYPE DIRECTION signs of the type GD2 should be used, when space permits, at all junctions of Class B roads with Class B **to indicate to drivers the number(s) of the intersecting or cross-route, when appropriate, and the destination(s) which may be reached by taking such a route.** The sign GD2 may be a single "stack" for an intersecting side road which forms a T-junction, or it may be a two "stack" sign covering right and left movements at a crossing road. For lower classes of road intersecting with Class B roads a wide range of alternative signing options exist including:
 - (a) GD1/GD2 combination signs (see Subsection 4.8.7;
 - (b) LOCAL DIRECTION signs GDL1 or GDL2 - particularly in urban areas and where orientation is not specifically required (see Section 4.11);
 - (c) FINGERBOARD sign GD4 for minor rural destinations.
- 2 GD2 type signs should be located in the far left-hand corner of the junction, e.g. beyond the point at which the turning movement(s) will take place. In special circumstances of roadway alignment, or of visibility, normally found in urban areas, location of the sign on an island (median or turning) may be more effective. In the case of a left-turning roadway, or sliproad, it is recommended that the left-turn GD2 sign be located on the island created by the turning roadway, subject to island and sign sizes.
- 3 Route numbers should be displayed immediately before destination names (or symbol plus destination name) on STACK-TYPE DIRECTION signs.
- 4 Details of arrow types used on STACK-TYPE signs are given in Figure 4.5 in Section 4.2. A GD2 sign shall only display a horizontal STACK-TYPE 1 or STACK-TYPE 3 arrow to indicate right and/or left turns. When a turn is angled, such as at a Y-junction, the STACK-TYPE 1 or STACK-TYPE 3 arrow may be angled upwards at 45°.
- 5 Although a GD2 sign may display a maximum of four destinations, if the preceding STACK-TYPE ADVANCE DIRECTION sign GD1 has displayed fewer than a total of four right and left turn destinations, additional destinations shall not be added to the GD2 sign.
- 6 When single stack GD2 type signs display a single destination, a distance may be given after the destination name. This may be particularly appropriate when the destination is some distance from the junction and is effectively the terminal destination for the road. Use of the letters "km" after the distance numerals is optional. If it is otherwise required to indicate distances, one or more separate CONFIRMATION signs GD3 should be placed on the exits from a junction.
- 7 A wide range of GD2 type signs may be specified. The number, GD2, may be qualified by a two digit number group indicating the number of destinations per stack, e.g. GD2.21. If this system is used and a single stack sign is specified the "missing" stack should be designated by a zero, e.g. GD2.10 or GD2.02- the former example indicating one destination to the right and the latter two destinations to the left (see Figures 4.61 and 4.62).
- 8 STACK-TYPE DIRECTION signs GD2 may be used as part of a sign sequence incorporating a STACK-TYPE ADVANCE DIRECTION sign GD1 or a MAP-TYPE ADVANCE DIRECTION sign GD5 to GD9. In metropolitan areas space is often restricted and DIRECTION ROUTE MARKER signs GE12.1 and/or GE12.2 (or the equivalent GE13, GE14 and GE15 signs) may be used instead of GD2 signs (see Section 4.7).
- 9 When a GD2 type sign is located opposite the side road approach to a T-junction a T-JUNCTION CHEVRON hazard marker sign W409 of a length equal to the GD2 sign shall be mounted immediately below the GD2 sign. (See Figure 4.62, and Volume 4 for details.)
- 10 If a GD2 sign is to be located at the junction of named streets in urban areas the street name may be incorporated into an additional panel on top of the DIRECTION sign "stacks". The street name shall appear in "B MOD" uppercase letters in black semi-matt on a white semi-matt or retroreflective background. The street name may be displayed in reduced size lettering, 2/3 to 3/4 of the size of the lettering used for the destination names.
- 11 TEMPORARY versions of GD2 type signs numbered TGD2 may be justified at major roadwork sites. It may be economic to convert PERMANENT GD2 signs to indicate revised routes to destinations (see paragraph 4.8.5.9).



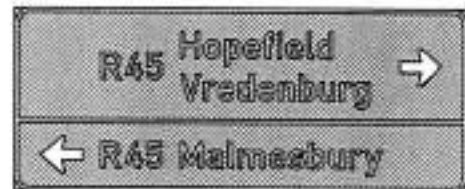
Detail 4.61.1 (GD2.11)



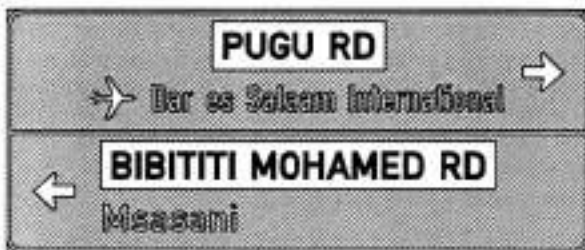
Detail 4.61.2 (GD2.11 plus W409)



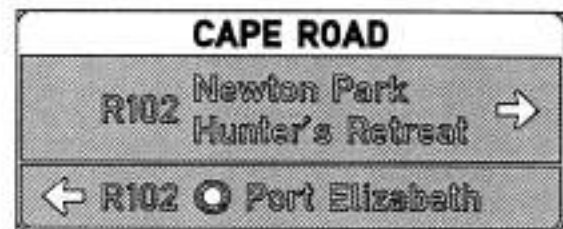
Detail 4.61.3 (GD2.10)



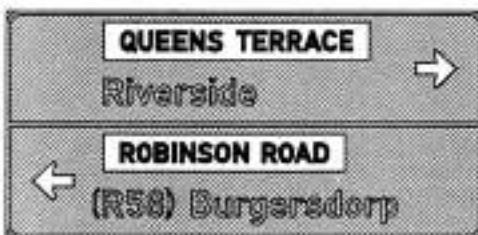
Detail 4.61.4 (GD2.21)



Detail 4.61.5 (GD2.11U)



Detail 4.61.6 (GD2.21U)



Detail 4.61.7 (GD2.11)



Detail 4.61.8 (GD2.01)

NOTES:

- (1) Details 4.61.1 and 4.61.2 show two typical examples of GD2 signs, the latter without route numbers. Detail 4.61.2 is also an example of a sign used opposite a T-junction side road, combining GD2 and W409 signs.
- (2) Stack combinations and numbers of destinations per stack may be varied as shown by Details 4.61.3 and 4.61.4.
- (3) Details 4.61.5 to 4.61.8 illustrate a range of examples of urban GD2 signs which include the intersecting street name in either a panel on top of the sign (meaning the named street extends on both sides of the junction), or in insert panels in each stack (when the name of the street is different on each side of the street).
- (4) Details 4.61.5, 4.61.6 and 4.61.8 show the street name in the same letter size as the other destination names, whereas Detail 4.61.7 illustrates the option to reduce the street name letter size to 2/3 to 3/4 of the size used for the main message.
- (5) Detail 4.61.5 also shows the use of DIN "A" style lettering for a very long destination name. In this example the street name insert panels have been centred. These insert panels may alternately be left justified as shown in Detail 4.61.7. The choice should be based on the best visual balance according to the actual names in use.
- (6) Detail 4.61.8 gives an example of an angled arrow appropriate in this case immediately in advance of a left turn sliproad.

Fig 4.61

Typical Stack-Type Direction Signs GD2-1



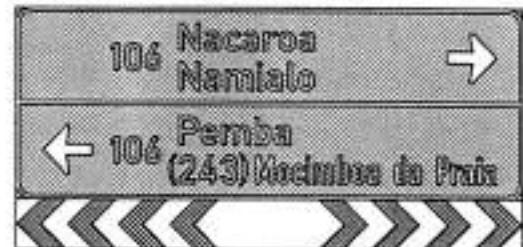
Detail 4.62.1 (GD2.10)



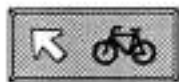
Detail 4.62.2 (GD2.01)



Detail 4.62.3 (GD2/GF3)



Detail 4.62.4 (GD2.22)



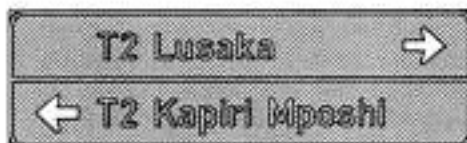
Detail 4.62.5 (GD2)



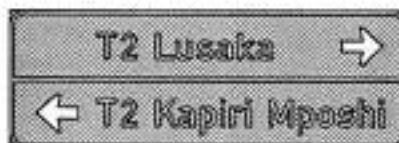
Detail 4.62.6 (TGD2.11)



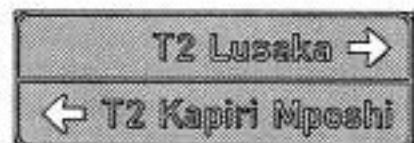
Detail 4.62.7 (TGD2-D)



Detail 4.62.8 (GD2.11) Recommended



Intermediate



Arrow-Linked

NOTES:

- (1) Detail 4.62.1 shows how a freeway trailblazer panel can be incorporated into a GD2 sign. This panel, which is blue for Class A1 freeways, includes the route number of the freeway in brackets (the turn does not lead directly onto the freeway) the GDS-4 dual-carriageway freeway symbol and the freeway interchange number (the latter in black-on-white as LOCATION information).
- (2) Detail 4.62.2 gives an example of the inclusion of a distance to a terminal destination (a considerable distance down a "dead-end" road).
- (3) Details 4.62.3 includes an optional tourism stack, appropriate if the only destination is a tourist destination.
- (4) Details 4.62.4 demonstrates a maximum 4 line destination display, the centring of route numbers on two lines of text, an indirect route number in brackets (meaning that route 243 turns off route 106 and destination "Mocimboa da Praia" is on route 243), and the use of DIN "A" style lettering for a long destination name.
- (5) Detail 4.62.5 shows that GD2 signs may include only a GDS series symbolic message, when appropriate.
- (6) Details 4.62.6 and 4.62.7 show examples of TEMPORARY GD2 signs. Examples TGD2-D being special signs which can be erected quickly to indicate a temporary detour (particularly in an emergency situation).
- (7) Detail 4.62.8 gives three versions of the same sign GD2 in "Recommended", "Intermediate" and "Arrow-Linked" signface layout (see Section 4.3 and Figures 4.17 to 4.19). Note that there is no difference in size between the "Intermediate" and "Arrow-Linked" examples, but that the vertical justification of text is retained on the former.

Fig 4.62

Typical Stack-Type Direction Signs GD2-2

STACK-TYPE COMPOSITE DIRECTION

For dimensions
ref. Vol. 4
pages
5.2. 16to
5.2. 18
and
5.2.40

GD1/GD2



COLOURS :

PERMANENT

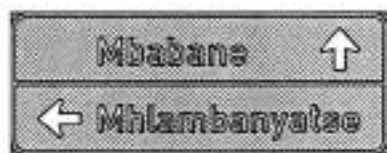
Border: White retroreflective
Route numbers: Yellow retroreflective
Legend: White retroreflective
Background: Green semi-matt or retroreflective

TEMPORARY

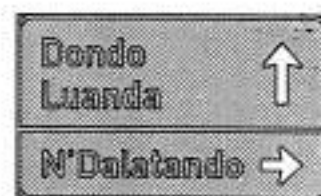
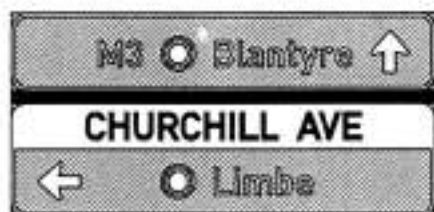
Border: Black semi-matt
Legend: - Black semi-matt
Background: Yellow retroreflective

4.8.7 Stack-Type Composite Direction

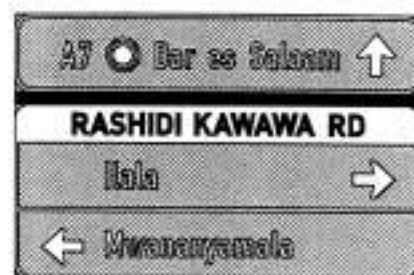
- 1 STACK-TYPE COMPOSITE DIRECTION signs of the type GD1/GD2 may be used instead of an ADVANCE DIRECTION sign GD1 PLUS a DIRECTION sign GD2 **to indicate to drivers the numbers of routes leaving the junction, when appropriate, and destinations for the straight on and relevant turn directions.** Sign GD1/GD2 will commonly be a three stack sign at crossroads and a two stack sign at T-junctions.
- 2 GD1/GD2 composite signs should be located in the position normally occupied by a GD2 sign, namely in the far left corner of the junction e.g. beyond the point at which the turning movement(s) will take place. If a sliproad or other unusual junction geometry is provided it is recommended that the two GD1 and GD2 signs be used, however, if this is not possible the GD1/GD2 sign should be split into two parts appropriate to the different exit roadways from the junction.
- 3 The use of GD1/GD2 composite signs is particularly relevant in the following circumstances (see also Volume 2, Chapter 10: *Rural Guidance Signing*):
 - (a) on a non-priority approach to a T-junction or crossroad - in such instances vehicles are required to stop (or yield) - it is therefore considered that a single display of the turn destinations, placed in front of the stopped driver, is adequate and this saves the equivalent of a GD2 sign area on each such approach;
 - (b) on priority approaches of classes of road below Class 8 subject to a safety assessment based on the following factors:
 - (i) 85% ile approach speeds of traffic - if this value is over 80 km/h the use of GD1 and GD2 signs is recommended;
 - (ii) volumes of turning traffic - if these exceed 20% of the total traffic the use of GD1 and GD2 signs is recommended;
- (iii) visibility to the junction - this is recommended to be of good quality (of the order given in Figure 4.58 for the normal location of a GD1 sign) otherwise use of signs GD1 and GD2 is recommended.
- 4 The use of GD1/GD2 composite signs, or more specifically the omission of an ADVANCE DIRECTION sign GD1, is not recommended when addition alright and/or left turn lanes are provided well in advance of a junction. The provision of a GD1 sign will properly allow the early selection of the correct lane for the required destination.
- 5 Consideration should be given to using one size larger lettering on GD1/GD2 signs if these are specified for priority approaches to a junction. This will increase sign size, but will still result in an overall saving in sign area.
- 6 GD1/GD2 composite signs may be particularly appropriate in urban areas and Figure 4.63 gives a number of examples of such signs. Whilst there are obvious economies resulting from their use in urban areas the provisions of paragraphs 4.8.7.3(b) and 4.8.7.4 are equally applicable in urban environments. If road side space is not available for GD1 signs, but is available in the normal GD2 position then the use of GD1/GD2 composite signs is likely to be beneficial. Should such situations involve multi-lane approaches consideration must be given to the possible need for overhead direction signs.
- 7 All rules of signface design applicable to stack-type direction signs, other than the style of stack-type arrows used in the turn panels, are applicable to GD1/GD2 composite signs.



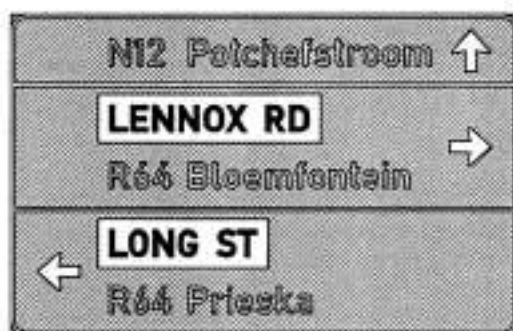
Detail 4.63.1 (GD1/GD2.101)

Detail 4.63.2
(GD1/GD2.210)

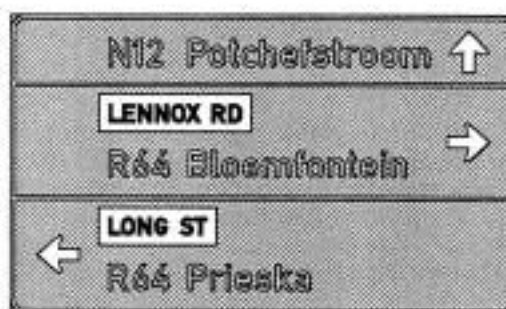
Detail 4.63.3 (GD1/GD2.101U)

Detail 4.63.4
(GD1/GD2.210U)

Detail 4.63.5 (GD1/GD2.111U)



Detail 4.63.7 (GD1/GD2.111U)



Detail 4.63.6 (GD1/GD2.111U)

NOTES:

- (1) Details 4.63.1 and 4.63.2 illustrate GD1/GD2 sign options for use at T-junctions. Detail 4.63.1 also illustrates an "Intermediate" style layout (see Section 4.3, Figure 4.19 and Volume 4, Chapter 5, pages 5.2.34 to 5.2.41) where the long name in the lower stack has been allowed to extend under the straight-on arrow without upsetting the preferred vertical justification of the beginnings of each destination name. This cannot be achieved in Detail 4.63.2 which shows the treatment of two names in one stack.
- (2) Details 4.63.3 to 4.63.7 all show examples of urban GD1/GD2 signs. Details 4.63.3 and 4.63.4 are also for T-junctions and show the straight-on panel located above the street name panels in a one piece sign with a small blank section between straight-on and street name indications. These details also demonstrate the use of the same letter size for the street name as for the destination names.
- (3) Detail 4.63.5 represents the maximum effort to reduce sign size whilst optimising readability. All destination text is shown in DIN "A" style lettering which reduces sign length, often important in urban areas. The street name has also been reduced to lettering 2/3 to 3/4 of the height of the destination lettering.
- (4) Details 4.63.6 and 4.63.7 show the same sign, displaying street name insert panels because the names of the streets are different on each side of the through road, but with full size and 2/3 to 3/4 size lettering for the street names. Note that the street names are optionally left justified in the stacks. They may alternatively be centred for a better aesthetic effect. (See Figure 4.61 also.)

Fig 4.63

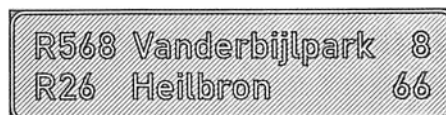
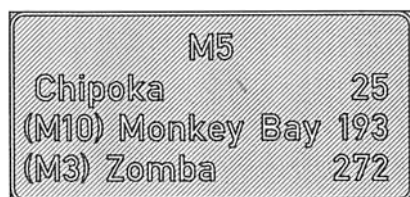
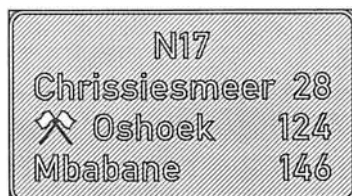
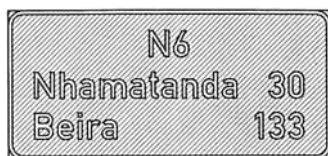
Typical Stack-Type Composite Direction Signs GD1 / GD2

CONFIRMATION

For dimensions
ref. Vol. 4
pages

52.21
52.22
52.23

GD3



COLOURS:

PERMANENT

Border:

Route numbers:

Legend:

Background:

White retroreflective
Yellow retroreflective
White retroreflective
Green semi-matt
or retroreflective

TEMPORARY

Border:

Legend:

Background:

Black semi-matt
- Black semi-matt
Yellow retroreflective



TGD3-D

4.8.8 Confirmation

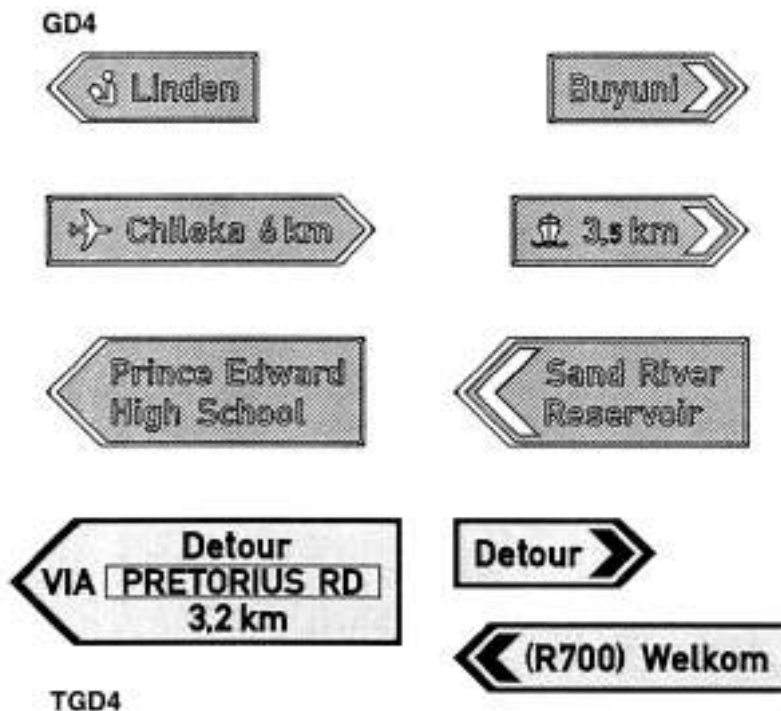
- CONFIRMATION sign GD3 may be used **to give reassurance or confirmational guidance to drivers that they are travelling towards the selected destinations and that these destinations are located at the distances indicated**, and TEMPORARY DETOUR CONFIRMATION sign TGD3 D may be used **to reassure or confirm to drivers that they are still following a detour necessitated by roadwork or other activities**. GD3 signs placed at regular intervals reassure drivers that they are on the correct route.
- GD3 signs should be located on the left side of the roadway beyond a road junction. The distance beyond should be of the order of 30 m in urban areas and 60 m to 100m in rural areas. Distances should be adjusted to take into account turning roadways, or minor junctions etc., to place signs beyond points of traffic entry.
- GD3 signs may display up to three destinations. The distance in kilometres shall be indicated after each place name. The destinations shall always be displayed so that the nearest is at the top and the furthest is at the bottom of the sign (see Figures 4.4 and 4.22).
- The standard display should normally include two destinations, at least one of which shall have been displayed on preceding ADVANCE DIRECTION or DIRECTION signs. The upper destination should normally be the nearest SERVICE and the lower one the nearest CONTROL destinations. In certain circumstances two destinations of one type may be displayed. The choice will normally be dependent upon the relative spacing of CONTROL and SERVICE destinations.
- Sign GD3 may be used on Class C or D roads but is recommended for all Class 8 numbered routes. The format may be adapted to show destinations on contiguous but differently numbered routes by displaying the appropriate route numbers in front of the destination names rather than above them. (For Class A equivalent sign GA7 see Subsection 4.9.17.)
- If it is considered necessary to include an important destination which lies on an adjacent or parallel route which is some distance from the route being signed but can be reached from an intersecting cross-road, the number of this "indirect" route shall be displayed within brackets in front of the destination (see Section 4.3).
- In rural situations it is recommended that GD3 signs be located at regular intervals of approximately 10 km. Additional signs may be located just beyond points of entry of major traffic flows. On long national or provincial Class B routes it is recommended that a FAMILIAR destination be added to the display at 50 km intervals when appropriate. **This practice will offer reassurance to strangers travelling long distances. Destination continuity must, however, be maintained on CONFIRMATION signs within the overall sign system along a specific route. See Chapter 8 for further information on the selection of destinations.**
- DIRECTION SIGN SYMBOLS may be used on GD3 type signs. These may include important traffic generators such as city centres.
- Letter sizing for GD3 type signs should conform to the provisions of Section 4.4.
- TEMPORARY CONFIRMATION signs numbered TGD3 may be required for major roadwork detours. If a detour is likely to be in place for some time the distances indicated on PERMANENT CONFIRMATION signs should be modified using temporary black on yellow cover plates with the new distance via the detour. TEMPORARY DETOUR CONFIRMATION sign TGD3-D may be used as a rapidly deployed minimum level signing. Recommended spacings for sign TGD3-D are 300-500 m in urban areas and up to 2 km in rural areas.

FINGERBOARD

For dimensions
ref. Vol. 4

pages

5.2.24
5.2.25
5.2.26



COLOURS:

PERMANENT

Border & arrows: White retroreflective

Route Numbers: Yellow retroreflective

Legend: White retroreflective

Background: Green semi-matt or retroreflective

TEMPORARY

Border & arrows: Black semi-matt

Legend: Black semi-matt

Background: Yellow retroreflective

4.8.9 Fingerboard

- 1 FINGERBOARD direction sign GD4 may be used **to guide drivers towards minor destinations or destinations on lightly travelled routes**. Sign GD4 is generally appropriate to Class C or Class D rural roads. The signs do not use conventional Stack-Type arrows but may incorporate a unique "Chevron" style arrow. (See examples and Figure 4.8.) GD4 signs shall be shaped to form a point either with or without a chevron arrow. To simplify construction the sign may be manufactured from a rectangular plate provided the area outside the point is finished in a neutral semi-matt finish.
- 2 FINGERBOARD signs should be located in a similar manner to DIRECTION signs GD2 namely in the far left corner of a road junction.
- 3 FINGERBOARD signs GD4 should normally indicate one destination only. Two lines may be used for a destination name, in order to limit sign length. If two destinations are to be signed a DIRECTION sign GD2, should preferably be used.
- 4 Due to the introduction of LOCAL DIRECTION signs GDL1, GDL2 and GDL3 (which is also a fingerboard sign) for use in urban areas, the use of FINGERBOARD sign GD4 is likely to be limited to rural situations. Sign GD4 shall not be used for TOURIST destinations. These should be signed using TOURISM FINAL TURN sign GF3 (see Section 4.10 and Volume 2, Chapters 4 and 9).
- 5 TEMPORARY FINGERBOARD signs numbered TGD4 may be used to minimise temporary sign costs when detours are in operation. This can be particularly important in urban areas. Sign TGD4 may be used to sign changes of direction at the start of a detour, or within a detour. The use of sign TGD4 should be limited to roads carrying relatively low traffic volumes. A special version of the sign may be used in urban areas when a named street is closed for repair and traffic is diverted by a route which ultimately directs it back to the same street beyond the closure. In this case street name signs from the closed street may be inserted onto the sign face. Such signs will probably have to be custom made to suit the method of street name sign manufacture used by individual road authorities. Alternatively this type of sign may be used in a similar way to indicate the street by which the detour has been routed, using the word *via* in front of the street name.

4.8.10 Map-Type Advance Direction

- 1 MAP-TYPE ADVANCE DIRECTION signs GD5 to GD9, may be used on Class B roads **to give advance guidance to drivers regarding the shape of the junction ahead, the numbers allocated to the routes leaving the junction ahead, when appropriate, and the destinations which may be reached by following each exit road from the junction.** The arrow on the sign represents the road junction in plan view or traffic flow arrangement of the junction, and should represent the actual alignment of the junction. Arrows shall have pointed shafts without arrow heads.
- 2 The MAP-TYPE signs illustrated represent the following road junction/route types :
 - (a) GD5 a non-freeway high speed exit;
 - (b) GD6 a four-legged junction;
 - (c) GD7 a staggered four-legged junction;
 - (d) GD8 a traffic circle junction;
 - (e) GD9 a recommended route.
- 3 MAP-TYPE ADVANCE DIRECTION signs should be located on the left side of the roadway, 500 m to 1 km from the junction. The display of a distance to the junction on signs GD5 to GOB is optional but recommended.
- 4 The sign face layout of sign GD5 should conform to the principles of FREEWAY ADVANCE EXIT DIRECTION signs GA2 (see Section 4.9).
- 5 The design of signs GOG, GD7 and GOB should minimise unused sign face. Route numbers may be located either in front of, or above, the relevant destination in order to reduce sign area provided such treatment does not create a risk of confusion between route number/destination groups. If a distance is included it should be located as for sign type GDS.
- 6 The example given for sign type GOB shows a traffic circle situated in Angola. Since in Angola traffic travels on the right side of the road, and round a traffic circle in an anti-clockwise direction, MAP TYPE 14 ARROW is shown in a mirror-imaged position. For details of MAPTYPE 14 ARROW for use elsewhere in the SADC region see Volume 4, Chapter 5, Section S.G.
- 7 Any of the MAP-TYPE ADVANCE DIRECTION signs may be followed in sequence by conventional DIRECTION signs GD2 (see Subsection 4.8.G).
- 8 TEMPORARY versions of signs GDS to GOB should not be specified. TEMPORARY STACK-TYPE ADVANCE DIRECTION signs should rather be used for economic reasons. Temporary modification of a PERMANENT GD5 to GD8 sign may be undertaken by using temporary black on yellow plates to indicate the altered destination information.
- 9 Sign GD9 may be used when restrictions apply to the road ahead and it is necessary to indicate a recommended route. The restriction may be indicated by a REGULATORY sign placed over the straight ahead route. Such a sign could be used to indicate recommended heavy vehicle routing around a busy commercial area, or a steep hill, or simply to advise traffic that a by-pass is available for a congested section of roadway ahead.
- 10 A TEMPORARY RECOMMENDED ROUTE sign numbered TGD9, may be used at major road detours when the road ahead has been closed. The layout of such signs should be standardised to make signs re-usable. Handed versions of signs GD9 and TGD9 may be used. Reference points such as town names, route numbers or street names may be included, but the amount of information given should be strictly controlled.

COLOURS:

PERMANENT

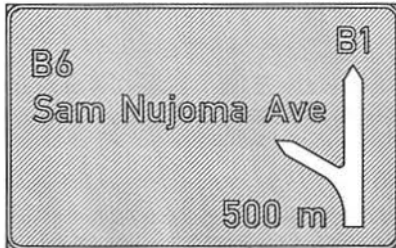
Border & arrows: White retroreflective
 Route numbers: Yellow retroreflective
 Legend: White retroreflective
 Background: Green semi-matt or retroreflective

For dimensions ref. Vol. 4 pages 5.2.27 to 5.2.33

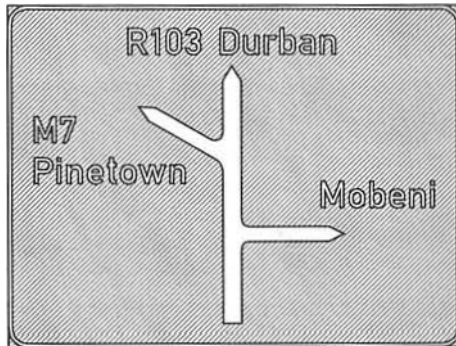
TEMPORARY

Border & arrows: Black semi-matt Legend: Black semi-matt
 Background: Yellow retroreflective

GD5



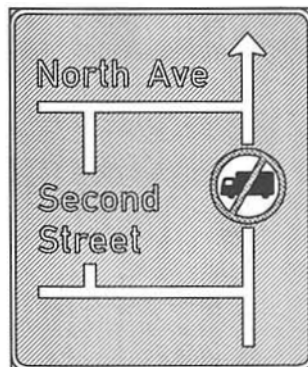
GD7



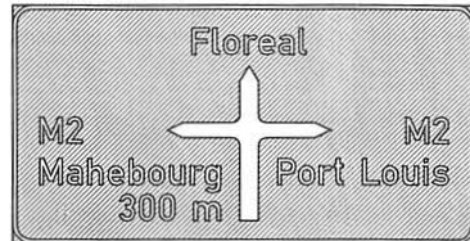
GD8



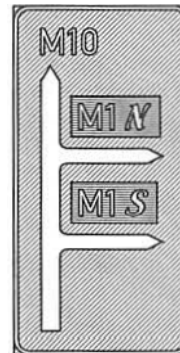
G09



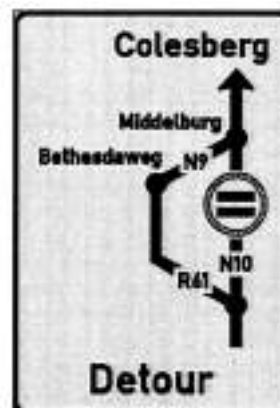
GD6



GD7



TG09



4.8.11 Overhead Direction

- 1 OVERHEAD DIRECTION signs GD10 to GD15 may be used on Class 8 routes **to give advance direction and exit, or turn, guidance closely related to the lane configuration of the roadway, when a lack of roadside space and high traffic volumes make the use of ground-mounted signs impractical or ineffective.** The use of OVERHEAD DIRECTION signs on rural Class B routes is unlikely to be necessary. They are, however, becoming more commonly required in urban areas. Complex road junctions and visually "busy" central business areas, including one-way roadways, make successful navigation by strangers difficult. Traffic volume and mix (significant numbers of large heavy vehicles) combined with the above factors may make ground-mounted signs ineffective due to their being frequently obscured, in which case OVERHEAD signs can be warranted (see Section 4.1).
- 2 In general the signface layout of OVERHEAD DIRECTION signs should conform to the principles laid down for FREEWAY OVERHEAD signs in Section 4.9. The range of sign layouts and arrow indications is considerable. Signs should be designed keeping in mind the functional meaning of the various upward and downward types of arrow as given in Section 4.2. Due to the likelihood of low operating speeds, severe space limitations and cost implications, the size of urban overhead signs should be kept to a minimum.
- 3 The use of limited display compact OVERHEAD DIRECTION signs over each individual lane is recommended as a "first choice" option since the limited sign area, in addition to keeping direct sign costs down, is likely to result in lighter, less costly support structures. The effectiveness of individual signs over each lane will be dictated by factors such as:
 - (a) the letter size and destination names to be displayed;
 - (b) the complexity of lane function (i.e. shared exit and through lanes, or dedicated exit lanes are not clearly identifiable in such a system).

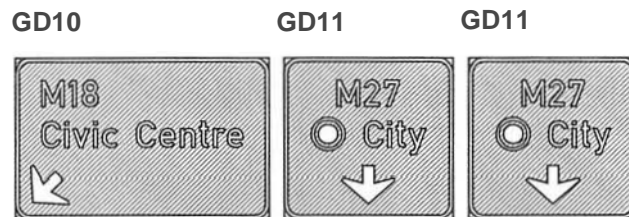
Signs covering the full roadway width and displaying an upward pointing arrow cluster depicting the lane arrangement should be restricted to those situations where a lane by lane display would be inadequate.
- 4 OVERHEAD DIRECTION signs may be used in advance of a junction or at a junction. Attention shall be paid to the correct use of advance turn and final turn arrows (see Section 4.2). The inclusion of a distance to the point of turn on advance OVERHEAD DIRECTION signs is recommended, and shall be included on signs using arrow clusters.
- 5 The information contained on each sign shall be carefully considered and the effect(s) this may have on traffic must be clearly understood. On a multi-lane roadway OVERHEAD signs may be utilised to encourage traffic to "sort" into lanes based on a requirement to exit the roadway at one of several closely spaced exit points. To indicate this by means of individual lane mounted signs may give an inaccurate representation with respect to the straight-on movement (e.g. vehicles, and particularly heavy vehicles, may move out of a lane signed for exit purposes which in fact also serves through movement, and on high speed roads this can result in a hazardous manoeuvre for the heavy vehicle if it wishes to move back into the left, or slow, lane). This potential hazard is much less on low speed roads. It is considered that the display of arrow cluster type indications of the lane/exit configuration, avoids this inaccuracy of information.
- 6 The minimum clearance to OVERHEAD signs on Class B routes shall be 4,7 m. For aesthetic reasons it is recommended that the vertical side length (or height) of all OVERHEAD DIRECTION signs mounted on a common support be the same.
- 7 The use of OVERHEAD signs on Class 8 routes becomes more clearly warranted when one or more lanes are subject to:
 - (a) exclusive use by one class of vehicle (e.g. bus lane);
 - (b) prohibition of use by a class of vehicle (e.g. heavy vehicle prohibition);
 - (c) variations in regulation of use during the course of a day, requiring in all probability an OVERHEAD VARIABLE MESSAGE SIGN (see Chapter 9);
 - (d) reversals in direction of movement of traffic at various times of day.
- 8 A range of OVERHEAD DIRECTION signs using downward and upward pointing arrows appropriate to at-grade junctions or non-freeway grade separate junctions is illustrated on the adjacent pages. These are classified and numbered as follows:
 - (a) GD10 - advance exit direction:
 - using a downward arrow inclined at approximately 45°
 - these signs should be used in sequential combination with signs GD11;
 - (b) GD11 - lane guidance AND exit direction:
 - using downward and horizontal arrows;
 - (c) GD12 - advance exit direction and through route guidance :
 - using a cluster of upward pointing arrows
 - a very wide range of examples of this type may be specified for high or low speed exit conditions (see Sections 4.2 and 4.9);
 - (d) GD13 - advance exit direction for high speed exit:
 - using a cluster of upward pointing arrows
 - these signs may be used in combination with sign type GD15;
 - (e) GD14 - advance exit direction for low speed exit:
 - using upward pointing arrow
 - sign may be used in combination with sign type GD15;
 - (f) GD15 - through route guidance using upward pointing arrows;
 - (g) GD16 - exit direction for low speed exit:
 - using horizontal arrow;
 - (h) GD17 - exit direction for higher speed exit:
 - using upward pointing arrow inclined upwards at approximately 45°.
- 9 OVERHEAD DIRECTION signs may be modified to show TEMPORARY direction information by overlay with a plate or plates in the temporary colour code of black on yellow.

OVERHEAD DIRECTION

COLOURS:

PERMANENT
 Border & arrows: White retroreflective
 Route numbers: Yellow retroreflective
 Legend: White retroreflective
 Background: Green semi-matt or retroreflective

For dimensions
 ref. Vol. 4
 pages
 5.3.1
 to
 5.3.5



Lane-by-Lane Alternative

NOTES:

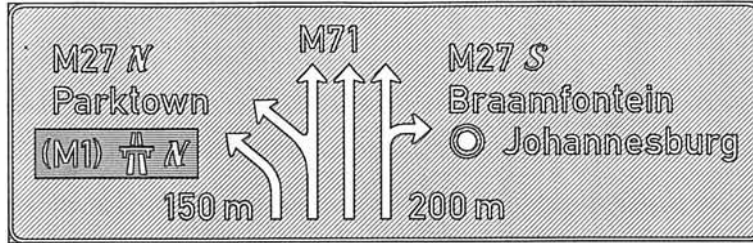
- (1) The examples illustrated are representative of OVERHEAD DIRECTION signs based on downward pointing arrows. **The example has been used for the purpose of illustrating basic principles appropriate to OVERHEAD DIRECTION signing of urban Class Broads and in no way implies a need for the specific junction to be signed in this manner, nor does it place the relevant authority under any obligation to sign the junction concerned in this or any similar manner.** It may well be that such a junction can be adequately signed using ROUTE MARKER signs, either ground-mounted or overhead.
- (2) Signs GD10 or GD11 may be applied to left or right turning situations.
- (3) The lane-by-lane alternative, although more economic of sign area, can only be applied if short destination names are used. The lane-by-lane technique can have advantages in sorting traffic into correct lanes in advance of closely spaced turns or junctions.

OVERHEAD DIRECTION

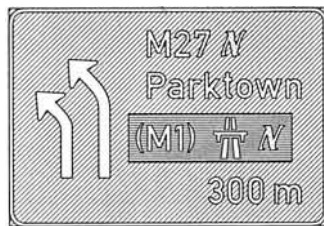
For dimensions
ref. Vol. 4
page
5.36
to
5.3.11

COLOURS:
PERMANENT
Border & arrows: White retroreflective
Route numbers: Yellow retroreflective
Legend: White retroreflective
Background: Green semi-matt or retroreflective

GD12



GD13



GD14



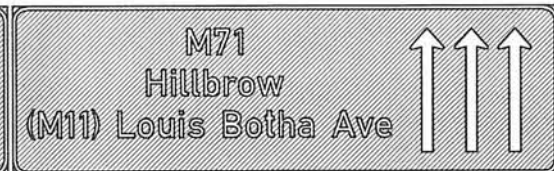
GD14



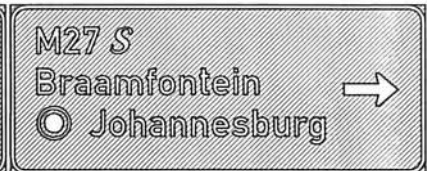
GD17



GD15



GD16



NOTES:

- (1) The use of this example in no way implies a need for the junction concerned to be signed in the manner illustrated, nor does it place the authority concerned under any obligation to sign the junction in this or any similar manner. It may well be that such a junction can be adequately signed using ROUTE MARKER signs, either ground-mounted or overhead.
- (2) If a turning movement at an urban junction is designed to be free-flowing at moderately high speeds arrows such as the Upward-Types 1, 2, 5, 6 or 7 should be used. If the turning movement occurs through a small radius (circa R50 m) and/or is subject to traffic control by sign or signal, hooked arrows such as Upward-Type 4, 8, 9 or 10 should be used (see Figure 4.7). A right turn movement at an at-grade junction will invariably require the latter arrow style.

4.9 FREEWAY DIRECTION

4.9.1 General

- 1 This section offers guidelines to those designing signs and sign systems for rural and urban freeways. **The primary objective is to achieve high quality and uniformity of design, and practice, in freeway signing. The specific objective of freeway direction signs is to provide limited but adequate guidance to drivers to enable them to navigate their way to their intended destinations. It is therefore also an important objective to have a freeway signing system which is designed as a system, with the express purpose of minimising driver errors, since such errors can, by virtue of the nature of freeways with limited points of access, result in significant wastage of time and fuel, and can increase the risk of accidents occurring due to unpredictable manoeuvres on the part of drivers.**
- 2 There are often special circumstances involved in freeway design which preclude the use of a standardised signing treatment. In order to assist designers, a wide range of options are covered in this Section, **however, the availability of these options and the techniques used to develop them should not be seen by freeway geometric designers as a "cure-all" for complex roadway designs. The geometric design of freeways should be undertaken on the understanding that there are inherent limitations in the signing system. Wherever possible designers should design to standardised sign displays and sequences and resort to special treatment only if no other reasonable option is available.**
- 3 Freeways are sub-classified into Class A1 and Class A2 roadways where a Class A1 freeway is a dual carriageway roadway and a Class A2 freeway is a carriageway freeway (see Chapter 1). Transitions between Class A1 and Class A2 freeways require special attention to signing (see Subsection 4.9.8 with respect to coding of sign background colours).
- 4 Entry to a freeway shall be signed by a DUAL CARRIAGEWAY FREEWAY BEGINS regulatory sign R401, or a SINGLE CARRIAGEWAY FREEWAY BEGINS regulatory sign R402, as appropriate. These signs indicate the applicability of a comprehensive range of restrictions relating to the use of freeways by traffic (see Subsection 2.6.1). Signs R401 and R402 will commonly be used in conjunction with a MINIMUM SPEED regulatory sign R101. This latter sign has the effect of prohibiting use of the freeway by traffic incapable of attaining and maintaining the minimum speed indicated. **For purposes of enforcement of these restrictions a freeway is therefore defined as a roadway, entry to which is regulated by the use of signs R401 or R402.** Sign R401 shall therefore only be used at entry points to dual roadways which have a continuous median constructed to prevent vehicular traffic from gaining access from one roadway to the other, and which have the full control over points of access to, and exit from, the roadways in such a manner that no at-grade crossings are permitted as intersecting roads pass either over or under the freeway. The roadway characteristics appropriate to the use of sign R402 shall be the same as for sign R401 EXCEPT that there shall be no median separating the roadway into two one-way carriageways. If a roadway is to all intents and purposes a freeway but it is not reasonable or practical to enforce ALL the requirements of the relevant legislation in this regard, signs R401 or R402 should not be displayed. **All other signs should be designed as if for a freeway including the use of the appropriate background colour coding.**
- 5 **Specific policies developed for freeway signing differ for rural and urban signs and for signs used at access interchanges and systems interchanges between different freeway routes** (see Chapter 10).
- 6 The selection of destinations for use on freeway signs shall be undertaken in a disciplined manner with a view to strictly controlling the amount of information placed before drivers. In general at access interchanges the minimum level of destination information given on freeway direction signs shall relate to the first destinations to be reached by leaving the freeway plus the display of straight-on information which is limited to the freeway route number. Policy details related to this and other aspects of the navigational system are covered in Subsections 4.9.2 to 4.9.5, in the individual Subsections dealing with specific FREEWAY DIRECTION signs, and in Chapter 8.
- 7 **Since freeways commonly are multi-lane high speed roadways, which carry large volumes of traffic, it is necessary to provide a sequence of signs to guide drivers through the manoeuvres necessary to make a change of direction.** Conversely the display of straight-on information is commonly limited to an indication on one sign in the sequence plus reassurance beyond the interchange. Figures 64 to 71 in this section cover the basic details of typical freeway direction sign sequences. The full scope of the application of freeway guidance signing is given in Volume 2, Chapter 5: *Freeway Signing*.
- 8 Freeways may operate as TOLL ROUTES. The direction signing of toll route freeways is achieved by minor adaptation of FREEWAY DIRECTION signs detailed in this Section. Due to the special requirements to indicate alternative non-toll routes, toll plazas, toll charges and other factors, a supplementary range of signs is required. Details of freeway direction signs for toll routes and examples of other toll route signs are given in Section 4.14 and Chapter 5, and their application is covered by Volume 2, Chapter 6: *Toll Signing*.
- 9 The FREEWAY DIRECTION signs covered in this Section may be supplemented by a great many other signs in order to achieve the desired level of driver guidance. Such sign types, with reference to the Chapters and Sections of the Manual in which they are covered in detail, are:
 - (a) TOURISM signs (Section 4.10);
 - (b) DIAGRAMMATIC signs (Section 4.12);

- (c) TOLL signs (Section 4.14);
- (d) INFORMATION signs, specifically COUNTDOWN signs (Chapter 5);
- (e) LOCATION signs (Section 4.6);
- (f) WARNING signs - including HIGH VISIBILITY examples (Chapter 3);
- (g) REGULATORY signs- including HIGH VISIBILITY examples (Chapter 2).

4.9.2 Freeway Signing Principles

- 1 Drivers proceed along freeways at high speeds, and, following guidance given by direction, and/or other signs, they take action to manoeuvre their vehicles in accordance with the information given. This action is commonly directed at their leaving the freeway via an off-ramp designed for high speed exit.
- 2 **Driver decision making should be aided by a progression of guidance information, given well in advance of a freeway off-ramp, so that drivers are induced to make decisions and take subsequent actions in a sequence of predictable and un-hurried manoeuvres well before the exit point.**
- 3 The driving process requires drivers to make many decisions and execute many actions for every kilometre travelled. The decisions resulting from observation of FREEWAY DIRECTION signs may comprise a significant portion of this driver work-load. It is therefore desirable to keep the process as simple as possible. Whilst there are many other decisions to make in order to conduct a vehicle safely on the road the basic decision required by a driver as a result of reading guidance signs on the approach to a freeway interchange is likely to be one of the following :
 - (a) to leave the freeway (which may involve joining another freeway at a systems interchange); OR
 - (b) to stay on the freeway but prepare to leave it at a subsequent interchange a short distance ahead; OR
 - (c) to continue on the freeway for some distance.
- 4 In order that a driver may leave the freeway at either the next exit, or another closely following it, sufficient signs shall be provided in such a way that adequate time will be available to permit a safe exit manoeuvre. The configuration of freeway exits may vary widely and in many instances will require above-average awareness and attention levels from drivers. The FREEWAY DIRECTION signs provided should attempt to create such levels of awareness.
- 5 A decision to remain on the freeway is a much simpler process in that, once taken, little further sign related action is required by drivers. However, the combination of exit and straight-on (or through) information shall be adequate to remove any risk of driver confusion. This is particularly the case when the roadway includes lanes which are provided exclusively for exit purposes. The straight-on driver receives reassurance beyond the interchange from CONFIRMATION sign GA7. These signs are repeated at regular intervals and also give an early indication to drivers, particularly in rural areas, of the distance to a destination on their route.
- 6 The navigational process requires that drivers can correlate information gained before making their trip, with what they see on freeway direction signs. The factor which most drivers would like to see on a sign is likely to relate to features in close proximity to their final destination. It is rarely possible to satisfy such a desire on the signs, and most trips of any length will require drivers to remember several items of navigational information. The use of route numbers and interchange (EXIT) numbers has been evolved in an effort to simplify this aspect of navigation. However, for these "tools" to be effective they shall be available in a co-ordinated manner in the pre-trip and travel phases of a journey. Rural and urban freeway environs differ significantly in terms of road geometry and driver expectation in terms of potential destinations. The principles relating to freeway sign sequence and signface design for rural and urban signs have therefore been developed with this in mind. The increased level of visual "noise" experienced in metropolitan areas complicates the driver observation and decision making processes making it extremely important that the signing systems be well designed.
- 7 The more complex circumstances become, the earlier the sign sequence should commence. The ability to comply with this requirement will commonly be limited in urban areas by closely spaced interchanges and junctions between different freeway systems. In such situations therefore the sign sequence for a number of interchanges may start with an EXIT SEQUENCE sign GA8. The sign is intended to make drivers aware that there are, in fact, several points of exit serving one town or city and that once the first one is reached, the other exits will follow at close intervals. Drivers may immediately be able to identify their intended points of exit by linking the destination to the appropriate interchange (EXIT) number. If a town is by-passed by a route which has a number of interchanges the access serving the town centre can be identified on the GAS sign by CITY CENTRE symbol GDS-8. Drivers need then only note the interchange number on the subsequent exit sequence signs in order to make a safe exit (see Subsection 4.9.18).
- 8 As an alternative to, or in addition to, an EXIT SEQUENCE sign GAS, a PRE-ADVANCE EXIT DIRECTION sign GA1, (or GC1 if mounted in an overhead position) may be provided. This sign is of primary importance when two major routes intersect, normally at a SYSTEMS INTERCHANGE. The signface display relates to the numbers of these routes and once again should enable drivers to make an early decision as to whether to exit the route or not.
- 9 It is evident that prepared drivers will, after observing a GAS or GA1 sign, have an easier process whereby they can negotiate the interchange or interchanges ahead and their work-load to undertake an exit manoeuvre will be correspondingly lighter.
- 10 As drivers get closer to the exit point, signs are required which will allow drivers to assess how and when to make their exit manoeuvre. This manoeuvre may comprise a number of sequential actions in order, for instance, to shift across three or more lanes, in heavy traffic, which itself may be making other lane

changing manoeuvres in the process of weaving or overtaking, in order to be in the correct lane for the exit (see Figure 1.23). These signs shall display the full amount of information appropriate to the exit type (access or systems – rural or urban) at a sufficient distance from the exit point. In certain instances at a systems interchange it may be necessary for drivers to correctly choose one out of two, or even three, exit lanes well in advance of the point where these separate into their opposite directions because it may not be possible to safely make a change of lane closer to the point of separation. It is important that the signs provided make such situations clear by the accurate display of route numbers and destination names (see Subsection 4.9.7 and Figures 4.64 to 4.71). If necessary supplementary signs should be provided when traffic volumes are heavy and significant numbers of heavy vehicles exist that may result in some signs being obscured for some of the time during which a driver is on the approach to an exit. The capability of different destination names to provide adequate orientation varies according to the relative familiarity of a driver with the portion of the road network in which he is reading a sign. Destination names may be graded as FAMILIAR, CONTROL or SERVICE destinations broadly on the basis that a stranger will almost certainly know a FAMILIAR destination, but is only likely to know the CONTROL or SERVICE destinations if a map has been consulted or if they represent the specific destination being sought. The grading process for destinations is described in Chapter 8.

11 There are limits to the amount of information which drivers can read and comprehend when travelling at high speed. This does not, however, prevent drivers, collectively, from expecting an almost infinite amount of information. It is not possible to meet this demand and display all destinations that all travellers may expect. **The information displayed must, therefore, represent a compromise.** Although recommendations are given in the individual sign Subsections regarding standard sign displays and limitations, full details on the effects of the amount of information on the readability of signs are given in Sections 4.3 and 4.4. The limitations in display information shall be correlated between the signs and maps, and other sources of navigational information used during pre-trip planning. In this context the correlation of route numbers and interchange numbers is particularly important.

12 Information displayed shall be provided so that there is sufficient time and distance in which drivers may execute required manoeuvres. The detail given in Subsection 4.4.3 deals with the required, and available time, to read a sign. The decision process as a consequence of reading a direction sign on the freeway is more complex than the reading process. **It is recommended that sign designers employ decision sight distance parameters to check whether standard sign spacing and positions in relation to the exit point are adequate for the message displayed and manoeuvres required.** Critical locations where decision sight distance considerations are most appropriate are:

- (a) interchanges with unusual layouts such as a "right" exit;
- (b) complex interchanges;

- (c) cross-sectional changes such as those at lane drops and toll plazas;
- (d) urban areas with visual "noise" intrusion from advertising signs which compete for drivers' attention;
- (e) locations requiring unusual or unexpected manoeuvres.

The distance to the exit point shall be displayed on all advance exit direction signs and on exit sequence signs (see Sections 1.7 and 1.8). Designers should also refer to the "Green" book - *A Policy on Geometric Design of Highways and Streets - 1990*, published by the American Association of State Highway and Transportation Officials - AASHTO.

13 It is important that drivers are able to orientate themselves when necessary. At a systems interchange, because there are commonly two exits which are, in effect, to the left and right the signs provided in advance of, and at, each exit shall make it clear to drivers which lane leads left and which right. These signs shall be sufficiently far in advance of the exit point that drivers will make the correct decision and be able to act on it. At an access interchange, however, orientation is not necessary until after the exit point. The signface displays preceding the exit point need not, therefore, provide orientation *per se*. This permits a simplification of display which is particularly relevant in urban areas where the driver information work-load approaches limiting levels. For this reason, amongst others, the use of the name of the intersecting cross street is recommended in urban environs. Orientation in such situations is given on the off-ramp and/or at the ramp terminal.

14 FR EEWAY DIRECTION signs may be GROUND-MOUNTED or OVERHEAD. The information displays are similar for each location and are dealt with in the individual sign Subsections. Warrants for the use of OVERHEAD guidance signs are covered in Subsection 4.1.8 and these include reference to reading time and decision making time.

15 All GROUND MOUNTED freeway advance exit direction signs shall be MAP-TYPE signs, whilst exit direction signs and off-ramp terminal signs shall be STACK-TYPE signs. (The GORE EXIT sign GA4 has an exclusive design.)

16 OVERHEAD freeway direction signs may conform to one or other of two basic signing principles as follows:

- (f) the signs may, by means of **downward pointing arrows**, utilising one arrow over each appropriate lane, indicate the lane by which drivers may proceed towards their intended destination; **OR**
- (g) the signs may, by means of **upward pointing arrows**, either in relation to an exit, or collectively in a CLUSTER in relation to the whole roadway, indicate the lane configuration of the roadway and which (and how many) lanes specifically may be used to exit the freeway at the access or systems interchange concerned.

Individual signs designed according to each system shall not be mixed in one approach sequence to an interchange. For further detail on the use of downward- and upward-pointing arrows see Subsections 4.2.4 and 4.2.5. The signface display and sign

sequence characteristics differ significantly for the two systems (see Subsection 4.9.7 and Volume 4, Chapter 6).

- 17 In order to preserve the standards and effectiveness of the freeway direction signing system, the STACK- TYPE DIRECTION signs used on the intersecting crossroads, shall be designed incorporating a number of exclusive features related to their function as DIRECTION signs serving a freeway. For this reason these FREEWAY CROSS-ROAD signs are covered in this Section (see Subsection 4.9.21).
- 18 Notwithstanding the comments made in paragraph 4.9.2.16 regarding UPWARD and DOWNWARD arrows appearing together in an OVERHEAD sign sequence it is acceptable to combine a DIAGRAMMATIC sign, which displays upward pointing arrows, in combination with OVERHEAD direction signs which display downward pointing arrows.
- 19 As the freeway system develops, a number of facilities may be given direct access to the freeway at places other than interchanges. Such facilities include REST and SERVICE AREAS, TOLL PLAZAS and VEHICLE CONTROL NETWORK PLAZAS. These types of "interchange" with the freeway shall generally be signed using a similar sequence of signs to a conventional access interchange.
- 20 **From time to time it is deemed necessary to change fundamental aspects of guidance signing systems and policy at local, metropolitan, regional, provincial or national levels. Some changes, when translated to a signface display, are obvious to drivers and need no promoting. However, many principles need to be brought to the attention of the motoring public to make drivers aware of their function. It is essential that authorities responsible for changes to their guidance signing systems initiate awareness campaigns of relevant scope.** At a national level it is likely that an educational effort aimed specifically at the public, designers, manufacturers and enforcement officials will be necessary.

4.9.3 Signface Design Principles

- 1 The general principles relating to guidance signface design and layout, with specific reference to arrows, text, symbols and punctuation, together with conspicuity, legibility, comprehension or reading time, are appropriate to the design of FREEWAY DIRECTION signs and are covered in detail in Sections 4.1 to 4.4.
- 2 A number of techniques may be used in the design of FREEWAY DIRECTION sign faces to improve the ability of drivers to assimilate the necessary minimum primary information more quickly. Use of these techniques should reduce sign reading times or allow a greater amount of information to be displayed, subject to the reading time available in any particular signing situation. It is recommended that there should be a high degree of correlation between the information display techniques used on signs and those used on maps. Such techniques are:
- the accurate use of sign background colour coding;
 - the display of route numbers in yellow;
 - the use of interchange (EXIT) numbers;
- the display of "indirect" routes within brackets ("indirect" routes are routes which are indicated on direction signs on the freeway, but which do not themselves directly intersect with the freeway - they are reached by travelling on the intersecting route for some distance first);
 - a disciplined approach to the standard positioning of signface components;
 - the justification of place names to the left side or right side of the sign, according to individual sign rules, to reduce search and reading times;
 - the inclusion of local authority names to indicate where an urban interchange is located;
 - the use of cross-street names as exit "destinations" at urban interchanges to reduce the amount of information displayed on signfaces on sections of road where drivers are commonly under extreme pressure from visual "clutter" (and on which there is great competition for the display of suburb names as destinations, many of which have little or no navigational value **on the freeway**);
 - the use of a separate supplementary system of symbol based TOURISM signs;
 - the use of direction sign symbols, mainly related to transport termini, to reduce the need for the display of names such as "station" or "airport";
 - the use of diagrammatic arrow displays to represent road layout and lane arrangements, both for special applications and for overhead signs.
- 3 The following sign face design principles are particularly relevant to the design and layout of FREEWAY DIRECTION signs:
- any STACK-TYPE signs used shall conform to the provisions of Subsections 4.8.2, and 4.8.5 to 4.8.7;
 - on MAP-TYPE and OVERHEAD signs if a route number is to be displayed it shall normally be displayed above the destinations or street name to which it applies, except for numbers applicable to "indirect" routes when the route number should appear within brackets in front of the relevant destination (see Subsection 4.3.3 and Figures 4.21 and 4.22);
 - when destinations to right and left of the route are displayed one above the other on a sign, the right destination(s) shall always be placed above the left destination(s) (this will ensure the same order of display as given on ramp terminal direction signs **and should be adhered to for partial clover-leaf interchanges** - in other words the right/left orientation is dictated by the movements at the **ramp terminal** but this should be carried through to the signface displays on the freeway when both destinations are indicated i.e. at systems interchange or rural applications);
 - once a destination has appeared on an advance exit direction sign it shall continue to appear on subsequent exit direction signs and on all other direction signs on the appropriate route until that destination has been reached;
 - the standard lettering for use on all FREEWAY

DIRECTION signs shall be DIN 1451 Style "8", however, for particularly long destination names of over 10 characters, the use of DIN 1451 Style "A" (compressed) lettering may be considered (a thicker stroke "B MOD" letter is recommended when dark letters are used on retroreflective white backgrounds- see Sections 4.3 and 4.4).

- 4 The increased use of colour coding and numbers to highlight specific aspects of information is symptomatic of the need to transfer the **minimum primary information** to drivers as quickly and as clearly as possible. These aspects are combined for the display of the three types of number specified for use on FREEWAY DIRECTION signs (see Subsections 4.1.4 to 4.1.7 and Figures 4.1 and 4.2).
- 5 Abbreviations shall not normally be used for destination names on FREEWAY DIRECTION signs. However, street name adjuncts shall be abbreviated if these are likely, in combination with a street name, to dictate the overall length of the sign.
- 6 All sign examples given in this Section conform to the principles of text justification mentioned in paragraph 4.9.3.2(f) and detailed in Section 4.3. Whilst these recommended principles can improve readability they can, depending on the actual destinations displayed, result in a less than absolute minimum signface area. This is particularly the case with STACK-TYPE signs. Full dimensional details of both methods of STACK-TYPE sign design are therefore given in Volume 4 (see also Figure 4.19).

4.9.4 Information Display - Access Interchanges

- 1 The **minimum primary information** to be displayed on FREEWAY DIRECTION signs at ACCESS INTERCHANGES should enable rapid identification of the exit and of the intersecting cross route, and the distance to the exit(s) serving the interchange. This information shall conform to what drivers may expect to see on the signs, having studied a map of the area, and consists of the interchange (EXIT) number and the number of the intersecting route.
- 2 **Secondary information** relates to the place names associated with the exit(s). This information is secondary in the sense that many intersecting cross routes provide access to many towns, cities or suburbs. The process described in Chapter 8 will produce the best possible selection of destination names for rural access interchanges. In urban areas this task is more complex. In order to correlate most effectively with maps the display of a non-orientating street name, normally associated with a route number, is recommended on the freeway signs. Orientation is given by the OFF-RAMP TERMINAL DIRECTION sign GA6 once exit from the freeway has been accomplished. **It is considered that a driver can effectively make a decision to correctly exit the freeway on the basis of knowledge of the interchange (EXIT) number and/or the crossing route number.**
- 3 The following items of information may be displayed on the sequence of signs provided at ACCESS INTERCHANGES:

- (a) Interchange (EXIT) number (exit information);
- (b) Freeway route number (straight-on information);
- (c) cross route identification by route number (exit information);
- (d) cross street name **in urban areas** (exit information);
- (e) names of destinations which can be reached from the exits (orientational information);
- (f) local authority name **in urban areas** in which the exit is located (reassurance);
- (g) distance to exits (exit information);
- (h) control destinations on the freeway route beyond the interchange (reassurance);
- (i) tourist or service facilities served by the exits which conform to the policy for such signing (see Section 4.10).

4.9.5 Information Display - Systems Interchanges

- 1 At SYSTEMS (or freeway-to-freeway) INTERCHANGES the **minimum primary information** to be displayed shall relate to route identification in the form of route numbers. **Secondary information**, or destination names, should be limited to CONTROL and/or FAMILIAR destinations. Details of the selection of these types of destinations are given in Chapter 8, **but unlike at access interchanges, their principle function must be to orientate drivers. In the event of a systems interchange resulting in a split in a route, to two significantly different directions, the use of cardinal directions is recommended to improve the ability of the signs to give the necessary orientation.**
- 2 In addition the use of a major transport terminal such as an airport or harbour may provide valuable orientation information for visitors to an area.
- 3 The following items of information may be displayed on the sequence of signs provided at SYSTEMS INTERCHANGES:
 - (a) interchange (EXIT) numbers (exit information);
 - (b) route numbers (exit and straight-on information);
 - (c) cardinal directions (orientational information);
 - (d) control or familiar destinations (orientational information);
 - (e) major transport terminal names (orientational information);
 - (f) upward-type arrows showing exit lane configuration (safety information);
 - (h) distances to exits (exit information);
 - (i) special signing for situations such as lane drops in the vicinity of the interchange (safety information);
 - (j) control destinations on the exit routes beyond the interchange (reassurance).

4.9.6 Temporary Freeway Direction Signs

- 1 When a freeway is undergoing major maintenance or rehabilitation traffic may be sufficiently relocated

that special measures will have to be taken to provide adequate TEMPORARY DIRECTION signing in addition to any TEMPORARY DIAGRAMMATIC guidance signs which may be required by the temporary road geometry. These special measures may take one of three forms:

- (a) the repositioning of existing direction signs to restore adequate visibility of them;
 - (b) the provision of temporary black on yellow direction signs to highlight the change in conditions;
 - (c) a combination of repositioned existing signs and additional temporary black on yellow direction signs.
- 2 Due to the size of MAP-TYPE and OVERHEAD signs which are commonly used on freeways it will often not be practical to reposition such signs because of the cost or lack of space to accommodate them. (The repositioning of STACK-TYPE signs GA2/3 and GA3, and GORE EXIT signs GA4 is entirely possible and likely to be cost effective.
 - 3 It is therefore recommended that all specially manufactured TEMPORARY direction signs used at freeway roadworks sites be of the STACK-TYPE. Temporary black on yellow direction signs may be used to replace map-type or overhead direction signs. It should normally be possible to adequately sign temporarily relocated off-ramps by using temporary GA213, GA3 and GA4 signs, numbered TGA 2/3, TGA3 and TGA4. To contain temporary sign costs and limit space requirements the GA2 sign at 1 km should be replaced by a TGA2/3 sign located between 600 m and 300 m in advance of the temporary exit point. **The most cost effective method of temporarily signing a relocated freeway exit is likely to be a sequence comprising a TGA213 sign followed by repositioned GA3 and GA4 signs.**
 - 4 When designing the geometry of temporary freeway roadway alignments thought shall be given to how TEMPORARY direction signing can be achieved effectively. Temporary alignments which cannot be signed according to simple basic principles should be avoided. Experience in recent years has shown, for instance, that drivers become confused if offered a choice of two roadways leading to the same destination. If such geometric layouts have to be considered due to traffic volumes then the TEMPORARY freeway direction signing shall be very carefully thought out (see Volume 2 for details of temporary signing procedures for use at roadworks).
 - 5 If a detour is provided which requires that new directions have to be taken in order to reach certain destinations, then it is recommended that localised alterations be made to individual existing signfaces. This should be accomplished by using temporary overlays over the appropriate area of the sign. Such overlays, displaying the revised destination information, should conform to the TEMPORARY sign colour code of black text on a yellow background. Overlays of this type may be limited to areas of the sign required to display new directions resulting from the detour. Areas of the signs which are no longer relevant, for the duration of the detour, may be "cancelled", by displaying a red retroreflective/fluorescent adjustable cross over the text concerned. This technique can be used to advantage to

highlight the change in conditions (see Subsection 4.8.5).

- 6 If a need arises to divert traffic urgently from a freeway standard TEMPORARY DETOUR FINGERBOARD signs TGD4 and DETOUR DIRECTION signs TGD2 may be rapidly deployed as an "immediate action", to be followed up, if necessary, by temporary modifications to the standard FREEWAY DIRECTION signs when time permits.

4.9.7 Typical Freeway Direction Sign Sequences

- 1 There are many possible variations of signing sequence on the approach to a freeway interchange. In particular the approaches to SYSTEMS INTERCHANGES vary significantly in their geometry and the signing sequences have to adapt to these variations.
- 2 Figure 4.64 illustrates the basic sequence of rural and urban GROUND MOUNTED signs for an approach to an ACCESS INTERCHANGE. The **minimum** sign sequence shall comprise:
 - (a) ADVANCE EXIT DIRECTION sign GA2;
 - (b) EXIT DIRECTION sign GA3;
 - (c) GORE EXIT sign GA4.
- 3 Figure 4.65 illustrates the basic sequence of urban OVERHEAD signs for an approach to an ACCESS INTERCHANGE using downward-pointing arrows. The **minimum** sign sequence shall comprise:
 - (a) ADVANCE EXIT DIRECTION sign GC2D;
 - (b) SUPPLEMENTARY EXIT DIRECTION sign GC2D;
 - (c) THROUGH (or STRAIGHT-ON) DIRECTION sign GC3D;
 - (d) EXIT DIRECTION sign GC4D;
 - (e) GORE EXIT sign GA4.
- 4 Figure 4.66 illustrates the basic sequence of urban OVERHEAD signs for an approach to an ACCESS INTERCHANGE using upward-pointing arrows. The **minimum** sign sequence shall comprise:
 - (a) ADVANCE EXIT DIRECTION sign GC2U;
 - (b) SUPPLEMENTARY EXIT/THROUGH DIRECTION sign GC3U;
 - (c) EXIT DIRECTION sign GC4U;
 - (d) GORE EXIT sign GA4.
 (See also Figures 4.67 and 4.68.)
- 5 Figure 4.67 illustrates a **typical** sequence of urban OVERHEAD signs for an approach to a SYSTEMS INTERCHANGE using upward-pointing arrows. The sign sequence for such an approach is very much affected by the exit/off-ramp configuration which can vary widely. A **typical** sign sequence will comprise:
 - (a) PRE-ADVANCE EXIT DIRECTION sign GC1;
 - (b) ADVANCE EXIT DIRECTION sign GC2U;
 - (c) SUPPLEMENTARY EXIT /THROUGH DIRECTION sign GC3U;
 - (d) ADVANCE OFF-RAMP DIRECTION sign GC5U;

- (e) GORE EXIT sign GA4;
- (f) EXIT DIRECTION sign GC4U displayed with C-D ROAD THROUGH DIRECTION sign GC6U;
- (g) GORE CHEVRON hazard marker sign W414.
- (h) C-D EXIT/THROUGH DIRECTION sign GC7U (or ground-mounted C-D ROAD ADVANCE STACK-TYPE DIRECTION sign GA9);
- (i) EXIT DIRECTION sign GC4U optionally displayed with C-D ROAD THROUGH DIRECTION sign GC6U (or ground mounted STACK-TYPE DIRECTION sign GC10.)

Alternative signs may be required depending on whether the subsequent on-ramp is a loop ramp or a fully directional ramp. (See Volume 2, Chapter 5 for further examples of OVERHEAD FREEWAY DIRECTION sign sequences.)

(See also Figures 4.66 and 4.68.)

- 6 It is a relatively common feature of interchanges which warrant the use of OVERHEAD signs that they include one or more exit lanes which are exclusive or "dedicated" exit lanes. It is important that drivers NOT wishing to exit at this point shall be made aware that the lane does not continue beyond the exit so that they may move out of the lane as early as possible. The upward pointing arrow system provides for this in the layout of various CLUSTER-TYPE arrows. (See Figures 4.12 and 4.13 in particular CLUSTERS 81 to 84, and C5 to C15.) Figure 4.68 illustrates a typical sign sequence for such a lane configuration. This type of sequence may be equally appropriate at an ACCESS or a SYSTEMS INTERCHANGE.
- 7 The sign sequence principles for the conditions described in paragraphs 4.9.7.4 and 4.9.7.5 and illustrated in Figures 4.66 and 4.67, differ significantly. Standard design procedure for ACCESS INTERCHANGES provides for at-grade junctions between the off-ramp and the intersecting cross road. The exit condition from the freeway is thus relatively conventional although this can be complicated by the provision of two or more lanes on the off-ramp. This latter situation may warrant special signing treatment. The exit from a freeway at a SYSTEMS INTERCHANGE is more complex because the left and right turn movements are catered for in a free-flowing manner. This will normally result in secondary exits on the collector-distributor (C-D) road where the left and right turn movements separate. Since SYSTEMS INTERCHANGES are normally subject to heavy traffic flows, particularly on turning movements, drivers seeking left turn movements and those seeking right turn movements need a very clear indication of their correct position on the roadway. To cater for this an EXIT DIRECTION sign is not provided at the exit point from the freeway. Instead an advance direction sign is provided at this exit which indicates the left-right destinations for the NEXT exit split. This sign is called an ADVANCE OFF-RAMP DIRECTION sign GC5U and it is recommended that the ARROW CLUSTER be rotated to the left through 15° to 30° to conform with the normal arrow display practice on advance exit and exit direction signs of sloping the arrow at approximately 45°. At the secondary exit a

conventional EXIT DIRECTION sign GC4U is used. The principle of displaying an advance sign for an on-ramp junction may also be used, particularly if a collector-distributor road is provided and the crossing freeway is carried over the C-D road creating poor sight distance conditions to the junction of the C-D road and the 360° on-ramp loop.

- 8 Figure 4.69 illustrates a typical arrangement of off-ramp STACK-TYPE direction signs at an ACCESS INTERCHANGE which are appropriate irrespective of the form of the preceding signs in the freeway exit sequence. The minimum requirement shall comprise an OFF-RAMP TERMINAL DIRECTION sign GA6. If the off-ramp develops into two or more lanes an ADVANCE OFF-RAMP TERMINAL DIRECTION sign GAS, or even an OVERHEAD sign may be warranted to ensure that drivers select the correct lane for the junction ahead.
- 9 Figure 4.70 illustrates the basic sequence of rural and urban GROUND-MOUNTED signs on the cross road approaches to an ACCESS INTERCHANGE. The minimum sign sequence on each approach shall comprise:
- (a) STACK-TYPE CROSS-ROAD ADVANCE DIRECTION sign G81;
 - (b) STACK-TYPE NEAR-SIDE ON-RAMP DIRECTION sign G82;
 - (c) STACK-TYPE FAR-SIDE ON-RAMP ADVANCE DIRECTION sign GB3;
 - (d) STACK-TYPE FAR-SIDE ON-RAMP DIRECTION sign GB4.

On narrow interchanges sign G83 may be omitted. It is recommended that signs G82 and G83 should be provided whenever possible. The arrangement of signs will vary according to the ramp configuration e.g. diamond or parclo (see Figure 4.71). 11a STACK-TYPE FAR-SIDE ON-RAMP ADVANCE DIRECTION sign GB3 cannot be fitted in to available space consideration should be given to increasing the letter size of the subsequent STACK-TYPE FAR-SIDE ON-RAMP DIRECTION sign GB4 to an size larger than normal to improve the legibility distance.

- 10 Various additional signs are indicated in Figures 4.64 to 4.71 as optional. Refer to individual sign pages for an indication of when the use of such signs is recommended.

4.9.8 Shape, Size and Colours

- 1 All FREEWAY DIRECTION signs shall be rectangular in shape and should normally have a horizontal format. (TOURISM signs used on freeways retain their exclusive shape).
- 2 The size of FREEWAY DIRECTION signs is dictated either by the arrow in use (particularly when using MAP-TYPE or OVERHEAD upward-pointing arrow types) or by the number of destinations and other information displayed. Since freeway sign designs and letter sizes are generally standardised on a system basis there is only limited scope for reduction in sign area.
- 3 The colours to be used for the background on various types of freeway sign are given in Table 4.9 and the

colours of other signface components in Table 4.10.

- 4 If TEMPORARY direction signs are used on freeways they shall conform to the temporary sign colour code, namely yellow background, black legend, arrows and border and red "obstruction" representations.

4.9.9 Retroreflectivity

- 1 It is recommended that all PERMANENT and TEMPORARY freeway signs, including direction signs, be fully retroreflective excluding any black areas which should be semi-matt. The retroreflective material should conform to the requirements laid down in Chapter 1.

TABLE 4.9		FREEWAY SIGN BACKGROUND COLOURS				TABLE 4.9
Direction	Information	Location	Off-Ramp	Cross-Road	Tourism	Diagrammatic
blue ⁽¹⁾ green ⁽²⁾	blue	white	green	green and blue ⁽³⁾	brown ⁽⁴⁾	white

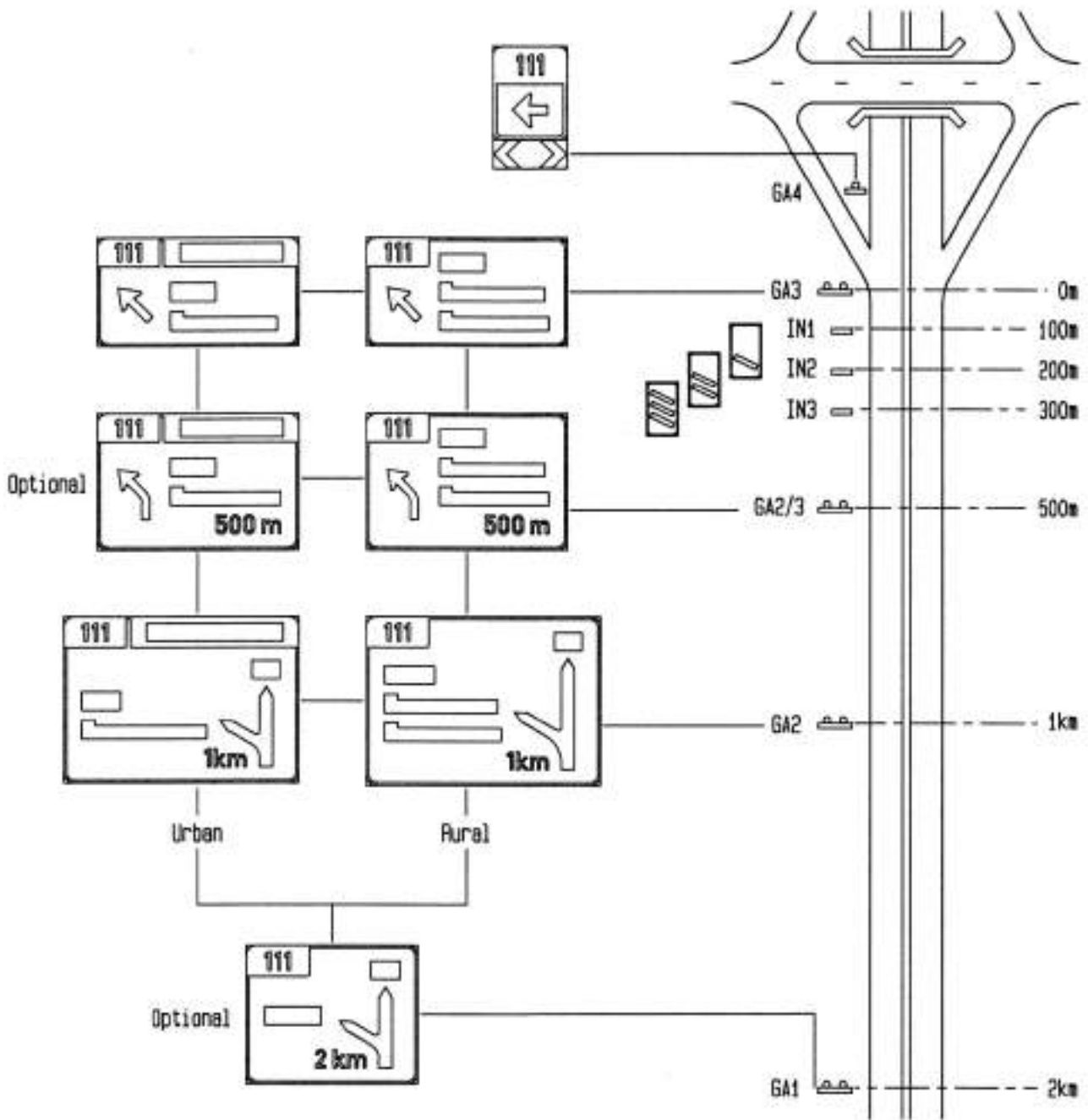
NOTES:

- (1) For dual carriageway Class A1 freeways.
 (2) For single carriageway Class A2 freeways.
 (3) Different stacks may have different colours.
 (4) TOURISM "insert" panels may be made into other sign backgrounds under certain circumstances.

TABLE 4.10				FREEWAY SIGNFACE COMPONENT COLOURS			TABLE 4.10	
Direction and Tourism				Route Numbers	Location	Diagrammatic		
Arrows	Text	Symbol	Border			Arrows	Border	"Obstruction"
white	white ⁽¹⁾	white ⁽²⁾	white	yellow	black	black	red	red ⁽³⁾

NOTES:

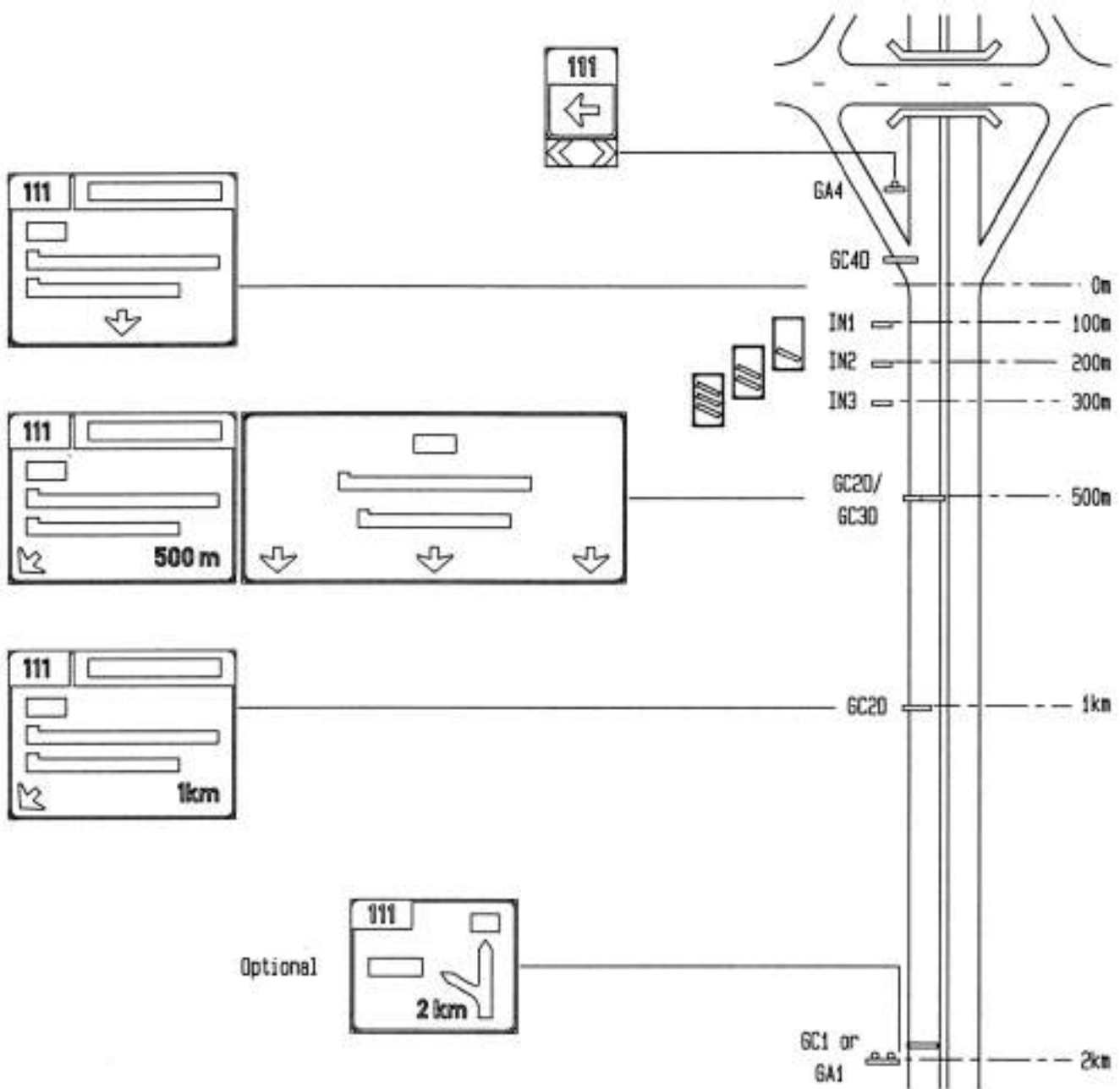
- (1) Interchange (EXIT) numbers are classified as locational information and therefore are black.
 (2) Certain tourism sign symbols are multi-coloured (see Section 4.3).
 (3) "Obstructions" refer to roadway narrowing situations etc. (see Section 4.12).



NOTES:

- (1) See Subsections 4.9.10 onwards for specific details of individual sign types. See Chapter 5 for details of COUNTDOWN sign IN1, IN2 and IN3.
- (2) Signface displays indicate recommended standard amounts of information.
- (3) Sign GA2/3 may be considered when visibility of the off-ramp exit point is reduced due to traffic volumes, topography or alignment.
- (4) See Figures 4.69 to 4.71 for details of off-ramp and cross-road sign sequences.
- (5) Sign background colour is dictated by freeway class, e.g. Class A1 - blue and Class A2 - green.

Fig 4.64 Ground Mounted Exit Direction Sign Sequence - Access Interchange

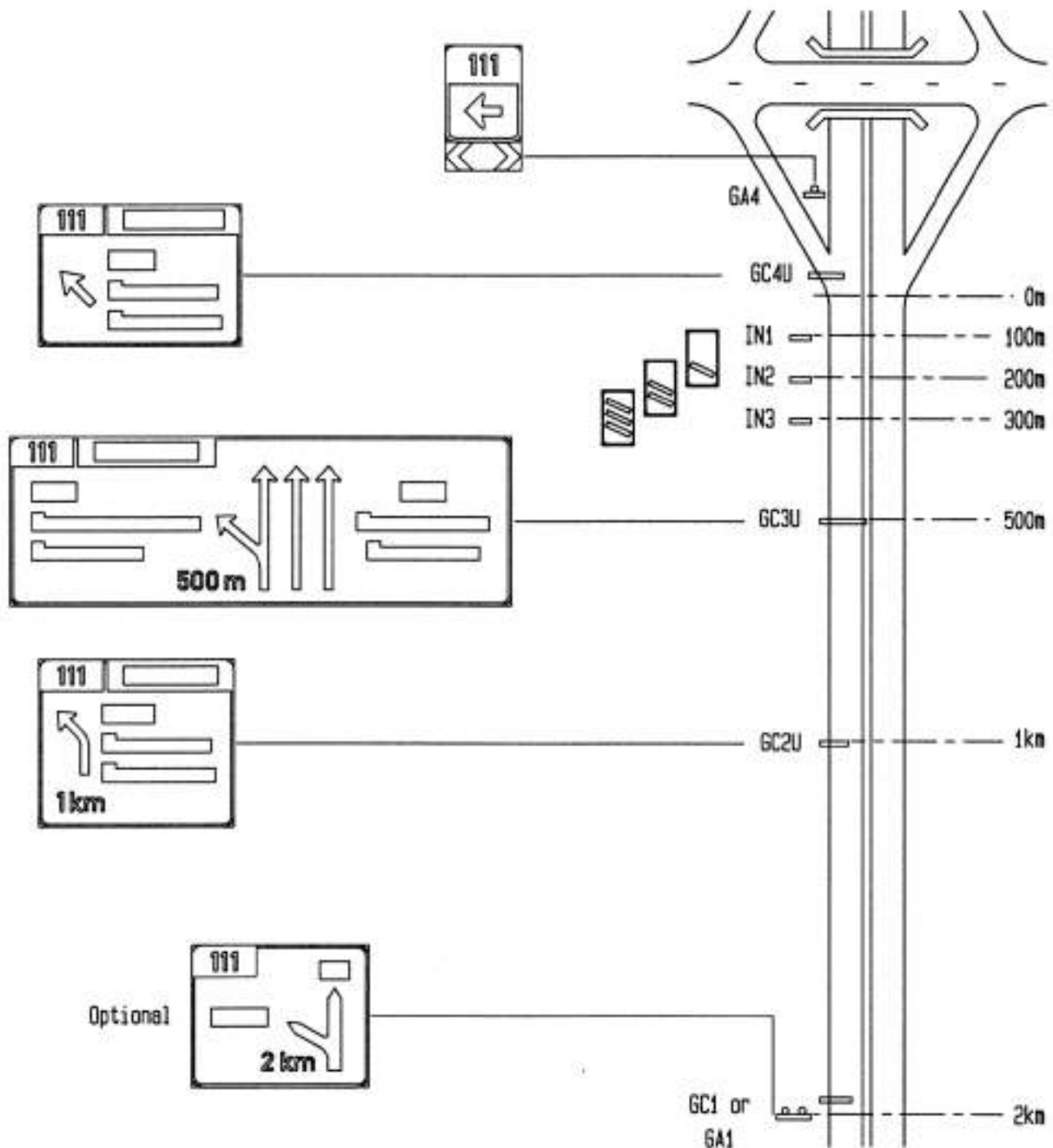


NOTES:

- (1) See Subsection 4.9.26 for specific details of individual sign types. See Chapter 5 for details of COUNTDOWN sign IN1, 1N2 and IN3.
- (2) Warrants for the use of overhead signs are covered in Subsection 4.1.8. The relative merits of upward and downward pointing arrows, in the context of the

- freeway as a whole and/or the specific location, should be considered before deciding which system to use. See Section 4.2, Subsection 4.9.7 and Figures 4.65 to 4.68.
- (3) See Figures 4.69 to 4.71 for details of off-ramp and cross-road sign sequences.

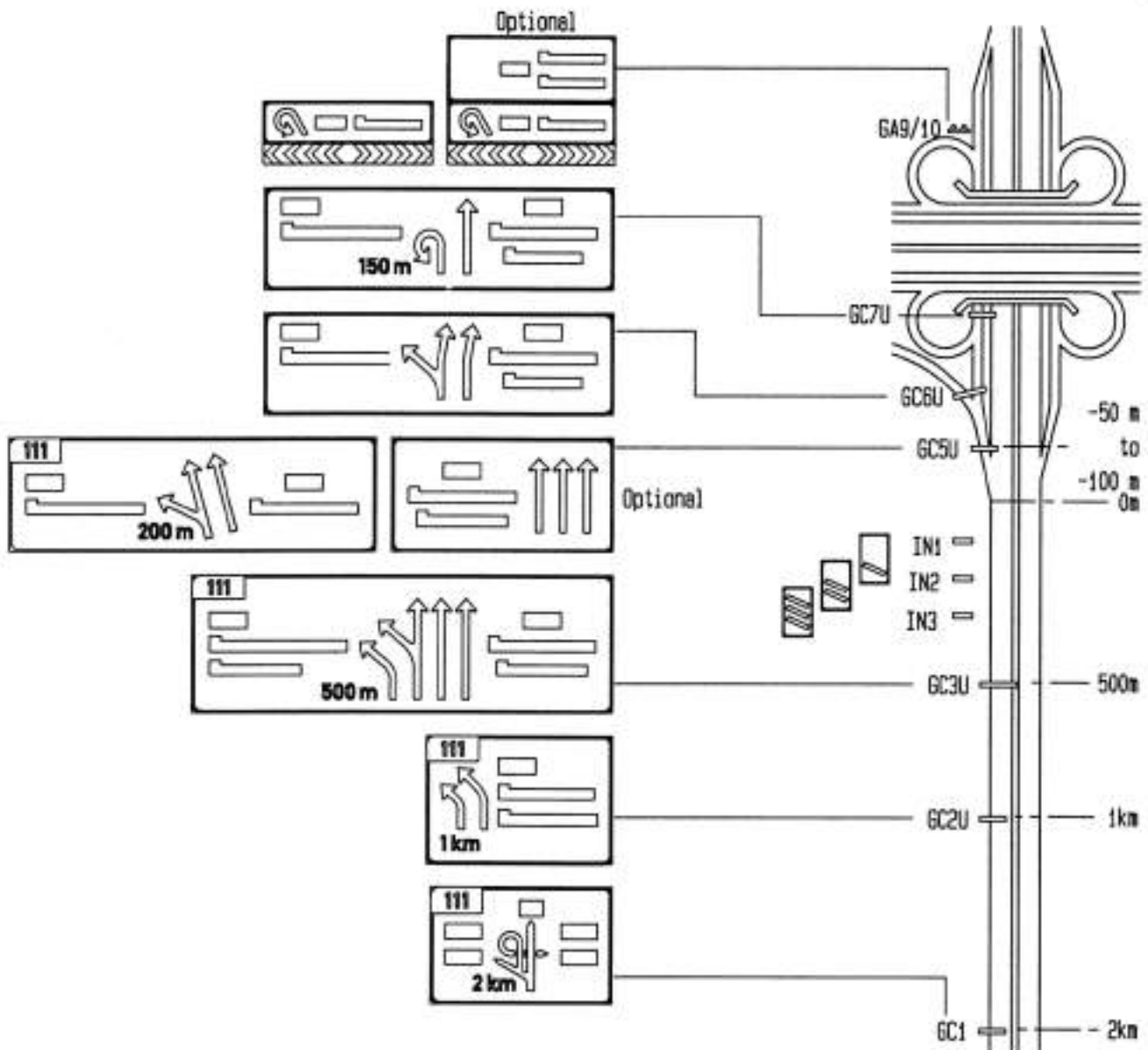
Fig 4.65 Overhead Exit Direction Sign Sequence - Access Interchange Downward-Pointing Arrows



NOTES:

- (1) See Subsection 4.9.26 for specific details of individual sign types. See Chapter 5 for details of COUNTDOWN signs IN1, IN2, and IN3.
- (2) Warrants for the use of Overhead signs are covered in Subsection 4.1.8. See also Section 4.2, Subsection 4.9.7 and Figures 4.65 to 4.68.
- (3) Details of available upward-pointing arrow types and clusters are given in Section 4.2.
- (4) See Figures 4.69 to 4.71 for details of off-ramp and cross-road sign sequences.

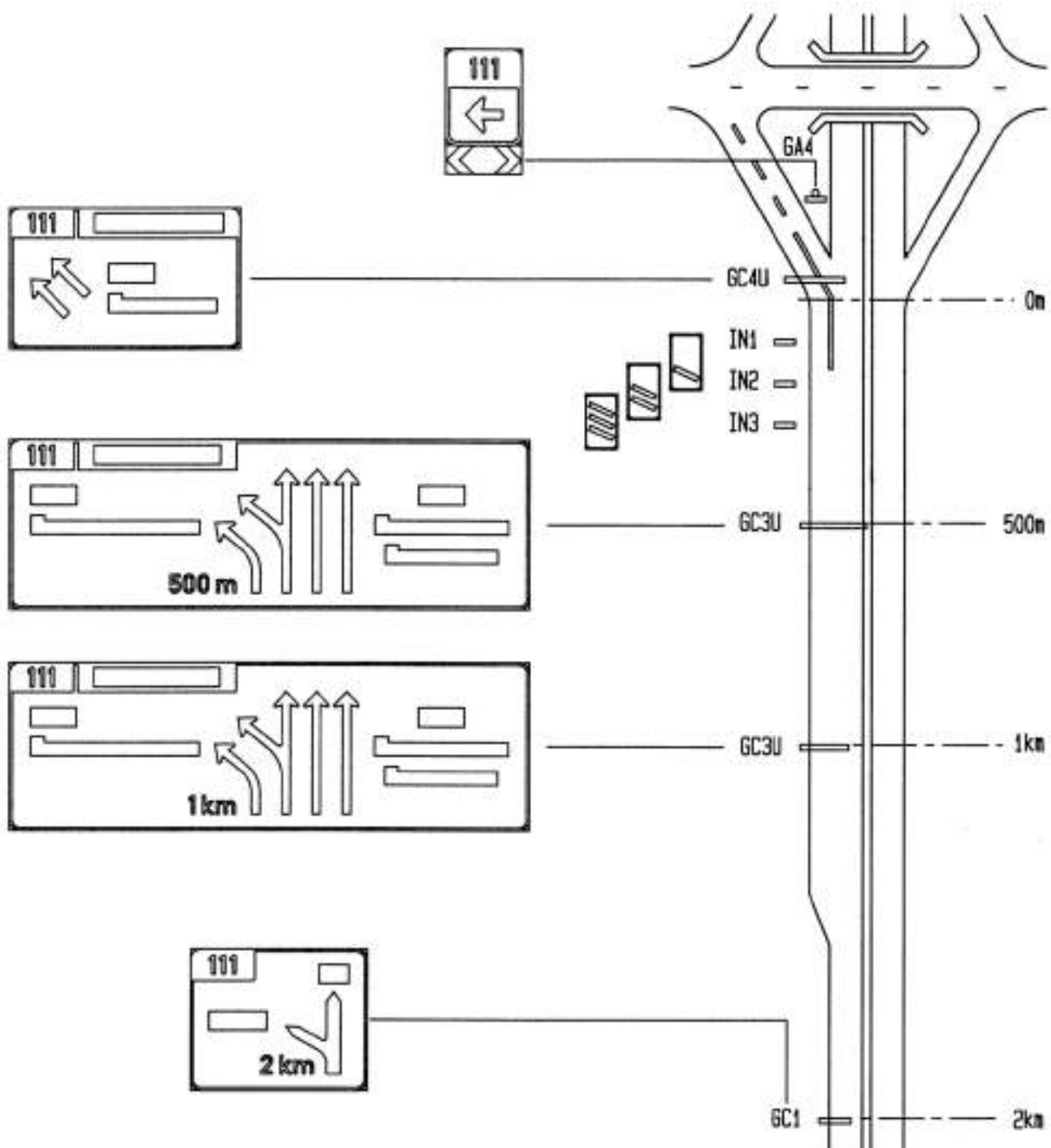
Fig 4.66 Overhead Exit Direction Sign Sequence - Access Interchange Upward-Pointing Arrows



NOTES:

- (1) This example shows typical of a SYSTEMS INTERCHANGE signing sequence. There are a great many possible variations based on the different types of interchange geometry. Additional examples are given in Volume 2, Chapter 5.
- (2) Also refer to Subsection 4.1.8, Section 4.2, Subsection 4.9.7 and Figures 4.65 to 4.68.

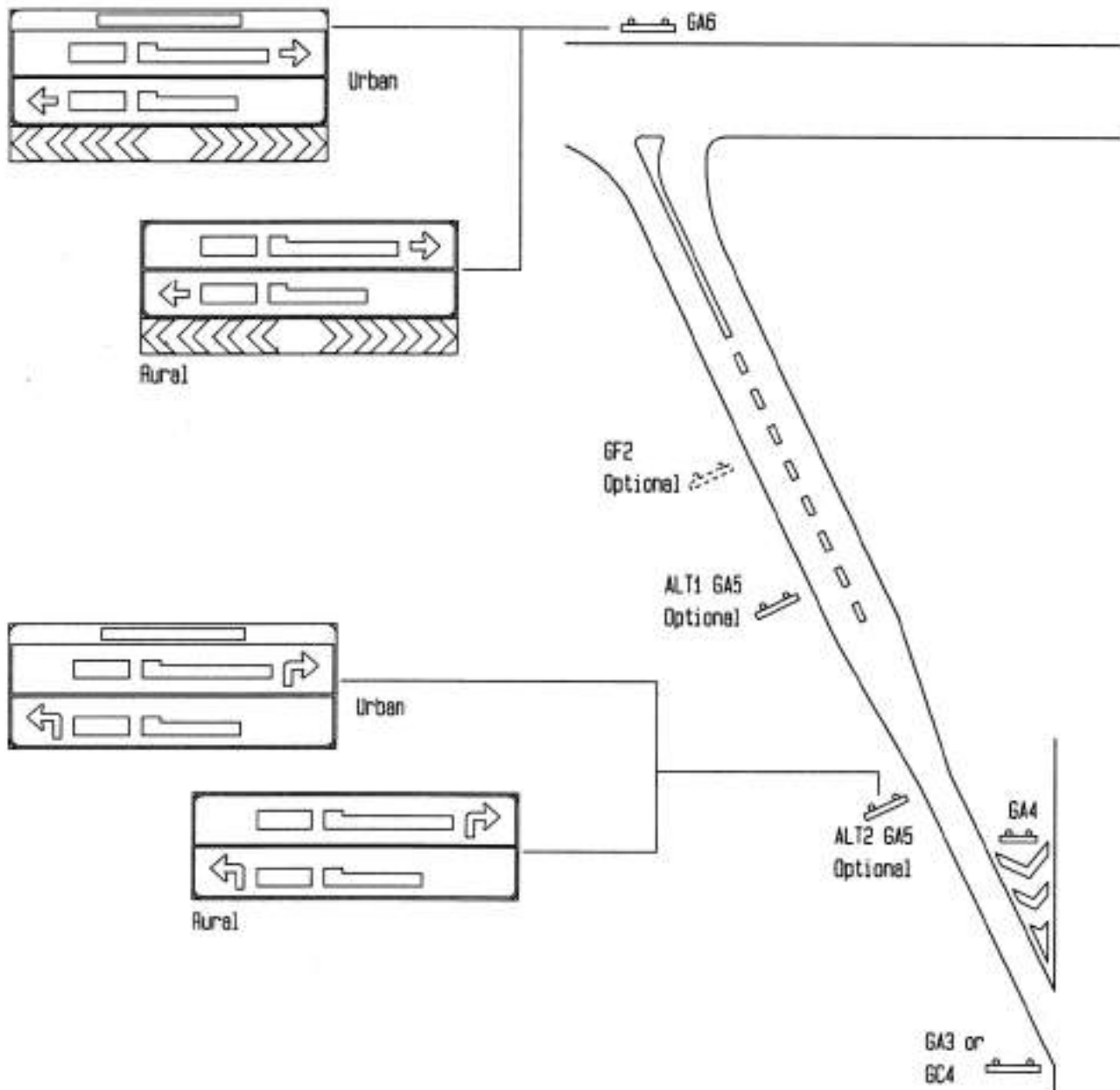
Fig 4.67 Overhead Direction Sign Sequence - Systems Interchange Upward-Pointing Arrows



NOTES:

- (1) Upward-pointing arrows on overhead signs are particularly effective when the interchange exit has more than one lane, and if one or more lanes is an exclusive or "dedicated" exit lane.
- (2) This Figure is a variation of Figure 4.66.
- (3) Also refer to Subsection 4.1.8, Section 4.2, Subsection 4.9.7 and Figures 4.65 to 4.68.

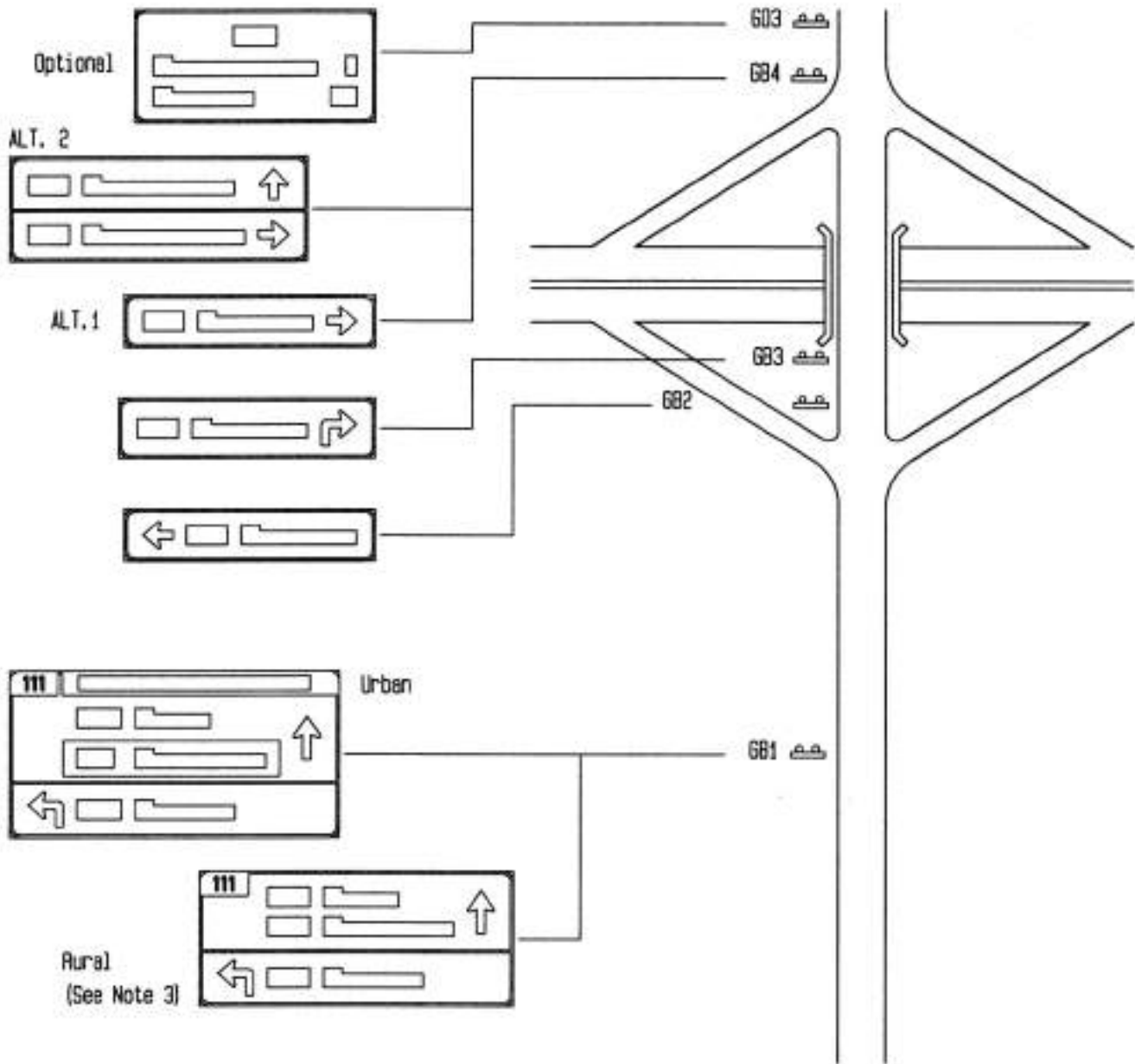
Fig 4.68 Overhead Direction Sign Sequence - Upward-Pointing Arrows Exclusive or "Dedicated" Exit Lane(s)

**NOTES:**

- (1) The signing illustrated may follow ground-mounted or overhead signs used on the freeway.
- (2) The positioning of sign GA5 should take into account the future need to provide a TOURISM ADVANCE TURN sign GF2. Use position ALT2 if off-ramp widens into two or more lanes.
- (3) In the event of very high traffic volumes on the off-ramp, or the provision of more than two lanes, the use of overhead signs should be considered (see Subsection 4.1.8).

Fig 4.69

Off-Ramp Direction Signing



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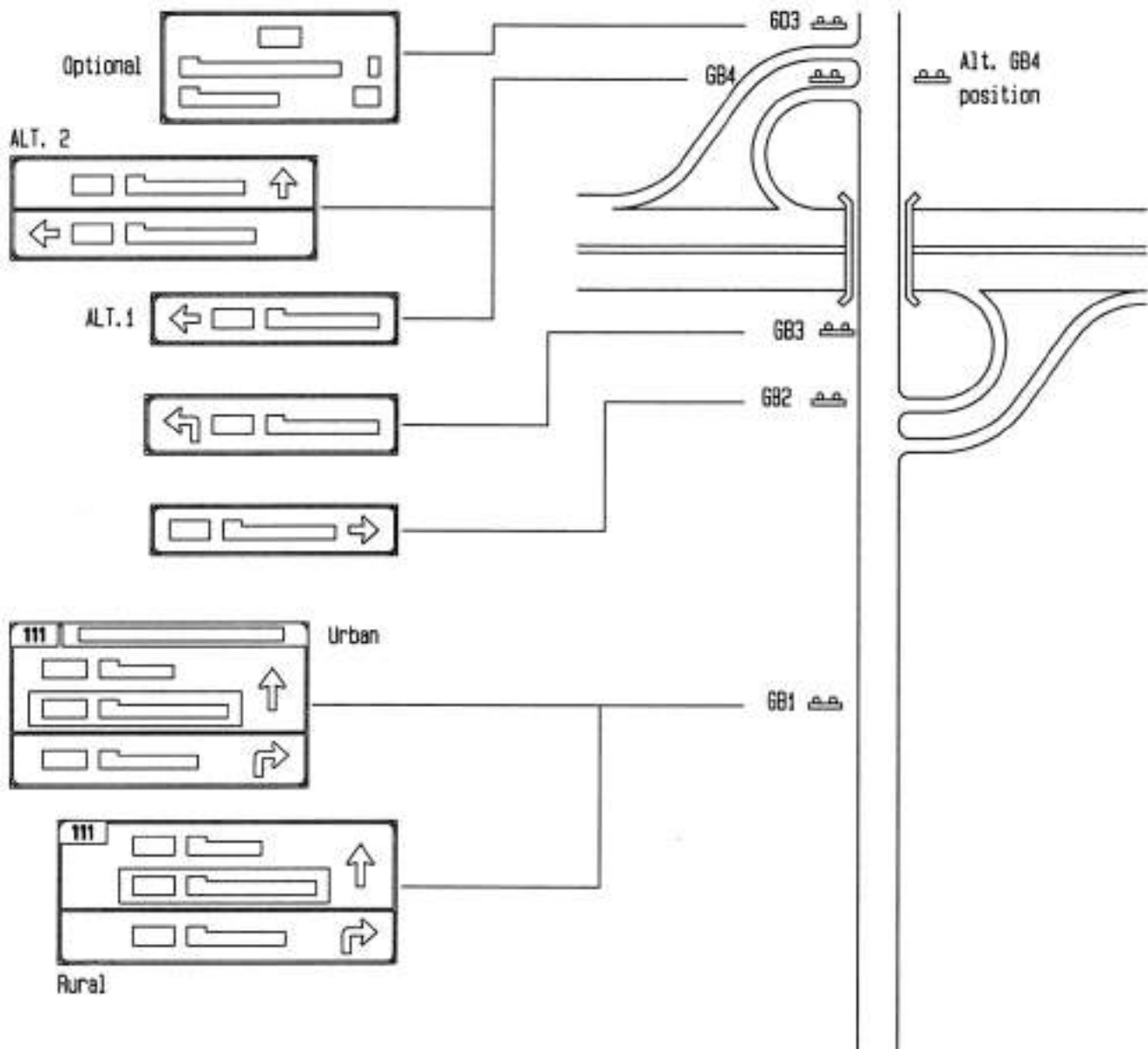
NOTES:



- (1) Sign GB3 may be omitted when the interchange is too narrow to accommodate the sign. If the sign is omitted it is recommended that the letter size used on sign GB4 be increased by one standard letter size to improve the legibility distance to the sign.
- (2) The straight-on STACK indicated on sign GB4 - ALT2 is optional.

- (3) The rural example of sign GB1 indicated is appropriate to a Class A2 freeway and would have a fully green background colour. The advance indication of the freeway destination for the far side on-ramp does not, therefore, appear in an "insert" panel as in the urban example.
- (4) See Figure 4.71 for a typical Parclo Interchange detail.

Fig 4.70 Ground Mounted Cross Road Direction Sign Sequence - Diamond Interchange

**NOTES:**

- (1) The sign STACKS and the arrow displays will vary according to PARCLO ramp configurations. Signs GB2 and GB4 should be sited extremely carefully.
- (2) See Figure 4.70 for a typical Diamond Interchange detail. Additional details are given in Volume 2, Chapter 5.

Fig 4.71 Ground Mounted Cross Road Direction Sign Sequence - Parclo Interchange

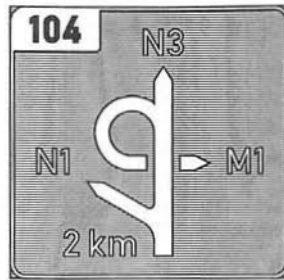
COLOURS :

PERMANENT

- Border & arrow: White retroreflective
- Legend: White retroreflective
- Route number: Yellow retroreflective
- Background: Blue retroreflective

Interchange (EXIT) number:

Black semi-matt on white retroreflective background



GC1.3 (Overhead)

GA1 or GC1



GA1.1

For dimensions ref. Vol. 4 Pages

6.2.1 and 6.4.1 . 6.4.2

4.9.10 Pre-Advance Exit Direction

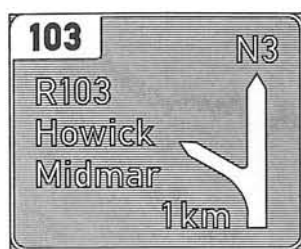
- 1 PRE-ADVANCE EXIT DIRECTION signs of the type GA1 are ground-mounted MAP-TYPE signs which may be used as the first sign in a freeway exit direction sign sequence **to give early guidance of a high speed exit at an access interchange or at an interchange between two freeway systems ahead.** A GA1 sign is recommended in advance of a systems interchange but is optional in advance of an access interchange. The use of sign GA1 may be advisable when traffic volumes are high, if weaving movements are called for, or road geometry is complex, or in a combination of these situations.
- 2 GA1 signs should be located on the left side of the roadway at a distance of 1,8 km to 2,4 km from the off-ramp exit point. When located within this range the distance indicated on the sign may be 2 km. In exceptional circumstances it may be necessary to locate the sign as far as 3km or as close as 1.6 km from the exit point. In such cases the actual distance, to the nearest 0,1 km, should be indicated.
- 3 The MAP-TYPE arrow used on the sign should conform closely to the actual off-ramp layout of the roadway ahead. The sign should be specified by including the MAP-TYPE arrow number after the sign number, e.g. GA1.3 signifies a sign using a MAP-TYPE 3 arrow. Details of standard MAP-TYPE arrow shapes are given in Figure 4.6. A number of these arrow types are not appropriate to freeway use and MAP-TYPE 1 and 10 arrows are reserved for use on GA2 signs. Certain arrow types depict overbridge and underpass situations. Care shall be taken to ensure use of the correct arrow.
- 4 No destination names shall be displayed on a GA1 type sign. The signface display shall comprise:
 - (a) the interchange (EXIT) number (when allocated); (b) the through route number;
 - (c) exit route number(s) (an additional "indirect" route number may commonly be required at closely spaced systems interchanges);
 - (d) the distance to the exit point (subject to paragraph 4.9.10.2).
- 5 When a route changes direction at a systems interchange the relevant CARDINAL DIRECTIONS should be displayed with the appropriate route number. This additional orientational information need only be given if one route number appears twice on the sign face. A cardinal direction should be displayed in yellow letters of a height equal to 2/3 or 3/4 of the main letter size used on the sign, either to the right of, or below, the route number.
- 6 PRE-ADVANCE EXIT DIRECTION sign may be erected in an overhead position as part of an overhead sign sequence. Such a sign should be numbered GC1.

ADVANCE EXIT DIRECTION

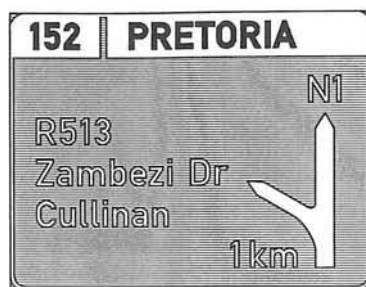
For dimensions
ref. Vol. 4
Pages

6.2.2
to
6.2.6

GA2



Rural



Urban

COLOURS:

PERMANENT
Border & arrow: White retroreflective
Legend: White retroreflective
Route number: Yellow retroreflective
- Background: Blue or green retroreflective

Interchange(EXIT)
Number, & - Black semi-matt on
local authority: white retroreflective
background

4.9.11 Advance Exit Direction

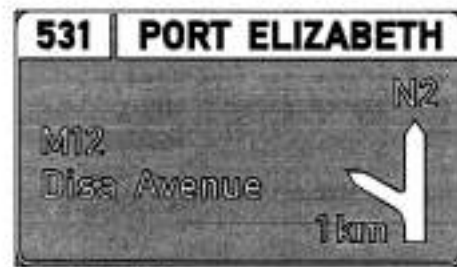
- 1 ADVANCE EXIT DIRECTION signs of the type GA2 are ground mounted MAP-TYPE signs and are used **to give advance guidance of a high speed exit at a Class A1 or Class A2 freeway access interchange together with sufficient information to enable drivers to make decisions regarding whether they wish to use the exit or not.** A GA2 sign is the first sign in a standard freeway exit direction sign sequence.
- 2 GA2 signs should be located on the left side of the roadway at a distance of 0,9 km to 1,3 km from the off-ramp exit point. Within this range of distances the distance indicated on the sign should be 1 km. In some cases it may be necessary to locate the sign as close as 500 m from the exit point. Then the actual distance, to the nearest 100 m, should be indicated.
- 3 GA2 signs should display a MAP-TYPE 2 arrow, of a height suitable for the number of lines of exit information displayed (see paragraph 4.9.11.5 and Volume 4, Chapter 6 - Freeway Signing).
- 4 The information given on an ADVANCE EXIT DIRECTION sign varies for rural and urban interchanges. A standard signface display may comprise three lines of **exit information, and other information** as follows:
 - (a) the interchange (EXIT) number (when allocated);
 - (b) the local authority name (**in urban areas only**);
 - (c) the through route number;
 - (d) the exit route number(s) (exit information-line 1);
 - (e) destinations information :
 - (i) **rural** - destination to the right(exit information – line 2); over
- destination to the left (exit information – line 3);
 - (ii) **urban** - the cross street name (exit information – line 2); over
- an "outer" destination (exit information – line 3)
 - (f) the distance to the exit point (subject to paragraph 4.9.11.2).
- 5 An "outer" destination is relevant at interchanges on urban freeways that by-pass the main area of urban development. The term "outer" refers to a destination which is located in the opposite direction to the town or city centre being by-passed. Such a destination should comply with warrants given in Chapter 8. The **preferred** display for urban access interchanges is a route number and cross street name. This two line type of display, in addition to other two-line displays created when the cross route is not numbered or when there is only one destination on the cross route, should be provided on the **minimum height** GA2 sign using a MAP-TYPE 10 arrow (see Figure 4.72).
- 6 No GA2 sign shall be **sized** to display less than two lines of exit information even if there is only one line used e.g. an intersecting urban street which is not a numbered route, or, an intersecting rural road which is not a numbered route and which has no destination in one direction. The single line of exit information should be positioned logically to allow for a route number or another destination to be added.
- 7 The **maximum** display of exit information shall be four lines. In rural areas this may comprise the route number (line 1), the right destination (line 2), the left destination (line 3 or 4) and some other important destination to the right (line 3) or left (line 4). In urban areas, due to the additional information processing load on drivers, it is recommended that the maximum GA2 sign display be limited to the standard three lines of text. An important transport terminal or industrial area may be displayed in a third line of exit information. It is relatively common that cross street names are changed at freeway interchanges. When necessary both street names should be displayed, observing the correct "right-over-left" orientation rule. Orientation is not essential on the freeway at an access interchange. This can be adequately given at the off-ramp junction with the cross street.
- 8 If an additional line is used to display a destination on an "indirect" route, the "indirect" route number shall be displayed in brackets in the same line as the relevant destination name and immediately in front of the destination name (see Section 4.3).
- 9 DIRECTION SIGNSYMBOLS are available. They shall always be located in front of the destination name or after a route number (TOLL ROUTE).
- 10 The lines of exit information shall be justified to the left with one or two exceptions (see Subsection 4.3.3). A range of typical GA2 signs illustrating the various signface layouts are given in Figure 4.72.



Detail 4.72.1



Detail 4.72.2



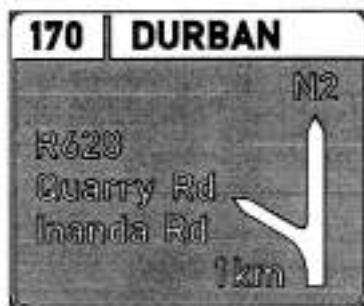
Detail 4.72.3



Detail 4.72.4



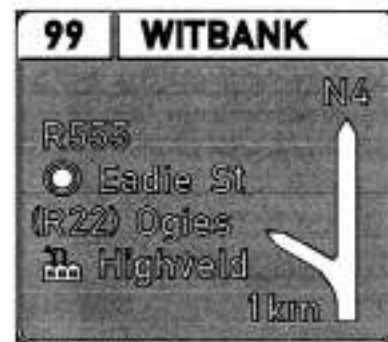
Detail 4.72.5



Detail 4.72.6



Detail 4.72.7



Detail 4.72.8

NOTES:

- (1) Details 4.72.1, 4.72.2 and 4.72.3 illustrate different versions of minimum sized rural and urban GA2 signs using MAP-TYPE 10 arrows.
- (2) Details 4.72.4 and 4.72.5 show that GA2 signs should not be manufactured with a lesser height than signs in Details 4.72.1, 4.72.2 and 4.72.3.
- (3) Detail 4.72.6 shows two street names. This type of display could apply when the street name changes at the interchange, or where the named streets are parallel to the freeway, or, as in this case, where the interchange has two half-diamond segments intersecting the two streets and inter-connected by collector-distributor roads.
- (4) Detail 4.72.7 illustrates a Class A1 freeway sign with a blue background, located adjacent to a change to a Class A2 freeway (see Subsection 4.9.22).
- (5) Detail 4.72.8 shows the maximum recommended display. It also illustrates symbols and the justification of an "indirect" route number.

Fig 4.72 Examples of Freeway Advance Exit Direction Signs- GA2

SUPPLEMENTARY EXIT DIRECTION

For dimensions
ref. Vol. 4
Pages

6.2.7
6.2.8

GA2/3



Urban



Rural

COLOURS:

PERMANENT

Border & arrow: White retroreflective
Legend: White retroreflective
Route number: Yellow retroreflective
Background: Blue or green retroreflective

Interchange(EXIT)

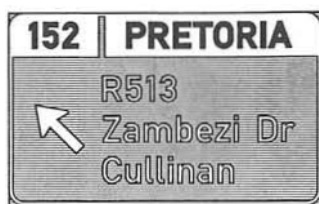
number & local authority: Black semi-matt on white retroreflective background

4.9.12 Supplementary Exit Direction

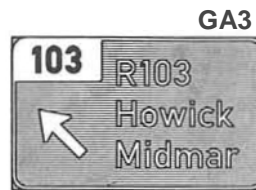
- 1 A SUPPLEMENTARY EXIT DIRECTION sign GA2/3 is a ground mounted single STACK-TYPE sign which may be used **to offer additional advance guidance of a high speed exit at a Class A1 or Class A2 freeway access interchange to that given by the standard ADVANCE EXIT DIRECTION sign GA2.**
- 2 Use of this sign is optional. It may be used when traffic volumes are so high that driver attention may commonly be diverted on the approach to the GA2 sign, or when sight distance to the off-ramp exit point is limited. GA2/3 signs should be located on the left side of the roadway 400 m to 700 m from the exit point. This distance should be given to the nearest 100 m.
- 3 GA2/3 sign shall only display a STACK-TYPE 7 arrow.
- 4 The information displayed on a SUPPLEMENTARY EXIT DIRECTION sign should be exactly the same as the exit information given on the preceding GA2 sign.
- 5 The information display shall conform to the principles given in paragraphs 4.9.11.4 to 4.9.11.10.
- 6 When interchanges are provided on rural freeways before development of the surrounding area consideration may be given to using a GA2/3 sign, a set of COUNTDOWN signs IN1 to IN3 and a GORE EXIT DIRECTION sign GA4, as the exit direction sign sequence. The omission of the GA2 and GA3 signs could represent a worthwhile cost saving.
- 7 If existing PERMANENT freeway direction signs cannot be conveniently or economically relocated to service a freeway roadworks scheme the use of TEMPORARY signs TGA2/3, in combination with TEMPORARY COUNTDOWN signs TIN1 to TIN3 and/or a TEMPORARY EXIT DIRECTION sign TGA3, should be considered. Temporary direction and information signs of this type should be provided in the standard black on yellow TEMPORARY sign colour code.

COLOURS:

PERMANENT	White retroreflective
Border & arrow:	White retroreflective
Legend:	White retroreflective
Route number:	Yellow retroreflective
Background:	Blue or green retroreflective
Interchange(EXIT) number & local authority	Black semi-matt on white retroreflective background



Urban



Rural

GA3

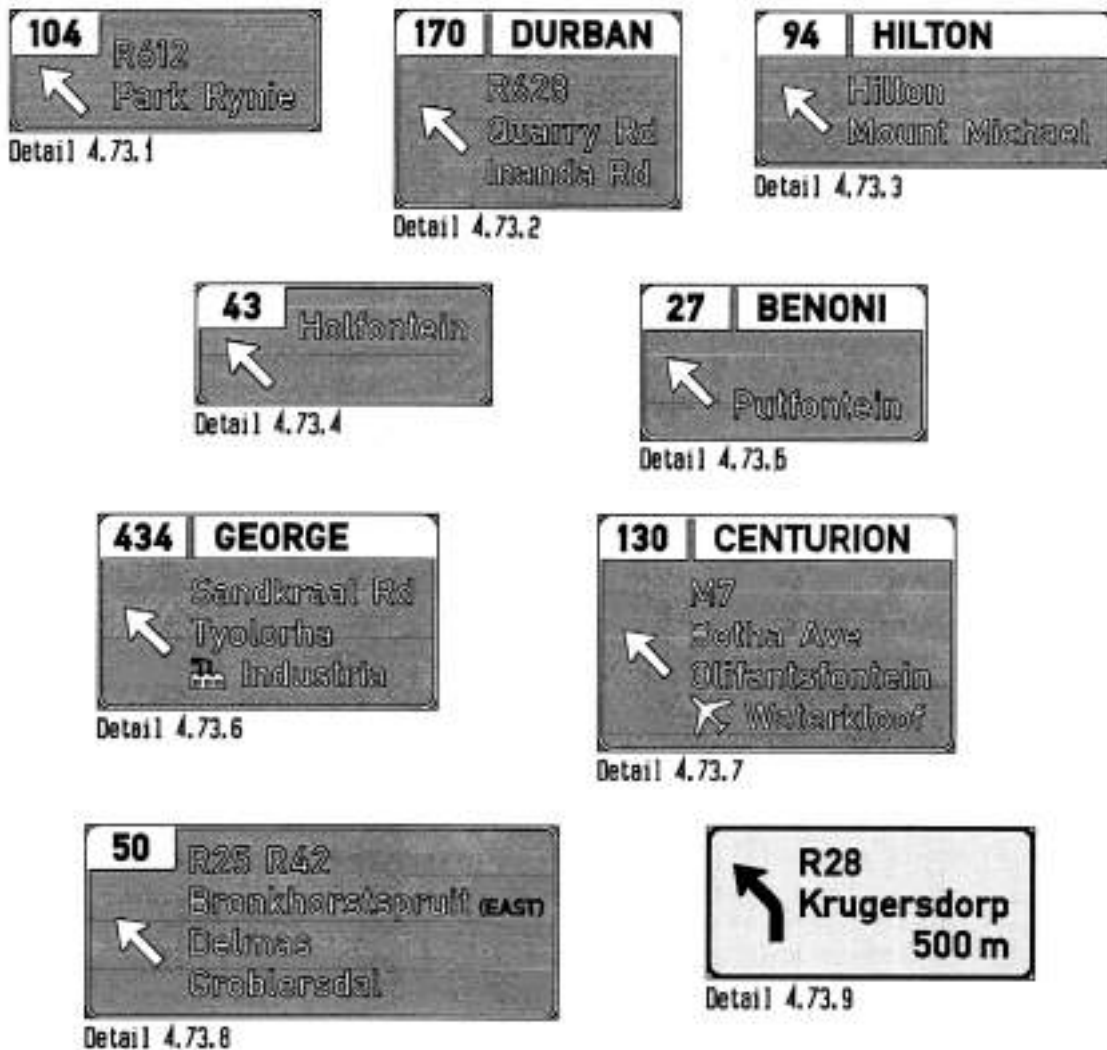
For dimensions ref.

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pages

6.2.9
to
6.2.12

4.9.13 Exit Direction

- 1 EXIT DIRECTION signs of the type GA3 are ground mounted single STACK-TYPE signs and are used **to indicate the point of commencement of the off-ramp exit taper at a Class A1 or Class A2 freeway access interchange to guide drivers who wish to exit the freeway onto the off-ramp.** A GA3 sign is the second sign in a standard freeway exit direction sign sequence, unless a GA1 sign has been used.
- 2 GA3 signs should be located on the left side of the roadway as close as possible to the exit point. It may be difficult to locate the sign at the exit point due to steep fill slopes, however, every effort should be made to locate signs not more than 50 m in advance of the exit point. It is very likely that GA3 signs will have to be located in advance of the exit point at parclo interchanges (see Chapter 10).
- 3 Sign GA3 shall only display a STACK-TYPE 2 arrow at approximately 45° from the horizontal.
- 4 The information displayed on an EXIT DIRECTION sign should be exactly the same as the exit information given on the preceding GA2 sign (and/or GA2/3 sign when used).
- 5 The information display shall conform to the principles given in paragraphs 4.9.11.4 to 4.9.11.10.
- 6 Sign GA3 may be omitted if the reduced sign sequence referred to in paragraph 4.9.12.6 is being utilised.
- 7 If existing PERMANENT freeway direction signs cannot be conveniently or economically relocated to service a freeway roadworks scheme the use of TEMPORARY EXIT DIRECTION signs TGA3, should be considered. A TGA3 sign should be provided in the standard black on yellow TEMPORARY sign colour code (see Figure 4.73).

**NOTES:**

- (1) Details 4.73.1 to 4.73.5 are equivalent to similar examples in Figure 4.54. Refer to Notes 1 to 3 in that Figure. Note the rural sign difference between Details 4.72.1 and 4.73.1 where, on the GA3 sign, the route number may be located adjacent to the interchange number due to the position of the STACK-TYPE 2 arrow.
- (2) Detail 4.73.6 shows an example of an urban cross street without a route number whilst Detail 4.73.7 includes a metropolitan maximum display for a GA3 sign. "Tyolorha" and "Oifantsfontein" represent "outer" des-

- tinations. Note the disposition of AIRPORT symbol GDS-3 to match the angle of the STACK-TYPE 2 arrow.
- (3) The display of two route numbers and a cardinal "area" is illustrated in Detail 4.73.8.
- (4) Detail 4.73.9 is a typical TEMPORARY GA2/3 sign which may be used to replace GA2 and GA3 signs during roadworks operations. The sign may include an interchange number if necessary, using a yellow number on a black background.

Fig 4.73

Examples of Exit Direction Signs - GA3

GORE EXIT

COLOURS :

PERMANENT

Border & arrow: White retroreflective
 Legend: Black semi-matt
 Background: Blue or green retroreflective

Chevron: Red retroreflective on white retroreflective

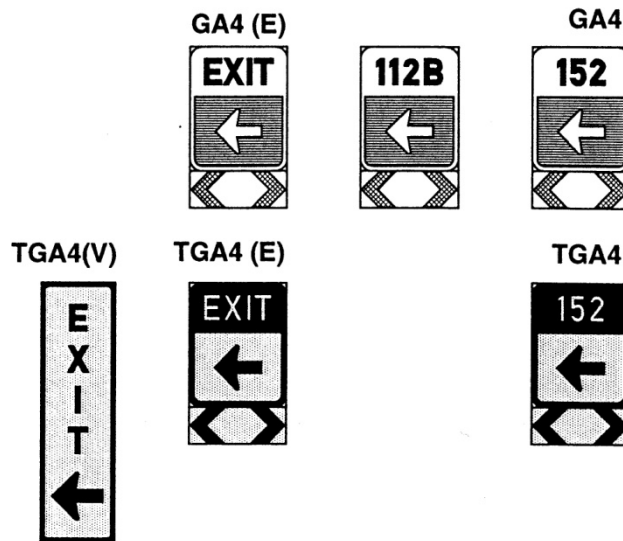
TEMPORARY

Border & arrow: Black semi-matt
 Legend: Yellow retroreflective
 Background: Yellow retroreflective

Chevron: Black semi-matt on yellow retroreflective

For dimensions
 ref. Vol 4
 pages

6.2.13
 6.2.14



4.9.14 Gore Exit

- 1 A GORE EXIT sign GA4, shall be used **to indicate to drivers the gore, or area of separation of the off-ramp from the main Class A1 or Class A2 freeway carriageway and to provide limited exit information in the form of the interchange (EXIT) number, when allocated, or alternatively the word EXIT (GA4(E)).**
- 2 GA4 signs, in combination with SHARP CURVE CHEVRON signs W405 and W406 of the same width shall be located within the nose area of the gore, as close to the end of the paved area as possible, consistent with adequate side clearances to the travelled way (see Chapter 1).
- 3 GA4 signs shall use a STACK-TYPE 3 arrow displayed in a horizontal position pointing to the left.
- 4 The size of GORE EXIT signs is fixed. The SHARP CURVE CHEVRON sign should be 600 mm to 800 mm in height. "B MOD" Style letters and numerals shall be used for the interchange number or the word EXIT.
- 5 GA4 signs should be provided at the first gores at all

ACCESS and SYSTEMS INTERCHANGES whether the signing is by ground mounted or overhead signs. When there is a second exit from the main carriageway a second GA4 sign should be used. If two GA4 signs are required the signs shall display interchange numbers followed by the letters A and B, e.g. 112A and 112B. Additional gores at SYSTEMS INTERCHANGES should be signed using only GORECHEVRON sign W414.

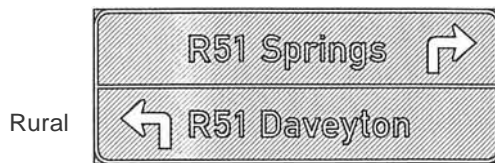
- 6 TEMPORARY GORE EXIT signs TGA4 or TGA4(E) may be specified when temporary off-ramp alignments are created at freeway roadworks sites and it is not practical to relocate PERMANENT GA4 signs. TEMPORARY SHARP CURVE CHEVRON signs TW405 and TW406 should be used with signs TGA4 and TGA4(E). As a special variation TGA4(V) may be used when space within the work area is limited. If there are secondary splits in ramp roadways beyond the initial exit TEMPORARY GORE CHEVRON sign TW414 should be used.

ADVANCE OFF-RAMP TERMINAL DIRECTION

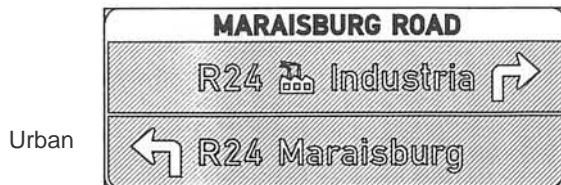
For dimensions
ref. Vol. 4
pages

6.2.15
6.2.16

GA5



(GA5.11)



COLOURS:

PERMANENT

Border & arrows: White retroreflective

Legend:

Route numbers: Yellow retroreflective

Background: Green retroreflective

Street name: Black semi-matt on white retroreflective background

4.9.15 Advance Off-Ramp Terminal Direction

- ADVANCE OFF-RAMP TERMINAL DIRECTION signs of the type GA5 are ground mounted STACK-TYPE signs which may be used **to give advance orientational guidance to drivers on Class A1 and Class A2 freeway access interchange off-ramps related to their lane selection in order to turn towards destinations displayed at the ramp terminal.**
- The use of this sign is optional. It may be used on off-ramps which have more than one lane at the off-ramp terminal AND on which visibility distance to the OFF-RAMP TERMINAL DIRECTION sign GA6, is restricted due to the vertical and/or horizontal ramp alignment, or due to heavy traffic volumes on the off-ramp.
- GA5 signs should normally be located on the left side of the off-ramp and preferably at a distance from the off-ramp terminal as indicated in Figure 4.58. When an off-ramp is subject to significant changes in horizontal alignment it may be advantageous to locate signs GA5 on the right of the off-ramp. If a GA5 sign is used in addition to TOURISM ADVANCE TURN sign GF2 care should be taken when locating both signs (see Figure 4.69).
- ADVANCE OFF-RAMP TERMINAL DIRECTION signs should conform to the design requirements for STACK-TYPE ADVANCE DIRECTION signs GD1 as given in Subsection 4.8.5. GA5 signs may be numbered in a similar manner to GD1 signs, e.g. GA5.12 represents one destination to the right and two to the left.
- The information given on GA5 signs varies for urban and rural interchanges, although rural applications are likely to be rare. The standard rural GA5 signface display should include two stacks with the destination to the right in the upper stack and the destination to the left in the lower stack. Additional destinations to those given on the freeway exit direction sign sequence may be added consistent with the rules related to the maximum display for STACK-TYPE signs. Urban GA5 signs should incorporate an additional LOCATION panel on top of the sign in which the street name given on the freeway exit direction sign sequence should be displayed. The letter size used for the street name may be reduced 2/3 to 3/4 of the letter size used on the rest of the sign and the street name shall be displayed in uppercase "B MOD" letters. The remainder of the sign should have a similar layout to the rural version with orientational destinations, commonly suburb names, being displayed to the right in the top stack and to the left in the lower stack. The use of a straight on panel is not recommended with a GA5 sign (see Subsection 4.9.16).
- At urban interchanges the street name may change at the interchange. When this occurs the relevant right and left street names should be incorporated into the right and left turn stacks (see Figure 4.74).
- TEMPORARY ADVANCE OFF-RAMP TERMINAL DIRECTION signs are unlikely to be required. However, if such a sign is to be ordered the number TGA5 should be used.

OFF-RAMP TERMINAL DIRECTION

COLOURS:

PERMANENT
 Border & arrows: White retroreflective
 Legends: White retroreflective
 Route numbers: Yellow retroreflective
 Background: Green retroreflective
 Street name: Black semi-matt on white retroreflective background

For dimensions ref. Vol. 4 pages

6.2.17 to 6.2.20

Rural



(GA6.11)

Urban

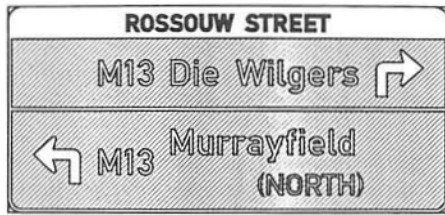


4.9.16 Off-Ramp Terminal Direction

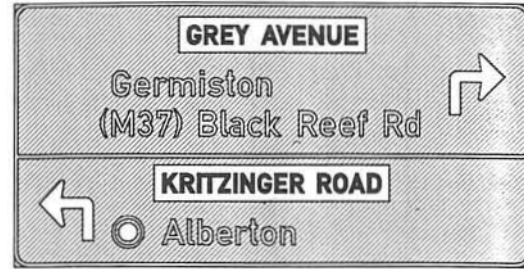
- 1 OFF-RAMP TERMINAL DIRECTION signs of the type GA6 are ground mounted STACK-TYPE signs which are used **to give orientational guidance to drivers at ramp terminals of Class A1 and Class A2 freeway access interchanges and in combination with T-JUNCTION CHEVRON sign W409, Indicate the effective T-junction which normally occurs at a freeway off-ramp terminal.**
- 2 GA6 signs should be located on the far side of the intersecting cross road, on or as close as possible to, the extension of the off-ramp centre line. When the sign cannot be located on the centre line it should normally be offset to the left (see Figure 4.69). If the intersecting cross road is a dual roadway it may be advantageous to locate the sign on the median island. If the geometric layout of the off-ramp terminal junction is such that a turning sliproad is provided it may be an advantage to erect two single stack GA6 signs.
- 3 OFF-RAMP TERMINAL DIRECTION signs should conform to the design requirements for STACK-TYPE DIRECTION signs GD2 as given in Subsection 4.8.6. GA6 signs may be numbered in a similar manner to GD2 signs, e.g. GA6.22 represents two destinations to the right and two destinations to the left.
- 4 The information given on GA6 signs varies for urban and rural interchanges. The standard rural GA6 sign face display should include two stacks with the destination to the right in the upper stack and the destination to the left in the lower stack. Additional destinations to those given on the freeway exit direction sign sequence may be added consistent with the rules related to the maximum display for STACK-TYPE signs. Urban GA6 signs should incorporate an additional LOCATION panel on top of the sign in which the street name given on the freeway exit direction sign sequence should be displayed. The letter size used for the street name may be reduced to 2/3 to 3/4 of the letter size used on the rest of the sign and the street name shall be displayed in uppercase "B MOD" letters. The remainder of the sign should have a similar layout to the rural

version with orientation destinations, commonly suburb names, being displayed to the right in the upper stack and to the left in the lower stack.

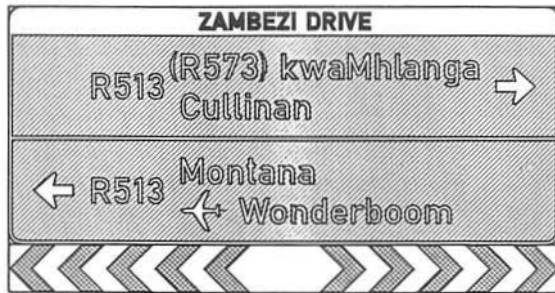
- 5 At urban interchanges the street name may change at the interchange. When this occurs the relevant right and left street names should be incorporated into the right and left turn stacks (see Figure 4.74.)
- 6 Freeway off-ramp junctions with the cross road are occasionally designed in such a way that the off-ramp intersects with a contiguous or almost contiguous roadway. This roadway may have a collector-distributor function between adjacent part-interchanges on the freeway, or may be a local suburban distributor road. In such instances it may be necessary to give straight-on destination information in an additional stack. Attention should be paid to the total number of destination names or "bits" of information displayed and the effect this may have on letter sizes used (see Section 4.4). A typical sign with one destination in each stack would be numbered GA6.111 and may not require a T-JUNCTION CHEVRON sign W409, since this may not be appropriate to likely locations of this type. Such a sign is effectively a combination GD1/GD2 sign (see Subsection 4.8.7). and shall only be used in the special circumstances described. When the contiguous road is not lined up exactly with the off-ramp a STACK-TYPE 8 arrow should be considered for the straight-on stack.
- 7 A GA6 sign may be preceded by an ADVANCE OFF-RAMP TERMINAL DIRECTION sign GA5, as described in Subsection 4.9.15.
- 8 TEMPORARY OFF-RAMP TERMINAL DIRECTION signs, numbered TGA6, may occasionally be required if temporary off-ramp alignments are in operation. The sign should be manufactured to the standard black on yellow temporary sign colour code. A TEMPORARY T-JUNCTION CHEVRON sign TW409 should be used with a TGA6 sign.



Detail 4.74.1 (GA5-12)



Detail 4.74.2 (GA5-12)



Detail 4.74.3 (GA6-22)



Detail 4.74.4 (GA6-23)



Detail 4.74.5 (GA6-10)



Detail 4.74.6 (GA6-12)

NOTES:

- (1) Details 4.74.1 and 4.74.2 show examples of urban ADVANCE OFF-RAMP TERMINAL DIRECTION sign GAS. Detail 4.74.1 illustrates the use of a cardinal "area" which has been right justified in a second line to reduce sign length. Detail 4.74.2 shows the treatment to be used if the street name changes at the interchange.
- (2) Details 4.74.3 to 4.74.6 are examples of OFF-RAMP TERMINAL DIRECTION sign GA6. Detail 4.74.4 is a rural example on an un-numbered cross-road showing an "indirect" route number in brackets.
- (3) Several examples show how a route number should be centred vertically in front of two destinations on the route. Detail 4.74.5 illustrates a typical GA6 sign for use if the "cross" street does not continue beyond the interchange in one direction. Detail 4.74.4 shows, in the top stack, a route with two numbers and in the lower stack an "indirect" route number as a destination.

Fig 4.74 Examples of Advance Off-Ramp Terminal Direction Signs-GA5 and Off- Ramp Terminal Direction Signs GA6

CONFIRMATION

COLOURS:

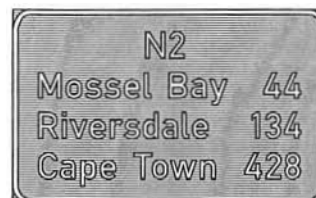
PERMANENT

Border: Legend: White retroreflective
 Route number: White retroreflective
 Background: Yellow retroreflective
 Blue or green retroreflective

GA7

For dimensions
 ref. Vd. 4
 pages

6.2.21



4.9.17 Confirmation

- 1 CONFIRMATION signs of the type GA7 are used **to give reassurance or confirmational guidance to drivers that they are travelling on the numbered Class A1 or Class A2 freeway towards the destinations indicated, and that these destinations are located at the distances indicated.**
- 2 Sign GA7 should be located on the left side of the roadway approximately 750 m beyond the end of the on-ramp taper at SYSTEMS INTERCHANGES and selected ACCESS INTERCHANGES.
- 3 CONFIRMATION signs should be provided throughout a freeway system on a regular basis. It is recommended that GA7 signs should be provided according to the following guidelines:
 - (a) after all SYSTEMS INTERCHANGES on each exit roadway (it therefore follows that the GA7 sign spacing for a freeway system should be based on the SYSTEMS INTERCHANGES);
 - (b) after other interchanges on a systematic basis at a spacing of 5 km to 10 km;
 - (c) when interchanges are more than 10km apart additional GA7 signs should be provided so that the indicated distance to CONTROL and/or FAMILIAR destinations is a multiple of 5 km, subject to a minimum 5 km spacing.
- 4 In addition to the route number, GA7 signs may display from one to three destinations. The route number should be located centrally at the top of the sign. The destinations should be displayed so that the nearest is at the top and the furthest at the bottom of the sign. The distance in kilometres shall be displayed after each destination without the letters "km". The destination names shall be justified on the left and the distances on the right on the units numeral (see Figure 4.21).
- 5 Distances given shall be the distance from the CONFIRMATION sign to the "accepted centre" of the destination town or city to the nearest kilometre.
- 6 The standard display should include two destinations. The upper destination should be the nearest SERVICE destination and the lower one the nearest CONTROL destination. In certain circumstances two destinations of one type may be displayed. FAMILIAR destinations

may be **added** to the display as follows:

- (a) after leaving a FAMILIAR destination;
- (b) after the merging of Class A1, or Class A2, and rural Class B routes which carry significant volumes of entering traffic, whether daily or seasonally;
- (c) otherwise at approximately 100 km intervals.

The occasional display of a FAMILIAR destination is not considered to be in conflict with the principle of continuity of destination display. Destination continuity shall, however, be maintained on CONFIRMATION signs within the overall sign system along a specific route. See Chapters 8 and 10 for further information on the selection of destinations and the meaning of various terms used in this Subsection.

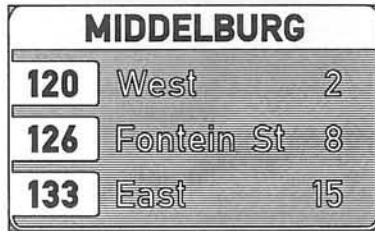
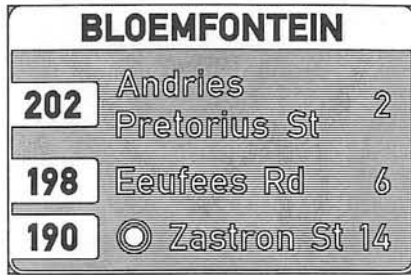
- 7 If it is considered necessary to include an important destination which lies on an adjacent or parallel route, or which is some distance from the route being signed but on an intersecting cross-route, the number of the intersecting or "indirect" route shall be displayed within brackets in front of the relevant destination (see Section 4.3).
- 8 If a CONFIRMATION sign indicates destinations which fall beyond a SYSTEMS INTERCHANGE and the route number alters at this interchange the relevant destination name may be preceded by the appropriate route number. If it is considered necessary to display more than three destinations in a specific position, two GA7 signs should be used, at 250 m spacings.
- 9 DIRECTION SIGN SYMBOLS may be used on GA7 type signs if transport terminals, or city or town centres are included.
- 10 Letter sizing for GA7 signs should conform to the provisions of Section 4.4.
- 11 TEMPORARY versions of GA7 signs numbered TGA7 may occasionally be required for major roadwork detours. These signs should be manufactured using the TEMPORARY sign black on yellow colour code. If a detour is likely to be in operation for some time the distances on PERMANENT confirmation signs along the route should be modified using temporary black on yellow plates giving the correct distance to the destination via the detour.

EXIT SEQUENCE

For dimensions
ref. Vol. 4
pages

6.2.22
6.2.23

GA8



COLOURS:

PERMANENT
Border & arrow: White retroreflective
Legend: White retroreflective
Route number: Yellow retroreflective
Background: Blue or green retroreflective
Interchange (EXIT) number & local authority: - Black semi-matt on white retroreflective background

4.9.18 Exit Sequence

- 1 An EXIT SEQUENCE sign GA8 may be used **to provide guidance to drivers well in advance of an exit point, as to which of several closely spaced Class A1 or Class A2 freeway access interchanges they may choose to use to exit the freeway.** If the road class changes, say from Class A2 to Class A1, within the section covered by a GAB sign the sign background colour should be changed from green to blue in an appropriate place.
- 2 The use of this sign is optional. It may be considered for use in advance of a number of closely spaced ACCESS INTERCHANGES the presence of which may confuse drivers who wish to use a specific one. The most common requirements drivers may have are to identify which exit to use to reach a town or city centre, or a major transport terminal such as an airport, harbour or railway station. Such a need will arise on an urban by-pass route where from two to ten, or more, exits may serve one town or city.
- 3 GA8 signs should be located on the left side of the roadway at least 2 km and up to 3 km in advance of the first interchange in a group. If a PRE-ADVANCE EXIT DIRECTION sign GA1 or GC1 is used the GA8 sign should be located approximately 1 km earlier. EXIT SEQUENCE signs may be erected at regular intervals throughout a sequence of interchanges at intervals of two or three interchanges subject to the provisions of paragraph 4.9.1B.4.
- 4 The information given on GA8 signs should comprise:
 - (a) the town or city name in the top panel (LOCATION information);
 - (b) the interchange (EXIT) numbers for the next two or three interchanges in **sequential order** from top to bottom of the sign on the left side;
 - (c) the street names which appear on the relevant freeway exit direction sign sequences for each interchange;
 - (d) the distances from the sign to each interchange exit point in kilometres without the letters "km".
- 5 It is possible that interchanges may be less than one kilometre apart. In such a situation the distances should be given to the nearest 0,1 km. Otherwise distances should be rounded to the nearest kilometre.
- 6 In some cases it may be necessary to display two street names, or a street name and a transport terminal name in line with one interchange number. The maximum information display should therefore be three interchange numbers OR four lines of destination text. When a freeway by-passes a medium-sized regional town which is served by two or three interchanges these interchanges may be located well away from named streets. It may be advantageous to use a cardinal area designation such as "north" and "south" or "east" and "west", as appropriate.
- 7 If a SYSTEMS INTERCHANGE occurs in a sequence of junctions, reference to its number should be included followed by the route number of the intersecting freeway and one of the FREEWAY DIRECTION SIGN SYMBOLS GDS-4 or GDS-5.
- 8 TEMPORARY versions of GAB signs are unlikely to ever be warranted.

C-D ROAD ADVANCE EXIT DIRECTION

COLOURS :

PERMANENT

Border & arrows: White retroreflective
 Legend: White retroreflective
 Route number: Yellow retroreflective
 Background: Blue retroreflective

GA9

For dimensions
 ref. Vol. 4

page

6.2.24



4.9.19 C-D Road Advance Exit Direction

- 1 A C-D ROAD ADVANCE EXIT DIRECTION sign GA9 is a ground-mounted STACK-TYPE sign which may be used **to give advance guidance to drivers on a collector-distributor road at a freeway interchange that an exit to a 360° loop ramp is a short distance ahead.**
- 2 Sign GA9 is a special derivation of STACK-TYPE ADVANCE DIRECTION sign GD1.
- 3 Sign GA9 may be used on the collector-distributor road of a SYSTEMS INTERCHANGE when an overhead sign cannot be used due to space or structural considerations. The situation in which this is most likely to occur is when the C-D road is carried on the overbridge at the interchange. The sign should be located on the left side of the C-D road between the on- and off-ramps at a distance from the off-ramp gore in accordance with Figure 4.58 if possible.
- 4 Sign GA9 shall comprise two stacks. The upper stack shall contain a straight-on STACK-TYPE 1 or STACK-TYPE 4 arrow, and the route number and CONTROL destination name of the freeway parallel to the collector-distributor road. The lower stack shall display a STACK-TYPE 91oop arrow on the left side followed by the route number and the relevant CONTROL destination name for a RIGHT TURN movement to the intersecting freeway. The indication of straight-on destination information is particularly relevant to signs following a 360° loop on-ramp from the intersecting freeway.
- 5 The signface layout and letter sizes used shall conform to the requirements of Sections 4.8 and 4.4 respectively.
- 6 TEMPORARY versions of GA9 signs are unlikely to ever be warranted.

C-D ROAD EXIT DIRECTION

COLOURS:

PERMANENT

Border & arrows: White retroreflective
 Legend: White retroreflective
 Route number: Yellow retroreflective
 Background: Blue retroreflective
 Chevron: Red on white retroreflective

GA10

For dimensions
 ref. Vol. 4
 page

6.2.25



4.9.20 C-D Road Exit Direction

- 1 A C-D ROAD EXIT DIRECTION sign GA10 is a ground-mounted STACK-TYPE sign which may be used **to indicate to drivers the position of the right turn exit from a collector distributor road at a freeway interchange when the exit leads to a 360° loop ramp, and to give guidance as to the number of the intersecting route and the destination which may be reached on that route by turning right.**
- 2 Sign GA10 is a special derivation of STACK-TYPE DIRECTION sign GD2.
- 3 Sign GA10 may be used on the collector-distributor road of a SYSTEMS INTERCHANGE when an overhead sign is not warranted. The sign should be located in the gore area of the exit to the 360° loop ramp. Side clearance to the sign should be maintained from the passing roadways in accordance with Chapter 1.
- 4 Sign GA10 shall comprise a single stack mounted above a hazard marker T-JUNCTION CHEVRON sign W409. The stack shall display a STACK-TYPE 9 loop arrow rotated through 15° to 30° on the left side followed by the route number and the relevant CONTROL destination name for a RIGHT TURN movement to the intersecting freeway.
- 5 The signface layout and letter sizes used shall conform to the requirements of Sections 4.8 and 4.4 respectively.
- 6 TEMPORARY versions of GA10 signs are unlikely to ever be warranted.

4.9.21 Freeway Cross-road Signing

- 1 The signs described in Subsection 4.9.22 to 4.9.25 are special derivations of various STACK-TYPE direction signs as described in Section 4.8.
- 2 They have been grouped in this Section because of their particular application in association with FREEWAY DIRECTION signs. In general, it is considered that drivers will use a freeway in preference to other alternative routes with normal at-grade junctions and conventional forms of traffic control. These specialised STACK-TYPE signs have been designed to ensure that drivers correctly identify their intended entry point to the freeway system at an ACCESSINTERCHANGE. **FREEWAY CROSS-ROAD signing is not appropriate at a SYSTEMINTERCHANGE.**
- 3 The device used to indicate the directions to the freeway is the freeway sign background colour on the relevant stacks of the signs or in "insert" panels where appropriate. This technique should not be confused with freeway trailblazer "insert" panels included in STACK-TYPE direction signs. **These latter "insert" panels should only be used on roads commonly parallel to the freeway, which lead to the actual cross-road which intersects with the freeway** (see Subsections 4.8.5 and 4.8.6). The introduction of two classes of freeway has reduced the effectiveness of this colour code difference to some extent because the green background colour adopted for Class A2 freeway signs is the same as that used on STACK-TYPE direction signs (see Section 4.8).
- 4 The arrangement of on-ramps for "left" and "right" entry to the freeway requires careful attention when positioning FREEWAY CROSS-ROAD signs. The relative position of these on-ramps varies with the type of interchange e.g. diamond or partial clover-leaf (parclo). In order to differentiate between the two on-ramps the terms **near side** and **far side** are used. Near side on-ramps do not always involve a left turn, nor do far-side on-ramps always involve a right turn, **at the cross-road**. (If a free-flow semi-direct ramp is provided at an ACCESS INTERCHANGE, this will require special signing treatment.)
- 5 A typical sequence of FREEWAY CROSS-ROAD signs should comprise (see Figures 4.70 and 4.71):
 - (a) CROSS-ROAD ADVANCE DIRECTION sign GB1;
 - (b) NEAR-SIDE ON-RAMP DIRECTION sign GB2;
 - (c) FAR-SIDE ON-RAMP ADVANCE DIRECTION sign GB3;
 - (d) FAR-SIDE ON-RAMP DIRECTION sign GB4.
- 6 A CONFIRMATION sign GD3 may be positioned 60 m to 100 m beyond the far-side on-ramp. GD3 signs will reassure drivers on the cross-road, and those who have left the freeway at the interchange.
- 7 In urban areas it is often difficult to find the space to provide signs GB1, GB2, GB3 or GB4 due to limitations on available side space. It may be appropriate to use a more vertical format sign, particularly for the signs located in the GB1 and GB3 positions. The GB1 sign may be replaced by a MAP-TYPE sign GD7. A special vertical format version of sign GB3, using the freeway symbol in place of the destination name may be considered. This sign is similar to a trailblazer sign in layout (see Subsection 4.9.24). This later sign type can be small enough to attach to existing street furniture.

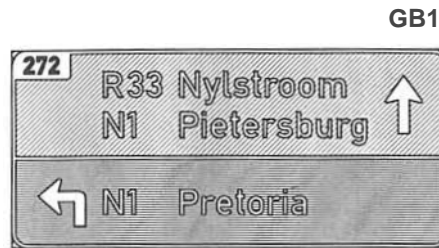
CROSS-ROAD ADVANCE DIRECTION

COLOURS:

PERMANENT
 Border & arrow: White retroreflective
 Legend: White retroreflective
 Route number: Yellow retroreflective
 Background: Blue or green retroreflective

Interchange number & local authority: Black semi-matt on white retroreflective background

Rural
 (Class A2)



GB1

For dimensions
 ref. Vol. 4
 pages
 6.3.1
 6.32.

Urban
 (Class A1)



4.9.22 Cross-road Advance Direction

- 1 A CROSS-ROAD ADVANCE DIRECTION sign GB1 is a ground-mounted STACK-TYPE sign which may be used on a cross-road approach to a freeway, **to give advance guidance to drivers that an intersecting freeway lies ahead and to indicate the freeway route number and the CONTROL destinations in each direction on the freeway.** In addition if the interchange has been allocated a number this shall be displayed on GB1 signs and it is normal practice to indicate the next SERVICE or CONTROL destination which may be reached by continuing on the cross-road beyond the freeway.
- 2 GB1 signs should be located on the left side of the cross-road. The signs should be located in advance of the near-side on-ramp at a distance in accordance with Figure 4.58.
- 3 The general principles applicable to STACK-TYPE ADVANCE DIRECTION sign GD1, given in Subsection 4.8.5 apply to the signface layout of GB1 signs. The signs shall normally comprise only two stacks, however. The far-side on-ramp route number and destination name is displayed, at this point, as straight-on information to reduce the risk of drivers turning onto the near-side off-ramp in error.
- 4 When the freeway is a Class A1 freeway the information relevant to access to the freeway shall be indicated on a blue background in the lower stack and on a blue "insert" panel in the upper stack as indicated in the urban example above. If the freeway were to change from Class A1 to Class A2 a sign similar to the rural example above would be required. In this instance the freeway section towards Pietersburg is Class A2 and the destination information given on the crossroad for this direction is therefore displayed on a green back-ground.
- 5 In urban areas the display of the local authority name in a black "B MOD" uppercase letters on white location panel at the top of the sign next to the interchange number is optional.
- 6 It is recommended that the destination information displayed for the freeway be limited to one destination in each direction. The destinations displayed should be the next CONTROL or FAMILIAR destinations on the freeway subject to the length of the freeway section and the policy of the authority responsible for the operation of the freeway, i.e. it may be advantageous to limit on-ramp destination displays to FAMILIAR destinations on long freeway sections in order to provide the most effective possible orientation for strangers.
- 7 In urban environs space may be limited to the extent that it is not possible to accommodate a GB1 sign. Consideration should be given to the use of a more vertically formatted MAP-TYPE ADVANCE DIRECTION sign GD7 as illustrated in Subsection 4.8.10.
- 8 In the event of roadworks it may be necessary to amend GB1 signs to indicate TEMPORARY information in a manner similar to that indicated on Figure 4.60. The display of a full TEMPORARY version of sign GB1 is unlikely to be required.

NEAR-SIDE ON-RAMP DIRECTION

For dimensions
ref. Vol. 4
page
6.3.3

GB2



COLOURS:

PERMANENT
Border & arrows: White retroreflective
Legend: White retroreflective
Route numbers: Yellow retroreflective
Background: Blue or green retroreflective

4.9.23 Near-side On-ramp Direction

- 1 NEAR-SIDE ON-RAMP DIRECTION sign GB2 is a ground-mounted single STACK-TYPE sign which should be used **to indicate to drivers the position of the near-side on-ramp at a freeway ACCESS INTERCHANGE and to give guidance as to the route number of the freeway and the destination which may be reached on the freeway by turning onto the near-side on-ramp.**
- 2 GB2 signs shall be located on the far side of the on-ramp junction on the left side of the cross-road. At signalised urban on/off-ramp junctions space to accommodate the sign may be affected by other traffic control devices. In such circumstances, and particularly in the case of some configurations of parclo interchange, it may be acceptable to locate the signs on the right side of the cross-road opposite the point of turn.

If a turning roadway or slip road is provided the sign should be located on the island if this is large enough and may use a STACK-TYPE 1 arrow inclined upwards at approximately 45° to the horizontal.

- 3 The sign shall comprise one stack. It is recommended that the information displayed be limited to a route number and the CONTROL or FAMILIAR destination name appropriate for the direction of travel on the freeway (see paragraph 4.9.22.6).
- 4 GB2 signs shall have a blue background for Class A1 freeways and a green background for Class A2 freeways.
- 5 The display of a TEMPORARY version of sign GB2, numbered TGB2, may be required if roadworks have made access *via* the freeway to the normally displayed destination temporarily unavailable.

FAR-SIDE ON-RAMP ADVANCE DIRECTION

For dimensions
ref. Vol. 4
page

6.3.4

GB3



GB3S



COLOURS:

PERMANENT
Border & arrows: White retroreflective
Legend: White retroreflective
Route numbers: Yellow retroreflective
Background: Blue or green retroreflective

4.9.24 Far-side On-ramp Advance Direction

- 1 FAR-SIDE ON-RAMP ADVANCE DIRECTION sign GB3 is a ground-mounted single STACK-TYPE sign which should be used **to give advance guidance to drivers that the far-side on-ramp at a freeway ACCESS INTERCHANGE is some distance ahead and to indicate the freeway route number and the destination which may be reached on the freeway by turning onto the far-side on-ramp.**
- 2 GB3 signs shall be located on the left side of the roadway BEYOND any GB2 sign provided for the near-side on-ramp. The two signs shall be carefully sited so that the GB3 sign is not obscured by the GB2 sign. It may be necessary to mount the GB3 sign somewhat higher than normal to achieve this objective.
- 3 If an interchange is very narrow there may be insufficient distance to locate the sign between the two on-ramps. In such situations the sign may be omitted from the

sequence and it shall NOT be combined with a GB2 sign. It may be possible to accommodate a vertical format sign of the type GB3S on existing street furniture (see paragraph 4.9.21.7).

- 4 The sign shall comprise one stack. It is recommended that the information displayed be limited to a route number and the CONTROL or FAMILIAR destination appropriate for the direction of travel on the freeway (see paragraph 4.9.22.6).
- 5 The signs shall have a blue background for Class A1 freeways and a green background for Class A2 freeways.
- 6 The display of a TEMPORARY version of sign GB3, numbered TGB3, may be required if roadworks have made access *via* the freeway to the normally displayed destination temporarily unavailable.

FAR-SIDE ON-RAMP DIRECTION

COLOURS:

PERMANENT

Border & arrows: White retroreflective
 Legend: White retroreflective
 Route numbers: Yellow retroreflective
 Background: Blue and/or green retroreflective

GB4

For dimensions
 ref. Vol. 4
 page

6.3.5



4.9.25 Far-side On-ramp Direction

- 1 FAR-SIDE ON-RAMP DIRECTION sign GB4 is a ground-mounted single STACK-TYPE sign which should be used **to indicate to drivers the position of the far-side on-ramp at a freeway ACCESS INTERCHANGE and to give guidance as to the route number of the freeway and the destination which may be reached on the freeway by turning onto the far-side on-ramp.**
- 2 GB4 signs shall be located on the far side of the on-ramp junction on the left side of the roadway. Space to locate the sign may be limited particularly in urban areas. Under such circumstances it may be acceptable to position the sign on the right side of the cross-road.
- 3 A GB4 sign may include a second stack giving guidance information for the straight-on direction on the cross-road. This stack should normally repeat the

straight-on information given on the preceding GB1 sign. This combination of straight-on and turn stacks is not recommended for general use and should not be necessary if CONFIRMATION sign GD3 is specified (see Subsection 4.8.2). The amount of information displayed for the on-ramp direction shall be limited as for signs GB2 and GB3.

- 4 The upper stack shall have a green background. The on-ramp stack shall have a blue background for Class A1 freeways and green background for Class A2 freeways.
- 5 The display of a TEMPORARY version of sign GB4, numbered TGB4, may be required if roadworks have made access *via* the freeway to the normally displayed destination temporarily unavailable.

4.9.26 Overhead Freeway Direction

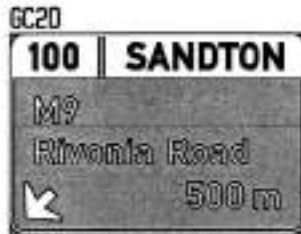
- 1 OVERHEAD FREEWAY DIRECTION signs in the GC series may be used when warranted **to give pre-advance direction, advance direction, through direction and exit guidance closely related to the lane configuration of the freeway roadway.** The use of OVERHEAD FREEWAY DIRECTION signs on a rural freeway is rarely likely to be warranted. The signs described in this subsection are therefore mainly urban and metropolitan examples. Warrants for the provision of OVERHEAD direction signs are given in Section 4.1.
- 2 The design of OVERHEAD FREEWAY DIRECTION signs is fundamentally different for DOWNWARD-POINTING arrow layouts and UPWARD-POINTING arrow layouts. In addition the sequence of signs used in each basic sign type is often quite different. (see Subsection 4.9.7 and Figures 4.65 to 4.68).
- 3 The range of UPWARD-POINTING arrow combinations is considerable. This Subsection details sign types by function and illustrates a number of examples. **Many more types of signface design are possible for each sign type.**
- 4 OVERHEAD FREEWAY DIRECTION signs are numbered in the GC series and carry a suffix "D" for DOWNWARD-POINTING arrow examples and a suffix "U" for UPWARD-POINTING arrow examples.
- 5 The first sign in either type of sequence is often the PRE-ADVANCE EXIT DIRECTION sign GC1. This sign is a variation of ground-mounted sign GA1. The design criteria differ only in that, being mounted over-head, the letter size used on the GC1 signs may warrant increasing over a similar GA1 sign (see Section 4.4 and Subsection 4.9.10).
- 6 Figure 4.65 illustrates the basic sequence of urban OVERHEAD FREEWAY DIRECTION signs for a typical approach to an ACCESS INTERCHANGE using DOWNWARD POINTING arrows. The signs in this sequence are classified by function and numbered as follows (see adjacent pages for examples):
 - (a) GC2D - ADVANCE EXIT DIRECTION sign:
 - using a downward arrow inclined at approximately 45° to the vertical;
 - a distance shall be included;
 - the minimum signface display should include the route number and name of the intersecting cross-street, the interchange (EXIT) number and the local authority name (the local authority name shall be omitted on the approach to a SYSTEMS INTERCHANGE);
 - up to two additional destinations may be added to the minimum display;
 - the sign may be displayed on its own at 1,0 km to 1,5 km, from the exit point, or it may be displayed as a SUPPLEMENTARY EXIT DIRECTION sign GC2D in combination with a THROUGH (or STRAIGHT-ON) DIRECTION sign GC3D at 300m to 700 m from the exit point;
 - (b) GC3D - THROUGH (or STRAIGHT-ON) DIRECTION sign:
 - using one downward-pointing arrow over each lane, centred approximately over each lane;
 - no distance shall be displayed;
 - the minimum signface display shall be the route number and one CONTROL or FAMILIAR destination and an interchange (EXIT) number on an approach to a fully directional SYSTEMS INTERCHANGE);
 - (c) GC4D - EXIT DIRECTION sign:
 - up to two additional CONTROL or FAMILIAR destinations may be included;
 - the sign may be displayed at a distance of 300 m to 700 m from the exit point, preferably in combination with a SUPPLEMENTARY EXIT DIRECTION sign GC2D it is considered that to display it at approximately 500 m will permit drivers an earlier selection of a correct lane);
- 7 Figure 4.66 illustrates the basic sequence of urban OVERHEAD FREEWAY DIRECTION signs for a typical approach to an ACCESS INTERCHANGE using UPWARD-POINTING arrows. Figure 4.67 shows a similar sequence of such signs on the approach to a cloverleaf SYSTEMS INTERCHANGE, whilst Figure 4.68 shows a simple example of OVERHEAD signing for an exclusive or dedicated exit lane. This latter example, although illustrating an ACCESS INTERCHANGE, is equally appropriate to a SYSTEMS INTERCHANGE (subject to the omission of the local authority name panel). The signs in these sequences are classified by function and numbered as follows (see adjacent pages for examples):
 - (a) GC2U - ADVANCE EXIT DIRECTION sign
 - using one or more upward-pointing arrows (UPWARD-TYPE 1-see Figure 4.10);
 - the upward-pointing arrows on this sign type shall be positioned on the left of the sign to indicate the number of exit lanes ahead BUT NOT whether they are exclusive exit lanes or shared exit lanes;
 - a distance shall be included;
 - the minimum signface display should include the route number and name of the intersecting cross-street, the interchange (EXIT) number and the local authority name (the local authority name shall be omitted on the approach to a SYSTEMS INTERCHANGE);
 - up to two additional destinations may be added to the minimum display;
 - the sign should normally be mounted on its own at 1,0 km to 1,5 km from the exit point;
 - (b) GC3U - SUPPLEMENTARY EXIT/THROUGH DIRECTION sign:
 - using a CLUSTER of upward-pointing arrows (see Figures 4.11 to 4.13);
 - the arrow cluster shall be positioned between the exit information and the through information to accurately represent the lanes on the roadway at the exit point including an **indication of**

OVERHEAD FREEWAY DIRECTION

COLOURS:

PERMANENT
 Border & arrows: White retroreflective
 Legend: White retroreflective
 Route numbers: Yellow retroreflective
 Background: Blue retroreflective

For dimensions
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 pages
 6.4.3
 to
 6.4.7



Detail 4.9.26.1



Detail 4.9.26.2



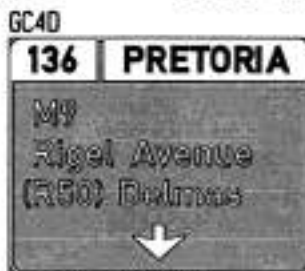
Detail 4.9.26.3



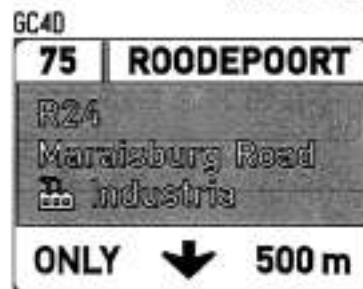
Detail 4.9.26.4



Detail 4.9.26.5



Detail 4.9.26.6



Detail 4.9.26.7

Downward-Pointing Arrows

NOTES:

- (1) The overhead sign Details given in Subsection 4.9.26 have been numbered in a continuous series from 4.9.26.1 for ease of reference, whether they indicate downward or upward pointing arrow examples.
- (2) Detail 4.9.26.1 illustrates the preferred urban/metropolitan display for an ADVANCE EXIT DIRECTION sign GC2D at an access interchange, including:
 - (a) interchange (EXIT) number;
 - (b) town or city name;
 - (c) cross-route number;
 - (d) cross street name;
 - (e) distance to the exit;
 - (f) downward type arrow inclined at 45°.
- (3) Detail 4.9.26.2 shows the addition of an "outside" destination to sign GC2D and detail 4.9.26.3 illustrates a typical THROUGH DESTINATION sign GC3D. The example relates to a metropolitan freeway.
- (4) Detail 4.9.26.4 shows a 3-line display. Such a display will commonly include a route number and destination for a second exit at a systems interchange when the first and second exits occur directly from the freeway in this case ("M1 Johannesburg"). For the through movement "Germiston" is a control destination whereas "Durban" is a FAMILIAR destination.
- (5) Detail 4.9.26.5 is similar but refers to a systems interchange (EXIT No. 103) straight-on movement. The display includes a cardinal area indication with 2/3letter size in upper case and placed within brackets.
- (6) Detail 4.9.26.6 shows a typical urban/metropolitan EXIT DIRECTION sign GC4D. The display should be the same as the previous ADVANCE EXIT DIRECTION sign GC2D but with a downward pointing arrow centred over the exit lane. This example includes an "outside" destination which may be reached after turning onto the "indirect" route indicated (R50).
- (7) Detail 4.9.26.7 is a variation on the standard GC4D display intended for use over an exclusive or "dedicated" exit lane. This example is intended for advance indication of the exclusive exit lane. This sign type may be mounted in combination with sign GC3D.

exclusive exit lanes, shared exit and through lanes, and exclusive through lanes (if there is a change in alignment associated with the exit roadways this should also be indicated by the arrow cluster - see CLUSTERS C3, C7, C12, C14 and C15 in Figure 4.13);

- the exit information shall be arranged on the appropriate side of the arrow CLUSTER (normally on the left side), and shall be the same as on the preceding GC2U sign;
 - the through destination information shall be arranged on the opposite side of the arrow CLUSTER to the exit information (normally on the right side);
 - a distance shall be included with the exit information;
 - the sign should be located between 300 m and 700 m from the exit point;
- (c) GC4U - EXIT DIRECTION sign:
- using one or more upward - pointing arrows (UPWARD-TYPE 2 - see Figures 4.10 and 4.11);
 - the upward-pointing arrows shall be positioned on the left of the sign and shall indicate the number of exit lanes BUT NOT whether they are exclusive exit lanes or shared lanes;
 - no distance shall be given;
 - the signface display shall be the same as the exit information displayed on preceding GC2U and GC3U signs;
 - the sign may be mounted over the exit point or slightly beyond it at an ACCESS INTERCHANGE, OR over the junction of the left turn exit point and the collector-distributor road at a SYSTEMS INTERCHANGE (in the latter case the interchange (EXIT) number shall be omitted);
- (d) GC5U - ADVANCE OFF-RAMP DIRECTION sign: using a CLUSTER of upward-pointing arrows (see Figures 4.11 to 4.13), this sign replaces a GC4U at a SYSTEMS INTERCHANGE;
- the arrow cluster shall be positioned between the exit information and the C-D road through information to accurately represent the lanes on the collector-distributor roadway at the exit point of the left turn ramp at a SYSTEMS INTERCHANGE, **including an indication of exclusive use lanes, shared exit and through lanes, and exclusive through lanes** (it is recommended that the arrows be rotated to the left by 15° to 30° to indicate that they represent an exit condition - see CLUSTERS C4, C8 and C10 in Figure 7.13);
 - the information displayed shall be only the exit information indicated on preceding GC2U and GC3U signs BUT the information shall now be split between the left and right turn movements with the exit left information to the left of the arrow CLUSTER and the through (to subsequently exit right from the C-D road) information to the right of the arrow CLUSTER; this is the last sign in the sequence at a single exit SYSTEMS INTERCHANGE to display an interchange (EXIT) number;
 - a distance to the left exit point shall be included
- with the left exit information;
 - the sign should be located at the off-ramp/C-D road exit point from the main freeway;
- (e) GC6U - C-D ROAD THROUGH DIRECTION sign:
- using one or more upward-pointing arrows (UPWARD-TYPE 3- See Figures 4.10 and 4.14); the upward-pointing arrows on this sign shall be positioned on the right side of the sign and shall indicate the number of straight-on lanes on the C-D road, BUT NOT whether those are exclusive through lanes or not;
 - no distance shall be included;
 - the information displayed shall relate **only** to the right exit movement and be part of that which has appeared previously in the sequence on signs GC2U and GC3U;
 - the sign should be displayed with an EXIT DIRECTION sign GC4U giving information relating to the left exit movement and shall not include an interchange (EXIT) number; these signs should be located over the junction of the left turn exit point and the C-D road;
- (f) GC7U - C-D EXIT/THROUGH DIRECTION sign:
- using upward-pointing arrows (UPWARD-TYPES 3, 4 and 8 - see Figures 4.11 to 4.13);
 - the arrow cluster shall be positioned between the exit information and the C-D road through information and shall accurately represent the lanes on the collector-distributor roadway at the exit point of the right turn (360°) ramp to the intersecting freeway at a SYSTEMS INTERCHANGE **including an indication of exclusive exit lanes, shared exit and through lanes and exclusive through lanes**;
 - the information displayed on the left side of the sign shall be the same as on the preceding GC6U sign; the information on the right side of the sign shall relate to the straight-on movement from the C-D road back onto the freeway (this information should be the same as that appearing on the right side of sign GC3U);
 - a distance to the right turn exit point shall be included with the right turn exit information;
 - the sign is commonly located on, or close to, the main interchange overbridge normally some 150m to 250m in advance of the exit point.
- 8 EXIT DIRECTION sign GC4U and C-D THROUGH DIRECTION sign GC6U may be sited over the 360° ramp gore if warranted in this position The GC4U sign should display an UPWARD-TYPE 4 arrow rotated to the left through 15° to 30° to indicate the exit.
- 9 C-D ROAD THROUGH DIRECTION sign GC6U may be displayed over the main freeway in combination with an ADVANCE OFF-RAMP DIRECTION sign GC5U to emphasise the split between through movements and exit movements, particularly if a full span gantry structure already exists.
- 10 A lane drop occasionally occurs within an interchange. An appropriate overhead DIAGRAMMATIC sign such as GS6105 may be displayed in combination with sign GC3U, or with signs GC5U and GC6U.
- 11 A wider range of OVERHEAD signs for different types of interchange geometry and sign sequences are given in Volume 2, Chapter 5 - *Freeway Signing*.

COLOURS:

PERMANENT

Border & arrows: White retroreflective
 Legend: White retroreflective
 Route numbers: Yellow retroreflective
 Background: Blue retroreflective

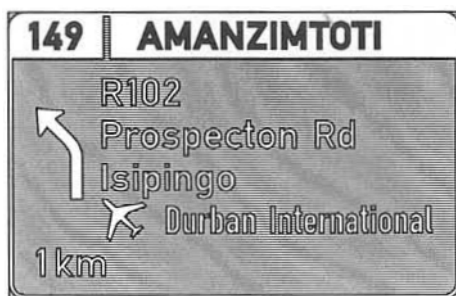
For dimensions
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 to
 6.4.11



Detail 4.9.26.8



Detail 4.9.26.9



Detail 4.9.26.10



Detail 4.9.26.11

Upward-Pointing Arrows - Advance Exit Direction GC2U

NOTES:

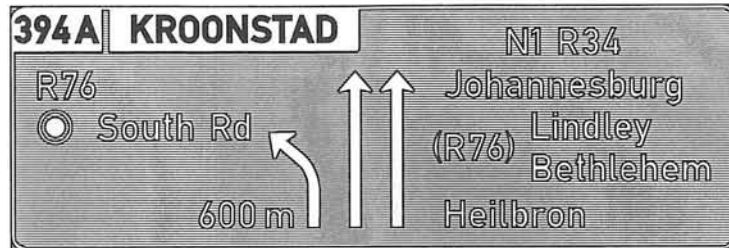
- (1) The overhead sign Details given in Subsection 4.9.26 have been numbered in a continuous series from 4.9.26.1 for ease of reference, whether they indicate downward or upward pointing arrow examples.
- (2) Detail 4.9.26.8 illustrates the preferred urban/metropolitan display for an ADVANCE EXIT DIRECTION sign GC2U at an access interchange.
- (3) Detail 4.9.26.9 shows a similar indication for an exit at a systems interchange. The interchange (EXIT) number, 108A, indicates that the left and right exits are both directly from the freeway (without the use of a collector-distributor road). SUPPLEMENTARY EXIT/THROUGH DIRECTION sign GC3U should include an indication of the destination information for the second exit.
- (4) Details 4.9.26.10 and 4.9.26.11 show examples of the recommended maximum level of display for access and system interchanges respectively. Detail 4.9.26.11 shows the level of destination information required for a systems interchange exit leading to a collector-distributor road which in turn serves the left and right turns to the intersecting freeway. Note the angled display of AIRPORT symbol GDS-3 to match the exit arrow.

OVERHEAD FREEWAY DIRECTION

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COLOURS:

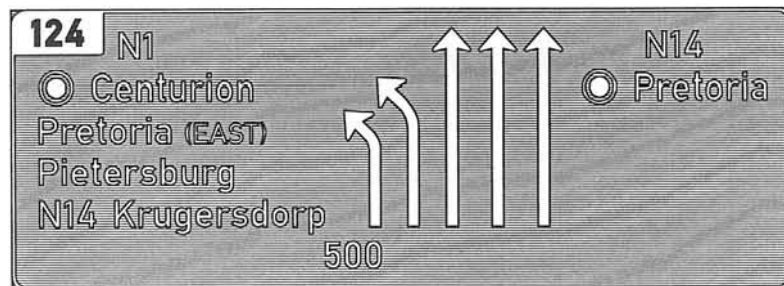
PERMANENT
Border & arrows: White retroreflective
Legend: White retroreflective
Route numbers: Yellow retroreflective
Background: Blue retroreflective



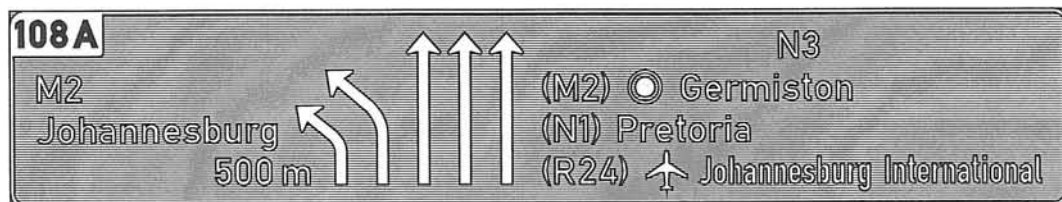
Detail 4.9.26.12



Detail 4.9.26.13



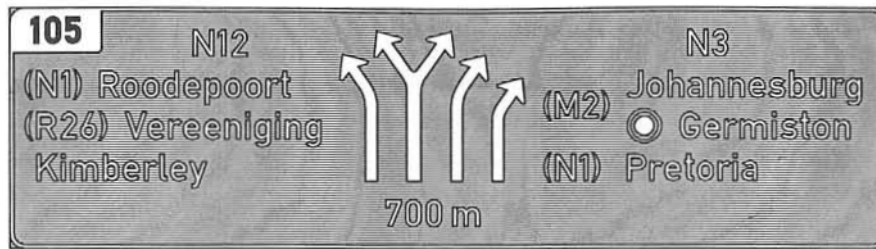
Detail 4.9.26.14



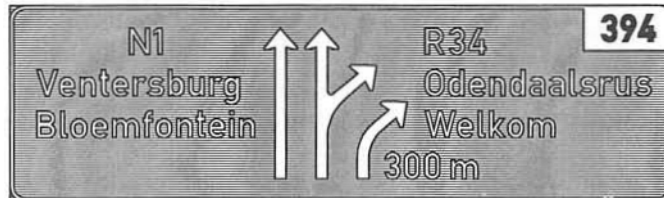
Detail 4.9.26.15

Upward-Pointing Arrows - Supplementary Exit/Through Direction GC3U

OVERHEAD FREEWAY DIRECTION



Detail 4.9.26.16



Detail 4.9.26.17

Upward-Pointing Arrows - Supplementary Exit/Through Direction GC3U

NOTES:

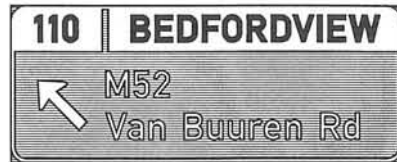
- (1) Details 4.9.26.12 to 4.9.26.17 illustrate a few of the many CLUSTERS of arrows which may be displayed on SUPPLEMENTARY EXIT/THROUGH DIRECTION signs GC3U. Note the regular use of CBD symbol GDS-8 and brackets referring to "indirect" routes. Exit route numbers should be left justified whenever possible. The through route number may be centred or left justified.
- (2) Detail 4.9.26.12 is an urban example showing exit information for the first of two direct exits (394A). The exit information for the second exit is included in the display to the right of the arrow cluster.
- (3) Detail 4.9.26.13 (3948) follows Detail 4.9.26.12 and shows the transfer of exit information to the left side of the sign. The arrows on these two details illustrate exclusive or "dedicated" exit lanes at each exit, the second arrow referring to a 360° loop off-ramp. Note that this Section of the N1 route also carries the route number R34 for a short distance.
- (4) Detail 4.9.26.14 illustrates an exit condition at a systems interchange with two exclusive or "dedicated" exit lanes. This example also illustrates the recommended maximum display of exit information. Exit information is included for left and right exits, which are semi-direct in this case.
- (5) Detail 4.9.26.15 is similar but relates to the first of two direct exits and therefore includes exit information for the second exit on the right ("through") side of the sign.
- (6) Detail 4.9.26.16 refers to a Y-shaped systems interchange.
- (7) Detail 4.9.26.17 illustrates a rare right-exit condition.

OVERHEAD FREEWAY DIRECTION

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6.4.19

COLOURS:

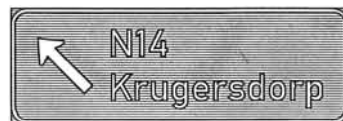
PERMANENT
Border & arrows: White retroreflective
Legend: White retroreflective
Route numbers: Yellow retroreflective
Background: Blue retroreflective



Detail 4.9.26.18



Detail 4.9.26.19



Detail 4.9.26.20



Detail 4.9.26.21

Upward-Pointing Arrows - Exit Direction GC4U

NOTES:

- (1) Detail 4.9.26.18 shows the EXIT DIRECTION sign GC4U following Detail 4.9.26.8 and represents the preferred display at an access interchange.
- (2) Detail 4.9.26.19 illustrates the upward-pointing arrow equivalent to downward-pointing arrow Detail 4.9.26.6.
- (3) Detail 4.9.26.20 shows the variant to be used at the first exit from a collector-distributor road (a left turn) whilst Detail 4.9.26.21 shows that for the second exit from a C-D road (a right turn). Both are appropriate at a systems interchange. Note that an interchange (EXIT) number is not displayed on these C-D variants.
- (4) All arrows for GC4U signs should be displayed at an angle of from 15° to 45° from the vertical to designate an exit condition.
- (5) Detail 4.9.26.20 should follow an ADVANCE OFF-RAMP DIRECTION sign GC5U, and Detail 4.9.26.21 should follow a C-D EXIT!THROUGH DIRECTION sign GC7U.
- (6) Both Details 4.9.26.20 and 4.9.26.21 will normally be displayed to the left of C-D THROUGH DIRECTION sign GC6U.

COLOURS:

PERMANENT

Border & arrows: White retroreflective
 Legend: White retroreflective
 Route numbers: Yellow retroreflective
 Background: Blue retroreflective

For dimensions
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 6.4.20
 6.4.21



Detail 4.9.26.22



Detail 4.9.26.23



Detail 4.9.26.24

Upward-Pointing Arrows - Advance Off-Ramp Direction GCSU

NOTES:

- (1) These Details are all similar in function and layout to the systems interchange variants of signs GC3U in that they refer to a split in traffic flow ahead. In this case the split refers to the junction of the first exit from a collector-distributor road and the C-D road itself.
- (2) Sign GC5U should indicate by arrow CLUSTER whether there are exclusive or shared lanes at the exit ahead. The arrow CLUSTER should be rotated through 15° to 30° to the left of vertical, to designate an exit condition. Otherwise layout principles are as for sign GC3U. Detail 4.9.26.24 shows how an arrow CLUSTER should accurately reflect road curvature.
- (3) The "through" indication on the right side of the sign refers only to the second exit and shall not include through destinations for the main freeway at this position.

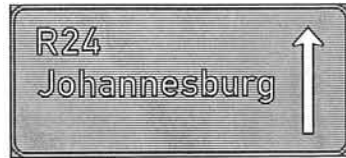
OVERHEAD FREEWAY DIRECTION

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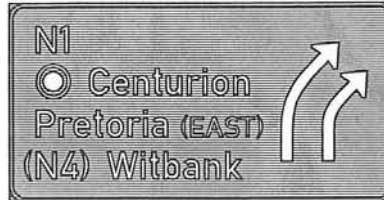
COLOURS:

PERMANENT

Border & arrows: White retroreflective
Legend: White retroreflective
Route numbers: Yellow retroreflective
Background: Blue retroreflective



Detail .4.9.26.25



Detail .4.9.26.26



Detail .4.9.26.27

Upward-Pointing Arrows - C-D Road Through Direction GCGU

NOTES:

- (1) Details 4.9.26.25 and 4.9.26.26 show typical arrangements of C-D THROUGH ROAD DIRECTION signs to be used in conjunction with EXIT DIRECTION sign GC4U at the first exit from the C-D road. Detail 4.9.26.25 shows a sign height dictated by an adjacent EXIT DIRECTION sign GC4U. Similar signs displaying the main freeway "through" destinations may be used in combination with an EXIT DIRECTION sign at the second off-ramp position.
- (2) The signface layout principles are very basic. The route number may be left justified or centred. The arrow

should accurately indicate the alignment of the C-D road.

- (3) Detail 4.9.26.27 illustrates a variant which may be used on the main freeway carriageway at the exit to the C-D road in combination with sign GC4U. This application is common when existing sign structures are available to carry the sign and the information repeats that given on sign GC3U. Use of this sign will not normally be warranted if new structures are being provided for the signs unless there is a change in alignment within the interchange in which case they may be justified.

COLOURS:

PERMANENT

Border & arrows: White retroreflective
 Legend: White retroreflective
 Route numbers: Yellow retroreflective
 Background: Blue retroreflective

For dimensions
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 6.4.24

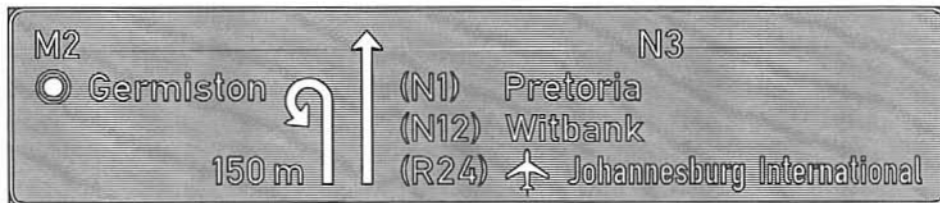


Detail 4.9.26.28

Upward-Pointing Arrows - C-D First Exit/Through Direction GC7U

NOTES:

- (1) Detail 4.9.26.28 is an alternative sign to the use of an EXIT DIRECTION sign GC4U and a C-D ROAD THROUGH DIRECTION sign GC6U. It combines the messages of these two separate signs with a central arrow cluster.
- (2) The sign may be located on a C-D road at the left turn or first exit (this is why it does not display a distance).
- (3) Sign GC7U may be followed by a C-D SECOND EXIT
- (4) Since the sign is located at the point of exit the arrow cluster not normally be inclined to the left.
- (5) Sign GC7U may be used in a similar manner at splits in fully directional ramps.



Detail 4.9.26.29



Detail 4.9.26.30

Upward-Pointing Arrows - C- D Second Exit – Advance/Through Direction GC8U

NOTES:

- (1) Details 4.9.26.28 and 4.9.26.29 are typical of signs which may be used in advance of the second exit from the C-D road.
- (2) The exit display should carry forward the information previously displayed at the left turn exit for the right-turn exit ahead.
- (3) The hooked arrow indicates an exclusive or "dedicated" 360° off-ramp to the intersecting freeway.
- (4) The "through" information shall relate to the "through" destinations for the main freeway carriageway. These signs are displayed in front of traffic which has left the intersecting freeway via a 360° loop ramp to the C-D road.
- (5) Note the upward display of the AIRPORT symbol GDS-3 in line with the straight-on movement at this point towards the indicated airport.

4.10 TOURISM

4.10.1 General

- 1 This class of guidance sign has been provided to cater for the needs of tourists over and above the normal direction signing provided in terms of the Navigational Aids policy (see Chapter 8). TOURISM signs are therefore often supplementary to DIRECTION signs in the sense that primary navigational information is given on DIRECTION signs and this may, when warranted, be supplemented by separate TOURISM signs instead of attempting to incorporate such information onto the DIRECTION signs. Basic details of TOURISM sign applications are given in Figures 4.75 to 4.78.
- 2 Figure 4.3 in Section 4.1 describes the information given by guidance signs in diagrammatic form. The illustration develops the information given by the different classes of guidance sign into "Primary", "Secondary" and "Tertiary" layers. Tertiary information is non-orientational and as such can be supplementary to the "Secondary" (orientational) level signs, or it can be used at a lower level in the road network on its own. The "Tertiary" layer of information is provided by both LOCAL DIRECTION signs and TOURISM DIRECTION signs. There are many similarities between the two classes of direction sign. Figure 4.75 shows the relationship between LOCAL and TOURIST DESTINATIONS (for further information on LOCAL DIRECTION signs see Section 4.11).
- 3 With regard to the provision of TOURISM signs, **Tourism is deemed to include any activity concerned with the temporary short term movement of people to destinations outside the areas or places in which they normally live and work, and their activities during their stay at these destinations. A "Tourist Facility" is likewise broadly defined to include almost any ATTRACTION or SERVICE** which may be of interest to reasonable numbers of strangers to an area. **It should be clearly understood that signs indicating Tourist Facilities, and particularly Service Facilities, provided for the benefit of tourists should not be construed as advertisements for the facilities concerned, although they also serve other travellers, including those on business (see Subsection 4.10.5).**
- 4 The TOURISM sign class has developed around rural signing needs. However, the application of TOURISM signs is equally appropriate to urban areas. The methods of application vary quite significantly in the two environments. This section is largely based on rural tourism signing principles and examples but does briefly cover the signing of by-passed towns and signing in urban areas (Subsections 4.10.10 and 4.10.11 respectively). Volume 2, Chapter 4 • *Tourism Signing* goes into greater detail on specific applications of TOURISM signing and Volume 2, Chapter 9 - *Urban Guidance Signing* deals in particular with LOCAL and TOURISM signing in the urban environment.
- 5 Subject to compliance with the appropriate warrants TOURISM signs should be promoted in preference to advertising signs, but should not be considered as a mandatory alternative if, for whatever reason, advertising of a particular candidate facility is prohibited.
- 6 The proliferation of recreational and other facilities in certain regions, and the increasing importance of tourism to the region, result in an active environment of tourism promotion. The provision of TOURISM signs becomes part of this promotional activity. Although various methods of promoting tourism and of informing tourists, such as maps, brochures and travel agencies, are available there still exists a need for representatives of road and tourism authorities to become actively involved in the overall effort to satisfy the requirements of tourists, **FOR THE PUBLIC GOOD.** In many instances the solution to a specific problem will require a pro-active approach by road and tourism authority representatives. Representatives must be prepared to go out of their way to interact with all other parties involved. A high level of co-operation must be maintained when more than one authority or organisation is involved and the road authority representative may beneficially act as the agent to bring such organisations together to advise them of policies and constraints relating to the provision of TOURISM signs. The optimum solution to the problem of providing adequate information for the tourist will commonly involve a combination of the publication of brochures (which should incorporate regional or local area maps indicating route numbers), advertising in a variety of forms, and sufficient roadside information in the form of clear and concise road signs, or in complex situations, tourist information laybys. Road and tourism authority representatives may well find themselves having a direct input to all such aspects.
- 7 It is recommended that road and tourism authorities, and other acceptable tourism organisations and providers of services co-operate in connection with the erection of signs, the standards of facilities, the quality of services and other factors. **TOURISM signs will be provided at the discretion of the relevant road authority after consultation with representatives of a formalised structure created to facilitate the processing of applications by tourist facility operators for TOURISM signs.** Factors such as the following shall be taken into account:
 - (a) an established road user need for a tourism sign;
 - (b) standard of the facility;
 - (c) quality of services;
 - (d) proximity or otherwise of the facility and of other similar facilities;
 - (e) traffic safety;
 - (f) competitive advertising;
 - (g) any other relevant factor.
- 8 The effective structuring of organisations set up to deal with the processing of TOURISM sign applications and how this structure is integrated with tourism and road authorities in all spheres of government, sets the basis for an integrated approach to the signing of tourist facilities from the road network. It is recommended that countries or provinces organise themselves into manageable tourism regions and that Regional Tourism Liaison Committees (RTLCS) be set up to monitor standards and the processing of applications for signs within a framework of Provincial, Regional and Local Tourism Organisations, road and local authorities and other role players. Local Tourism Organisations should include membership from the tourist facility operators in the area. Model structures and their functions are

described in greater detail in Volume 2, Chapter 4.

- 9 Conversely, if a facility to which a TOURISM sign has previously been provided no longer complies with the basic factors listed in paragraph 4.10.1.5, such a sign shall be removed by the road authority, after consultation between the facility owner, tourism bodies and the relevant local authority.
- 10 **As a class of guidance sign TOURISM signs differ from other guidance signs in that they make wide use of symbols to achieve message transfer to travellers. This is intended to reduce the need for text on signfaces to a minimum wherever possible. The sign, its signface layout and symbol(s) used must be approved and aesthetically acceptable (see Subsection 4.10.9).**
- 11 The decision to provide a TOURISM sign is often related to a request to the road, tourism or local authority from some external body, group or individual. Warrants are available to assist in the decision-making process. The basis of these warrants is described in Subsection 4.10.7.
- 12 In line with the basic concept of keeping numbers of road traffic signs to a minimum, consistent with the safety and guidance needs of drivers, and the need to avoid environmental encroachment, the installation of large numbers of TOURISM signs should be avoided. If the density of tourist attractions in an area is so great that there is a risk of environmental encroachment the use of INFORMATION LAYBYS or COMPREHENSIVE INFORMATION CENTRES or BUREAUX should be considered (see Subsection 4.10.26).
- 13 When the density of tourist facilities in an area exceeds the ability to supply TOURISM DIRECTION signs conforming to accepted principles and norms it may be appropriate to treat the area as a HIGH DENSITY TOURISM AREA. Similarly the density of facilities along a specific route may warrant the route being identified as a TOURIST ROUTE. In each case the area or route may commonly be identified with a specific theme which can offer some benefits in the organising and limiting of the level of signing required. These concepts are covered briefly in Subsections 4.10.12 and 4.10.13 respectively, and in detail in Volume 2, Chapter 4.
- 14 Subject to a set of special provisions some road authorities may require payment for certain tourism signs from applicants. Information in this regard may be obtained from the appropriate authority.
- 15 If a Tourist Facility is officially graded by an approved grading authority a primary name and symbol may be provided.

4.10.2 Objectives

- 1 The basic objectives of TOURISM signs are:
 - (a) to guide tourists in the final stages of their journeys to their destinations, safely and without wasted -travel time or distance;
 - (b) to inform tourists (and other road users) on the route(s) on which they are most likely to approach the facility, of the presence of acceptable service facilities.
- 2 In addition all relevant organisations working with TOURISM signs should have as objectives:
 - (a) the establishment of uniform practices in signing

- applications leading to the provision of a consistent roadside information system;
- (b) the highest level of correlation between maps and signs;
- (c) never to allow TOURISM signs to be misused as competitive advertising signs;
- (d) the promotion of TOURISM signing in preference to direct forms of advertising signing;
- (e) the minimising of environmental clutter and sign costs consistent With effective signing levels.

4.10.3 Hypotheses

- 1 In order to achieve the stated objectives it has been necessary to place certain limits on the TOURISM signing system whilst developing it. This has involved the acceptance of a number of hypotheses which, whilst not based entirely on fact, are deemed to incorporate reasonable points of principle.
- 2 The basic hypothesis is that, with the aid of maps (including tourist maps or brochures), the existing hierarchy of numbered routes and normal destinations given on DIRECTION signs, tourists should be able to travel to the numbered route or town nearest, or most conveniently located, to their final tourist destination. It is inherent in the acceptance of this hypothesis that tourists plan their journeys before departing, and/or whilst *en route*.
- 3 That this hypothesis is not always entirely true is recognised in the flexibility built into the application of the principles covered in Subsection 4.10.4.
- 4 The following additional hypotheses have also been accepted in developing the system:
 - (a) to prevent overcrowding of normal DIRECTION signs with information, TOURISM signs should normally be additional and supplementary to the DIRECTION sign system;
 - (b) because they are supplementary but closely located to the DIRECTION sign system TOURISM signs should have a distinctive shape and colour;
 - (c) to reduce accident risk, advance signing of turns towards tourist attractions or services is required;
 - (d) all road users will want to make use of service facilities when the need arises;
 - (e) meaningful SYMBOLS can be more effective than words, and SYMBOLS are therefore given preference within the system wherever practical.

4.10.4 Tourism Signing Principles

- 1 The objectives and hypotheses previously stated are developed here into a number of principles upon which the TOURISM signing system is based. These principles are incorporated into the various warrants discussed in Subsection 4.10.7 and detailed in Volume 2, Chapter 4: *Tourism Signing*. The principles, applicable in the main to rural Tourist Facilities, are:
 - (a) a TOURISM sign should not be used when it is clear to road users or tourists that the access to a facility in question is obvious, or that the TOURISM sign would repeat the information given on DIRECTION signs already provided at the junction or inter- change under consideration;
 - (b) EXCEPT when a facility is the only public destination along a road or space is severely limited, TOURISM signs should be ancillary to normal DIRECTION signs;

- (c) TOURISM signing for facilities, EXCEPT Service Facilities, should normally be started on the nearest numbered route to the tourist attraction concerned, at the junction of the numbered route and the unnumbered route leading to the attraction, or from a major route within a town; (once a TOURISM sign to a facility has been displayed TOURISM signing must be provided at each subsequent junction at which a turn is required until the FINAL TURN towards the facility is reached);
- (d) rural Tourist Facilities (classified in Subsection 4.10.5 as TOURIST ATTRACTIONS) may be signed from as far away as 50 km depending on what distance a reasonable road user may be prepared to travel to reach the facility;
- (e) SERVICE and ACCOMMODATION facilities should generally have direct access from the road, or be located close to the junction being considered for signing, to qualify for signing (however, due regard should be taken of the regional availability of services and what distance a road user will be prepared to travel to fulfil his or her need; great care should be taken in defining "reasonable" in this context to ensure there is no risk of discrimination between road user groups); detailed warrants are given in Volume 2, Chapter 4;
- (f) the facility must provide a standard of service which is acceptable to the reasonable road user or tourist;
- (g) tourism signing for emergency services may be provided as the needs of road users will best be served;
- (h) when a number of facilities can be reached from one junction or interchange use should be made of a collective TOURISM sign representing all the qualifying facilities;
- (i) TOURISM signs shall be designed to the same standards with respect to arrows, lettering, borders and number of "bits" of information as normal DIRECTION signs used under similar circumstances;
- (j) tourist attractions shall normally be signed by means of a SYMBOL and a PRIMARY name, **where the PRIMARY name is that part of the name which uniquely identifies the facility from others of the same type and EXCLUDES such terms as park, beach, resort, etc;** (standard symbols are available for a wide range of tourist attractions and shall be used when appropriate);
- (k) Service Facilities, with one or two exceptions, shall be signed using SYMBOLS only (see Section 4.0 for details of all TOURISM sign symbols);
- (l) when it is considered advisable to provide a sign and the distance may not be obvious (from maps), or is greater than may be expected or the road is a "dead-end" road, it is recommended that the distance be included on the signface;
- (m) if as a result of a survey the RTLC or LTO considers that the resultant sign will be too complex, the authority should negotiate with the communities concerned to either provide a tourist INFORMATION LAYBY or COMPREHENSIVE INFORMATION CENTRE, or design a composite, or AREA symbol which, with a suitable PRIMARY name, will serve to direct tourists in the general direction of all the facilities; any such symbol design should be submitted to the member country's National Road Traffic Signs Technical Committee prior to being used (see Subsections 4.10.9 and 4.10.26).
- 2 In addition the following discretionary principles should be borne in mind by authorities when applying the principles given in paragraph 4.10.4.1 :
- (a) the RTLC, in consultation with other authorities and interested bodies on a regional or area basis, should exercise the necessary discretion in the case of tourist attractions generating high volumes of tourist traffic, and/or which lie within a short distance of a numbered major route, in which case it may be warranted to start signing these particular attractions from that numbered major route, or even a freeway, onto another numbered route;
- (b) if a numbered route carrying high volumes of tourist traffic intersects with another numbered route, which leads to several tourist attractions, the tourist attractions must be grouped together according to type using a suitable symbol and a collective PRIMARY name; if these conditions can be complied with then such a TOURISM sign may be displayed at the junction; however TOURISM signs shall not be displayed at a freeway to freeway systems inter-change.
- 3 Discretionary principles such as these are most likely to become relevant when one or more of the following circumstances occur:
- (a) due to the nature of a regional or area road network in terms of such situations as:
- (i) the existence of several approach roads to a facility;
- (ii) dead end" routes;
- (iii) parallel routes when tourist facilities exist on a parallel route to a numbered route and the number of points of access between the two routes is limited;
- (b) when Tourist Facilities of above average traffic generating capability exist in or near a by-passed town or an urban area (see Subsections 4.10.10 and 4.10.11);
- (c) when a large number of Tourist Facilities exist in a region or area necessitating consideration of the provision of a tourist information layby or centre or to the provision of TOURIST ROUTES or identifying the area as a HIGH DENSITY TOURIST AREA (see Subsections 4.10.12, 4.10.13 and 4.10.26).

4.10.5 Classification of Facilities

1 TOURISM FACILITIES are classified as follows (see Volume 2, Chapter 4, Table 4.2):

- (a) TOURIST ATTRACTIONS comprising:
- (i) Group A1 - National Parks;
- (ii) Group A2 – Provincial Parks;
- (iii) Group A3- Resorts;
- (iv) Group A4 - Scenic;
- (v) Group AS - Sports;
- (vi) Group A6 - Wildlife;
- (vii) Group A7- Historical;
- (viii) Group A8- Coastal;
- (ix) Group A9- Arts & Crafts;
- (x) Group A10- Cultural;
- (xi) Group A11- Adventure;
- (xii) Group A12- Agricultural;
- (xiii) Group A13- General;
- (b) SERVICES comprising:

- (i) Group B1 - Emergency Services;
 - (ii) Group B2 - Light Vehicle Services;
 - (iii) Group B3 - Truck Rest & Service;
 - (iv) Group B4 - Food Services;
 - (v) Group B5 - General Services;
 - (vi) Group B6 - Rest & Service Areas;
 - (vii) Group B7 - Vehicle Class (access);
- (c) ACCOMMODATION - Group C1;
- (d) OFF-ROAD (no directional signs);
- (i) Group D1 - "Totem" Signs- internal facilities;
 - (ii) Group D2 - Unique Information Centres;
- (e) PART-TIME ATIRACTIONS (any within Groups A4toA13);
- (f) TEMPORARY ATIRACTIONS- Special Events.
- 2 Individual facilities are firstly classified as TOURIST ATTRACTIONS, SERVICES, ACCOMMODATION, OFF-ROAD, PART-TIME or TEMPORARY, and then within each class they are allocated to the most appropriate group. This does not prevent the possibility of a symbol being used by two similar types of facility allocated to different groups. In the TOURIST ATTRACTION class most groups are provided with a group or "generic" symbol. Facilities within, for example, "Group A6-Wildlife" may use the generic "Wildlife" symbol GFA6, or one of the more specific symbols available within the group. Use of the generic symbol should be encouraged to promote wider uniformity and easier symbol recognition. Generic symbols have been provided for two specific purposes, namely:
- (a) to promote the best possible group identity or "theme"; and
 - (b) to limit the on-going demand for unique facility symbols within groups, without in so doing inhibiting the acceptability of new types of facility.
- 3 TOURIST ATIRACTION facilities comprise a very wide and varied class of facilities. They range from large holiday and recreational facilities, which commonly include accommodation and other classified types of support facilities (which may also be found and signed individually), to quite large facilities without accommodation, but with other good quality support facilities to sustain day visitors such as botanical gardens, crocodile parks, arts & crafts and wine routes, down to facilities which owe their attractiveness to their location, such as waterfalls, caves and view points and which may have no support facilities at all. Holiday and recreational facilities typically include national and provincial parks and resorts. When considering the provision of TOURISM DIRECTION signs for holiday and recreational facilities with accommodation several symbol options may be available, such as:
- (a) the use of a specifically allocated symbol; or
 - (b) the use of an appropriate accommodation symbol; or
 - (c) the use of one of the generic or "theme" symbols.
- Once satisfied that a holiday and a recreational facility complies with the relevant warrants, authorities should allow a reasonable flexibility of choice of symbol by the facility. Due to the common provision of a wide range of support facilities there is likely to be a demand for the use of supplementary symbols. It is recommended that these are only used when the specific warrants for their use, covered in Volume 2, Chapter 4, are complied with. TOURIST ATTRACTION facility signface

display comprises a SYMBOL plus the PRIMARY name of the facility.

- 4 SERVICE facilities also comprise a very wide range of facilities which will render assistance, or be of use or importance to the road user. Service facilities are established mainly to supply the short term needs of tourists, road users and their vehicles. Service facilities are signed using a SYMBOL only, with the exception of HOSPITAL emergency services Class 3 Rest and Service Areas which require the use of a SYMBOL plus a PRIMARY name.
- 5 ACCOMMODATION facilities are those which offer one or more of a range of accommodation types -
- e.g. hotel, motel, inn, guest farm, caravan and camping park, bed and breakfast, rooms, chalet, game lodge, guest house etc.

The signing of ACCOMMODATION facilities is more closely related to a measure of the quality offered by the facility than any other class of Tourist Facility. In particular the warrants for graded types of accommodation also dictate the amount of information displayed on the TOURISM DIRECTION signface. This display, for ACCOMMODATION facilities graded within their category by a national grading authority as Grade 2 or higher, may include the FULL name of the facility plus the generic ACCOMMODATION symbol GFSC1-1. In addition such facilities which also offer restaurant facilities (complying with separate warrants) for three meals daily to the public, may display RESTAURANT symbol GFSB4-1. This results in a large amount of information. Two options are available for the display of the symbols therefore, as follows:

- (a) the symbols may be grouped (in the order GFSC1-1 followed by GFSB4-1) at full size in front of the name, which should, if possible, therefore occupy two lines of text; or
- (b) the symbols may be displayed below the text as half size SUPPLEMENTARY SYMBOLS (again in the order GFSC1-1 followed by GFSB4-1).

ACCOMMODATION facility types which are not graded, or are Grade 1 facilities, shall only display the appropriate symbol (see also paragraph 4.10.5.5, Subsection 4.10.7 and Volume 2, Chapter 4).

- 6 OFF-ROAD facilities include those provided within a large facility already signed from the road network (Group D1), and individual off-road Tourist Information Board (Group D2- see Subsection 4.10.26 and Volume 2, Chapter 4, Section 4.7). Internal signing is used to direct traffic or classes of traffic towards appropriate facilities such as toilets, refreshments, cooking areas etc. The sign type used is modular, incorporating a SYMBOL (or ARROW) per module. These signs GF10 are displayed in a cluster or TOTEM manner. When off-road Tourist Information Boards are provided for an identified HIGH DENSITY TOURIST AREA, the board may incorporate a unique "theme" symbol in addition to TOURIST INFORMATION symbol GFSB5-8.
- 7 PART-TIME ATTRACTION facilities are facilities which are not available to the public on a full-time basis. They are commonly only open on a once-or-twice-a-week, or once-or-twice-a-month basis, or may even only be available seasonally or by appointment. PART-TIME ATTRACTIONS may only be signed, after compliance with appropriate warrants, when they form part of an identified HIGH DENSITY TOURISM AREA. In order

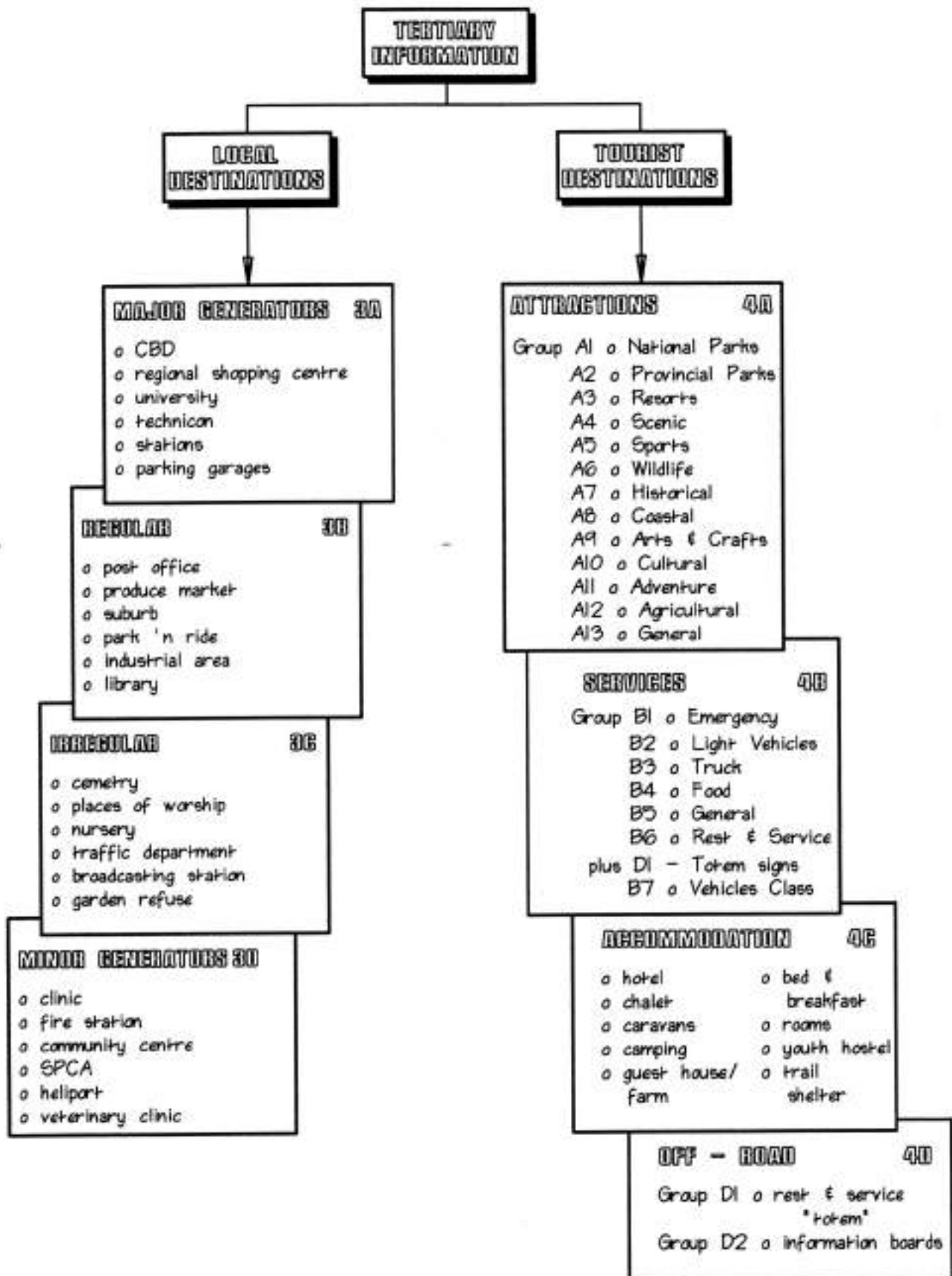


Fig 4.75

Tertiary Level Guidance Information

to differentiate them from normal tourist attractions within the same area they may only be signed using PART-TIME (fingerboard) sign GF17. These signs may display a SYMBOL only, or a SYMBOL and the PRIMARY name of the facility.

- 8 TEMPORARY ATTRACTION facilities are facilities which are not available even on a part-time basis but which are of a short term or "specialevent" nature -
- e.g. agricultural or other shows, sports events, conferences, roadside holiday emergency services etc.

These facilities are commonly signed for the duration of their availability by temporary TGF17 signs erected by service organisations. These signs utilize a PRIMARY name and may incorporate a small symbol representing the service organisation (see Subsection 4.10.28). If a road or tourism authority wishes to erect a TEMPORARY ATTRACTION sign the sign should adhere to the principles of SYMBOL plus PRIMARY name, or SYMBOL only.

4.10.6 Standard of Facility

- 1 It is essential that a Regional Tourism Liaison Committee (RTLCL), when it receives an application for a TOURISM sign, satisfies itself that the standards of the facility concerned comply with what the public using the facility would expect. This applies particularly to the physical environs of the facility.
- 2 The assessment of the quality of a facility can be a complex process, often beyond the resources of the RTLCL to conduct other than superficially. However, the quality of warrants will be greatly enhanced by feedback to the RTLCL from various road and tourism authorities within its region as experience in applying them is built up. Authorities are encouraged to document their experience in this respect with a view to the improvement of all warrants (see Subsection 4.10.7).
- 3 Various tourism authorities publish detailed guides to graded accommodation facilities which are regularly updated. Authorities may utilise these handbooks to obtain a quick indication of the standard of a facility. The authority shall call for the applicant to submit a letter of recommendation from the grading organisation. Similarly authorities may call on the assistance of the Automobile Association or similar organisations for comment on the quality of a facility providing vehicle services.
- 4 When an application is received for TOURISM signing at a junction or access road, the RTLCL should survey other facilities in the area to assess the collective need for signing. This will enable TOURISM signs to be properly designed, since additions which may upset the signface layout cannot be easily accommodated later, and to do so will be costly and wasteful of resources.
- 5 Should an application be received after TOURISM signs have been provided then the RTLCL may, subject to acceptance of the need to sign the facility, arrange for a new sign incorporating the existing and the new information in the conventional manner, at the new applicants' expense.
- 6 Local Tourism Organisations (LTO's) should acquire the detailed "grass roots" knowledge of facilities within their area, which will assist the RTLCL and road or local authority to better provide signing on an area - wide

basis, and limit the need for change in the future.

4.10.7 Warrants

- 1 Warrants relating to the provision of TOURISM signs have been developed and are currently detailed in Volume 2, Chapter 4. These warrants are based on a three level approach as follows:

- (a) Level 1: general criteria relating to the location of the facility and accessibility of the facility applicable to all categories of facility;
- (b) Level 2: criteria specific to each category and individual facility type - in particular quality, hours of operation and distance from the nearest or most conveniently located route or town;
- (c) Level 3: criteria specific to the design of the **TOURISM signface** which may include the need to display one or more of:
 - (i) a primary name;
 - (ii) supplementary symbols;
 - (iii) an "area" collective symbol;
 - (iv) the distance to the facility;
 - (v) a route number.

In addition, at this level the need for the provision of an INFORMATION LAYBY or a COMPREHENSIVE INFORMATION CENTRE or BUREAU may be established.

- 2 Although the warrants provide specific requirements to be complied with, they should always be applied with flexibility and discretion, taking account of individual circumstances such as remoteness or high density development.
- 3 **All facilities to be signed shall have a CLEAN, WELL KEPT, AND ATTRACTIVE appearance, and shall be in a GOOD STATE OF REPAIR.**

4.10.8 Signface Design Principles

- 1 The general principles relating to guidance signface design and layout are covered in Chapter 1 and in Sections 4.1 to 4.4.
- 2 The adoption of the DIN 1451 lettering style has led to a reduction in size of TOURISM signs. In revising the dimensional layout from earlier standards to conform to DIN 1451 requirements, a range of spacing standards has been adopted for TOURISM signs which is some 20% less than that used on DIRECTION or FREEWAY DIRECTION signs. These spacing standards relate to vertical and side spaces other than letter spacings, and a reduced standard is considered to be acceptable and consistent with the supplementary role of TOURISM signs. The combined effect of these two design factors has resulted in a significant overall reduction in TOURISM sign sizes from earlier designs.
- 3 The use of DIN 1451 Style "B" lettering is recommended. Consideration may be given to the use of DIN 1451 Style "A" lettering in low speed urban environments.
- 4 **TOURISM signface design places a high reliance on large bold SYMBOLS to transfer the main part of the message to road users. When the PRIMARY name of a facility is also used it is used to quality the reference of the symbol.** The vertical signface dimensioning is related to these large symbols rather than the text. The height of each symbol is capable

of supporting two lines of text without increasing the vertical height of the sign. Two techniques are therefore recommended to further contain TOURISM sign sizes when text is involved. These techniques are

- (a) if the PRIMARY name is a two or more part name-

e.g. "Gold Reef City"

then the name could be placed in two lines in a right-justified form in consultation with the applicant -

e.g. **Gold Reef
City**

- (b) if the PRIMARY name is long and can be satisfactorily hyphenated without risk of loss of meaning or readability then the primary name should be hyphenated and placed in two lines in a right justified form-

e.g.

**Suikerbos-
rand** or **Makgadi-
kgadi**

When, for ease of the arrangement of words, the lower line of text becomes longer than the top line then the text should be left justified. Two or more lines of text referring to two or more facilities of a common type (i.e. beaches) should be left justified.

- 5 TOURISM signs are basically STACK-TYPE signs. **However, a separate sign STACK shall be provided for each direction which requires a TOURISM sign, on common supports with a clear vertical space between stacks of 100 mm to 200 mm.** Signs used on Class B, C, or D routes will normally comprise one or two STACKS, one for tourist and/or service facilities to the right and one for those to the left. When absolutely essential a third stack may be added at the top, to cover the display relating to a straight-on facility.
- 6 Freeway advance exit TOURISM signs shall only comprise one STACK orientated with its trapezoidal shape pointing to the left to indicate the high speed exit to an off-ramp. This STACK-TYPE TOURISM sign may comprise up to three PANELS separated internally by border lines. Information for right-turns at off-ramp terminals shall appear above that for left turns at off-ramp terminals when both are indicated. (The subsequent advance turn TOURISM sign on the off-ramp will conform to signface design for Class B, C or D route TOURISM signs in that it has separate STACKS for right and left turns, mounted separately.)
- 7 A STACK-TYPE advance turn or final turn TOURISM sign may be subdivided into up to three PANELS but the total number of PANELS in a sign cluster (more than one STACK) shall not exceed three PANELS.
- 8 Since a wide variety of information can be displayed on a TOURISM sign the following rules regarding display should be adhered to **within each STACK**, whether on a freeway advance exit sign STACK or an individual STACK of a multi-STACK sign on a Class B, C or D route:
- (a) each PRIMARY name used on a TOURISM sign which relates to a different **type** of tourist facility should appear in a separate PANEL with its appropriate symbol;
- (b) tourist information shall always be placed above accommodation or service information and each shall be in separate PANELS;
- (c) accommodation information shall always be placed above service information in separate PANELS;
- (d) a multiple number of accommodation establishments' names may be indicated in one PANEL or STACK (an accommodation establishment's name may include the words "hotel", "inn", "lodge", "guest farm", "game farm", etc., as long as the maximum number of bits on the sign comply with general design considerations of Section 4.4);
- (e) if more than one tourist attraction PANEL is required these should generally be ordered vertically in group order;
- (f) if two or three PRIMARY names are given in one PANEL, they should be arranged vertically on the basis of the nearest at the top and the furthest at the bottom (subject to the right-over-left rule applicable if the panel is on a freeway advance exit TOURIST sign and the maximum number of "bits" of information in the display);
- (g) the sequence for the display of more than one service symbol in a STACK or PANEL shall always be, from left to right - emergency services, light vehicle services, food services and general services, with the exception of a hospital service symbol and primary name, which should be placed to the RIGHT of any other symbols in a row;
- (h) a maximum of five service symbols shall be displayed in any one service STACK or PANEL and more than one of these symbols may be of one class of facility e.g. restaurant and take-away (If such a STACK or PANEL would exceed 4 m in length the service symbols should be rearranged into two PANELS to reduce sign length. See Subsection 4.10.10 with regard to the service facility signing for by-pass towns.);
- (i) when arranged in two PANELS as described in paragraph 4.10.8.8(h) service symbols should, where practical, be centred one above the other;
- (j) if the combination of symbols and primary names, or symbols on their own, results in an obvious aesthetic imbalance in the layout of the signface the message positions may be adjusted for a better appearance.
- 9 If INTERCHANGE NUMBERS are in use on a freeway or other route they shall appear on all FREEWAY (or high speed) ADVANCE EXIT signs GF1. INTERCHANGE NUMBERS on TOURISM signs shall be provided in black semi-matt material, in "B MOD" lettering, on a white retroreflective background block in the top left corner of these signs.
- 10 Since TOURISM signs are normally used in supplement to DIRECTION or FREEWAY DIRECTION signs on which route numbers are displayed route numbers shall normally not be displayed on the TOURISM sign. If a route, serving a tourist or service facility which is the only public destination on that route, has been numbered, this route number should be displayed on the TOURISM sign provided at the relevant junction.
- 11 When a facility is signed in compliance with the distance warrants a distance to the facility may be indicated for distances greater than 1 km. Care should be taken in exercising this option if the TOURISM sign has a complex signface layout. The indication of a distance should preferably be left until the sign or STACK concerned is indicating the specific facility only. Alternatively a TOURISM CONFIRMATION sign GF7 may be used to give this information. The use of the two-line

option described in paragraph 4.10.8.4(a) is recommended in these cases, as is the use of the letters "km" after the distance -

e.g. **Hluhluwe**
24km

- 12 SERVICE FACILITY EXIT SEQUENCE sign GFB and REST AND SERVICE SEQUENCE signs GF9, which may be used on freeways, also display distances in a similar manner to the freeway EXIT SEQUENCE sign GAS. The letters "km" are not used on these signs.
- 13 Lesser distances than 5 km may be used particularly in urban areas on "follow-up" signs or on signs leading to emergency services such as "Police" or "hospital". Distances of 3 km or 1 km are also commonly displayed on LAYBY ADVANCE signs GF5. The use of the letters "km" on the above sign types is recommended.
- 14 When the facility to be displayed is a terminal destination on the route and it is the only public destination, such a facility may be included on a DIRECTION sign for the junction in question, in an "insert panel" with a brown background colour.
- 15 The various signface layout rules described above are numbered and illustrated in Volume 4, Chapter 7.

4.10.9 Symbols

- 1 The PRIMARY name on a TOURISM sign should be preceded by an appropriate SYMBOL, EXCEPT on an ACCOMMODATION category sign when SUPPLEMENTARY SYMBOLS may, according to the facility category, be located BELOW the facility name.
- 2 Only one symbol shall be used with a PRIMARY name. Normally SUPPLEMENTARY SYMBOLS should NOT be used in combination with a SYMBOL plus PRIMARY name display. Level 3 warrants relating to various aspects of signface display, including the use of SUPPLEMENTARY SYMBOLS are given in Volume 2, Chapter 4 (see Subsection 4.10.7).
- 3 If the use of a PRIMARY name is considered superfluous "Tourist" class SYMBOLS may be used on their own. Follow-up signs incorporating a SYMBOL only may be used to direct drivers through a number of junctions, subsequent to the previous display of the SYMBOL plus a PRIMARY name. Conversely if no suitable symbol is available a PRIMARY name may be used on its own, or, in exceptional cases, with SUPPLEMENTARY SYMBOL(S) in a similar manner to that used on ACCOMMODATION class signs.
- 4 If a symbol is used with three PRIMARY names representing three facilities of the same type or three lines of text then an enlarged "3-line" symbol should be used to maintain signface balance. Dimensional details are given in Volume 4.
- 5 A number of symbols should be oriented in the direction of the turn to which they refer. These are indicated in Section 4.0 and are illustrated in examples given in this Section and in Volume 4, Chapter 7.
- 6 Only appropriate symbols approved by the relevant Road Traffic Signs Technical Committee, and listed in Section 4.0, shall be used. LOCATION sign and DIRECTION sign symbols shall not be used on TOURISM signs. A range of unique symbols is available but preference should be given to generic symbols wherever possible.

4.10.10 Tourism Signing for By-Passed Towns

- 1 It is a characteristic of the development of road networks that towns and cities which at one time had major routes running through them become "**By-Pass**" towns when these routes are upgraded. When this occurs the towns and cities are provided with one or more access roads to the "By-Pass" and DIRECTION signs are provided for the junctions with these access roads.
- 2 The creation of a by-pass tends to have advantages and disadvantages for the community that is by-passed. In simple terms through traffic is removed but with it goes an often profitable trading situation. Local authorities commonly wish to redress this loss and to do so will resort to displaying advertising signs or additional guidance signs. TOURISM signs represent the logical road traffic sign medium to satisfy this need and as has been stated in Subsection 4.10.1 the use of TOURISM signs is to be preferred to advertising signs.
- 3 As a matter of policy therefore TOURISM signs may be added to supplement the DIRECTION signs at a by-passed town. The display on the by-pass route shall be limited to a maximum amount of information on the sign as permitted Section 4.4, including the PRIMARY names. If the allowable quantity of information is exceeded, a tourist layby may be provided.
- 4 A local authority will commonly have tourist attractions in addition to basic services to which it would wish to attract passing traffic. If this is the case it is strongly recommended that a TOURIST INFORMATION CENTRE BUREAU or LAYBY be provided at, or near, the junction with the by-pass. The TOURISM signs provided on the by-pass shall then be limited to basic ADVANCE TURN signs GF2 displaying the TOURIST INFORMATION symbol GFS 85-8 (see Subsection 4.10.26).
- 5 If a by-pass town has two or more access roads which intersect the by-pass the provision of TOURISM signs must be considered carefully. The resultant signs shall primarily be provided for the benefit of passing traffic i.e. the availability of fuel should be indicated only at the most easily accessed point. The provision of a TOURIST INFORMATION CENTRE, BUREAU, or LAYBY is still recommended as a safe and effective solution to the signing problem, particularly if the town is a popular tourist destination.
- 6 When a town has two access roads the service information may be split to the best advantage of passing drivers. This may be achieved as follows:
 - (a) all facilities available (within the limitations detailed earlier) may be indicated at the southern-most access facing north-bound traffic and the same information may be displayed at the northern-most access facing south-bound traffic; OR
 - (b) the information may be split between the two accesses, in a manner most appropriate to the highest level of to drivers, and the information appropriate at EACH access may then be displayed facing traffic travelling in both directions (this may require a "pull-through" straight-on STACK at a first access to ensure that drivers pass this access to get to a facility which is closer to the second access). See Figure 4.78.

- 7 Major by-passes with multiple access points will require special treatment including the possible use of SERVICE EXIT SEQUENCE signs GF8.

4.10.11 Tourism Signing in Urban Areas

- 1 The competition for drivers' attention in urban areas is likely to be significantly higher than in rural areas. In addition space to effectively accommodate more and more signs is likely to be limited. In urban areas the presence of advertising signs contributes greatly to the visual "clutter". The provision of unnecessary signs will compound these problems to the real detriment of the urban environment. It is therefore particularly important that careful consideration be given to the need for TOURISM signs in urban areas.
- 2 Individual needs can be established for TOURISM signs in the smallest town and the largest metropolis. Many tourist facilities in urban areas are signed by unique non-standard signs. It is desirable that this practice be discouraged and that signing of urban tourist facilities be undertaken within the formal signing system embodying the basic signing principles of conformity, accuracy, uniformity and consistency. To achieve this objective on a country-wide basis will require extensive national awareness and educational campaigns.
- 3 The provision of TOURISM signs in urban areas should be planned in the following stages:
 - (a) establish manageable areas or zones;
 - (b) survey candidate facilities and classify them (see Subsection 4.10.5);
 - (c) subject to the number of facilities assess whether these can be signed effectively and economically on an individual basis, or whether the provision of a network of TOURIST INFORMATION CENTRES, BUREAUX or LAYBYS will best satisfy the demand (see Subsection 4.10.26);
 - (d) prepare a plan which may involve a pro-active approach whereby facility operators such as service stations are approached to take part in the programme (at a cost to themselves), or having identified the facilities, the plan may be to wait for approaches to be made by facility operators before providing signs on a co-ordinated basis.
- 4 It will be relatively common that TOURIST INFORMATION BUREAUX exist in the central business districts of towns or cities but these are, by virtue of the traffic pressures, not necessarily readily accessible to tourists. TOURIST INFORMATION facilities should therefore be provided strategically on approach routes to the most attractive tourist areas.
- 5 The majority of signs detailed in this manual are equally applicable in urban as well as rural areas. Sign sizes however can be designed to suite the individual applications. The principles of Navigational Aids also apply equally in urban and rural areas. In order to prepare an effective programme of supplementary TOURISM signs for the major routes (Class A and Class B) these routes must be easily identifiable on maps and on the street. STREET NAME signs GL1 and ROUTE MARKER signs play an important role in urban areas. Information provided at TOURIST INFORMATION CENTRES, BUREAUX, or LAYBYS should therefore concentrate first on ensuring that drivers are aware of the numbered routes in the area. On the basis of these principles it is recommended that in urban areas the

majority of TOURISM signs be provided at a local level in the street network to ensure that drivers are able to reach their intended destination in the final stages of their journey.

- 6 Virtually all tourist facilities may occur in urban areas and as such are likely to require signing. Signing may take place at the discretion of the local authority and/or metropolitan or regional authorities through the process of consultation. The following have been considered but have been classified as conventional destinations:

transport termini, central business districts, factories, power stations, libraries, park 'n ride areas, CSIR, shopping centres, educational establishments (from schools to universities), churches, nurseries and bicycle paths.

- 7 Due to the number of potential non-orientational destinations within urban areas which may need, or feel the need, to be provided with a DIRECTION sign, the classification of destinations may not always be easy. However, the introduction of LOCAL DIRECTION signs for use in urban areas, to cater for similar destination types to TOURISM DIRECTION signs, and in a similar supplementary manner, means that it should not be too difficult to allocate destination types to one or other class. The boundary line between the two classes should not be drawn too rigidly, allowing for a degree of flexibility of allocation of certain destinations, according to primary function, to either class (the dimensional characteristics of each class are essentially the same). Full details of urban guidance signing applications, with warrants are covered in Volume 2, Chapter 9: *Urban Guidance Signing*.

4.10.12 High Density Tourism Area

- 1 There are many areas in Southern Africa with great potential for development. Development will bring with it the need for roads and road traffic signs, particularly guidance signs, to direct strangers to, and around, the areas. One of the most important and stimulus for development is tourism. Since tourism, in many instances, tends to be related to natural features of the country-side such as mountains, rivers, and coastlines, development often occurs at quite high densities in definable areas. Such areas also often occur on the perimeters of towns and cities.
- 2 High densities of tourism facilities in an area normally generate high levels of demand for more guidance signing, from motorists and operators of the facilities. Even with the fairly stringent rules and warrants applicable to the provision of tourism signs, the potential will be common that a chaotic number of signs could result. This is undesirable because the presence of large numbers of signs will:
 - (a) not achieve their purpose because their total effect will result in an oversupply of information, beyond that which drivers can reasonably and safely assimilate;
 - (b) create an unacceptable environmental intrusion, often in areas most sensitive to the adverse effects of such an impact;
 - (c) be costly, but not cost-effective.
- 3 The challenge is therefore to develop a systematic approach to the guidance signing of a specific area, taking into account the unique needs it may have. When considering an area for designation as a HIGH

DENSITY TOURISM AREA, the first steps should be to determine whether the area has logical and manageable limits, and can be given a unique identity. The possibility of such areas adjoining each other is always real, and it may even be necessary to consider one small but unique area, wholly contained within another larger area of somewhat different character of attraction. The identification of the area can be achieved by means of a unique collective or group name for the facilities in the area, or by association with one of the many generic or other tourism symbol themes (see Section 4.0). The agreed identity may involve both such components, as indicated by the "Arts and Crafts" Midlands Meander depicted in Figure 4.80.

- 4 Subject to the state of development of co-operation in a region between road and tourism authorities (see paragraph 4.10.1.8) it may be necessary for the road authority to broker the concept of a HIGH DENSITY TOURISM AREA. A representative Regional Tourism Liaison Committee (RTLCL) should be established. The RTLCL should ideally fit into established tourism and road organisation structures at primary, secondary and tertiary (or local) levels. ("Primary" may be a National Tourism Organisation (NTO), and "Secondary" a Provincial Tourism Organisation (PTO) or Regional Organisation (RTO). The composition of such an RTLCL should not be prescriptive, but should reflect the specific needs of the area. The principle role players serving on such a consultative committee should be identified for the area and should include:

- (a) the Secondary (Provincial or Regional) Tourism Organisation within whose jurisdiction the area falls;
- (b) an elected representative of a committee of facility owners and operators forming the Local Tourism Organisation (commonly private enterprise, but not exclusively so);
- (c) a representative of the road or local authority.

- 5 The RTLCL should, either directly or through the one or more LTO's in the area, develop a comprehensive Guidance Signing Plan specific to the area. This plan should:

- (a) create an inventory of tourist facilities, namely attractions, services, accommodation etc. in the area, noting whether these are full-time or part-time facilities;
- (b) create an inventory of existing guidance signs in the area (including on the perimeter of the area);
- (c) with the assistance of the road authority assess the correctness of the DIRECTION signs which are provided for the primary navigational or orientational role, and take steps to ensure their upgrading, if not correct, as quickly as possible;
- (d) develop or adopt criteria for assessing the quality or grade of facilities (Volume 2, Chapter 4: *Tourism Signing* and Volume 2, Chapter 9: *Urban Guidance Signing* provide warrants suitable for much of this process);
- (e) identify the potential for creating TOURIST ROUTES in the area (see Subsection 4.10.13);
- (f) develop a system design for the effective TOURISM signing of the area to avoid the undesirable aspects listed in paragraph 4.10.12.2.

- 6 In addition to this process, and particularly if the area is large, consideration should be given to providing attractive information, laybys, centres or bureaux lo-

cated strategically throughout the area. A good practice in this regard is to consider identifying "gateways" to the area which are then provided with information centres (for more details on information laybys see Subsection 4.10.28, and on HIGH DENSITY TOURISM AREAS and information centres or bureaux see Volume 2, Chapter 4).

- 7 Figure 4.81 illustrates two typical situations which could occur within a HIGH DENSITY TOURISM AREA. These situations show a mix of full-time and part-time TOURISM DIRECTION signs. It should be noted that the use of TOURISM sign GF17 is limited to identified HIGH DENSITY TOURISM AREAS.

4.10.13 Tourist Routes

- 1 TOURIST ROUTES are formally numbered routes. As such they effectively take the "nearest numbered route" closer in the road hierarchy to many tourist facilities. The principle effect of numbering a TOURIST ROUTE is that, at the turn off from a numbered navigational route, i.e. 844, it is only necessary to provide a TOURISM sign identifying the route. This sign will normally display the tourist route number in yellow, a theme symbol (e.g. scenic mountains, coastal etc.) and the route name which may be unique or the same as the theme. This will be significantly less information for drivers to absorb than individual signs to all facilities along the route. This approach may be relaxed if emergency facilities exist on the route. The information relating to any emergency facilities should be given in a separate panel below the route description.
- 2 For examples of typical TOURIST ROUTE signs see Subsections 4.10.17 and 4.10.18. Within a HIGH DENSITY TOURISM AREA additional signing may be necessary to provide route continuity or where two TOURIST ROUTES intersect. This may be provided by a range of compact TOURIST ROUTE MARKER signs GE18. Details of these signs are given in Section 4.7.
- 3 TOURIST ROUTES can also be established over an existing numbered navigation route. In this case a tourist route number is not allocated. The route is identified by supplementary TOURISM signs giving the route theme symbol and route name. TOURIST ROUTE MARKER signs may also be used for such an application.

4.10.14 Shape, Size and Colours

- 1 TOURISM signs are basically rectangular in shape but are unique in that all turn signs shall have the arrow side edge cut back from top to bottom at a slope of 2 in 5 to create a trapezoidal shape. Straight-on stack signs, which are not commonly used, and facility sequence signs are rectangular in shape. "TOTEM" signs used within Rest and Service Areas are square in shape. PART-TIME and TEMPORARY facility signs utilize a fingerboard shape.
- 2 The size of TOURISM signs is commonly dependent on the message to be displayed. Dimensional details for all sign types are given in Volume 4, Chapter 7. It should be noted that TOURISM signs are generally sized around the symbol(s) used. The dimensional principles are similar to normal DIRECTION signs. (see Subsection 4.10.8 and Volume 4, Chapter 7, Section 7.1 for further details.)
- 3 In common with DIRECTION signs all TOURISM signs

are dimensioned in multiples of the DIN 1451 letter stroke width "d". This enables a sign to be sized for any standard letter size from one dimensional detail. The choice of letter size is dictated by various factors such as the amount of information, road width, speed limit etc.

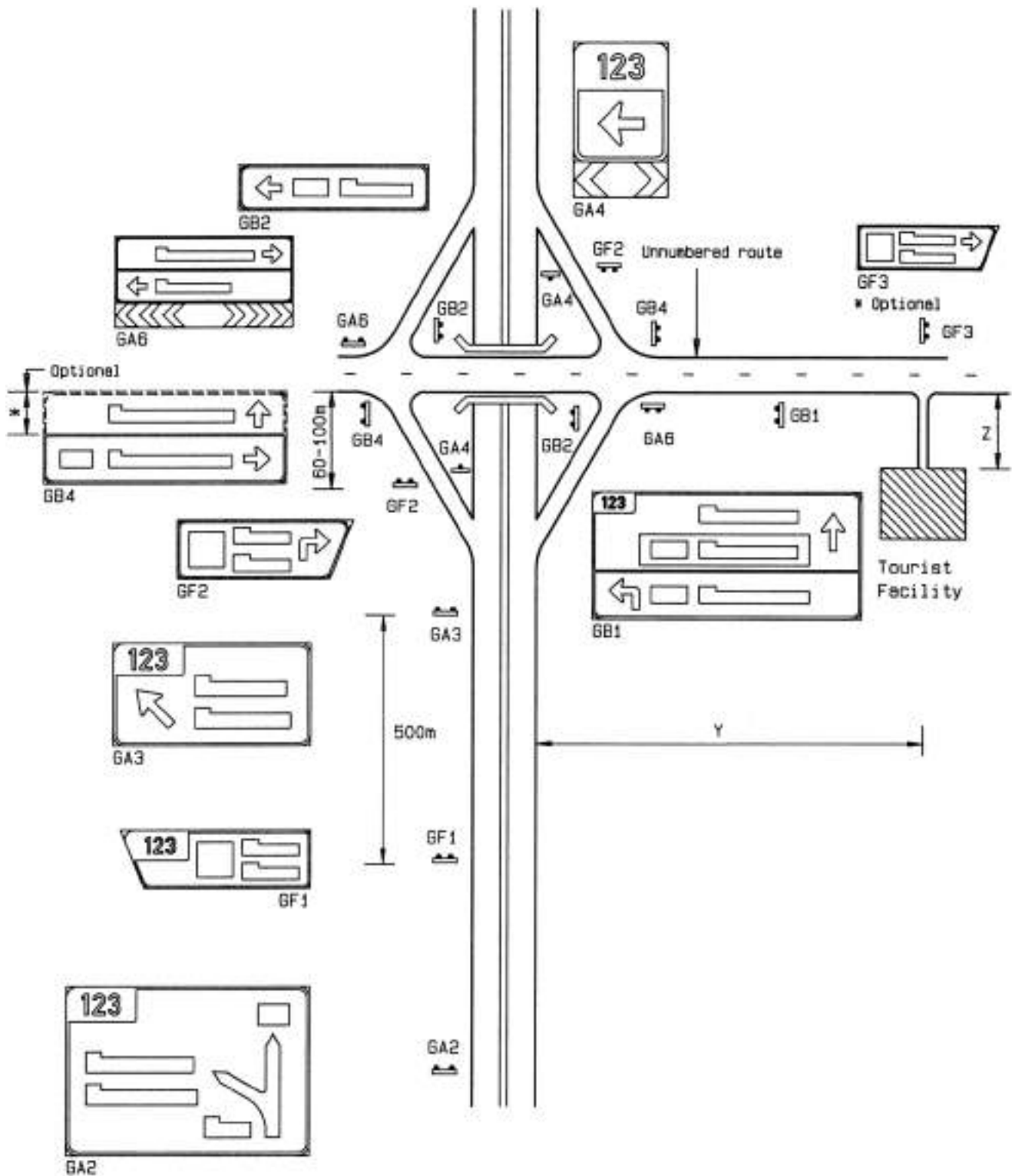
- 4 TOURISM signs shall have a unique BROWN background colour and all arrows, legend and border shall be white with a few exceptions. A few symbols, mainly in the EMERGENCY SERVICES group, such as Police, Hospital and SOS Telephone are used in colour to make them distinctive.
- 5 The only temporary TOURISM sign type is TEMPORARY ATTRACTION sign TGF17, commonly used to sign special events. TGF17 signs have a black matt background with yellow retroreflective border and lettering.

4.10.15 Retroreflectivity

- 1 It is recommended that all arrows, symbols, text and borders used on TOURISM signs be retroreflective. The use of retroreflective materials for background areas is optional.
- 2 The retroreflective materials used shall conform to the provisions laid down in Chapter 1.

4.10.16 Sign Numbering

- 1 Although there are relatively few different types of TOURISM sign, due to the considerable number of standard symbols and facility types a great many sign combinations are possible. The signs are numbered in a similar manner to other guidance signs, namely GF1,GF2,GF3 etc.
- 2 In order to accommodate the wide range of variations in signface type the basic sign number may be expanded by a simple supplementary number code.
- 3 The supplementary number code refers to the number of panels in a stack as follows (see also Volume 4, Chapter 7):
 - (a) GF1.1 (one panel- optional for GF1);
 - (b) GF1.2 (two panels);
 - (c) GF1.3 (three panels).



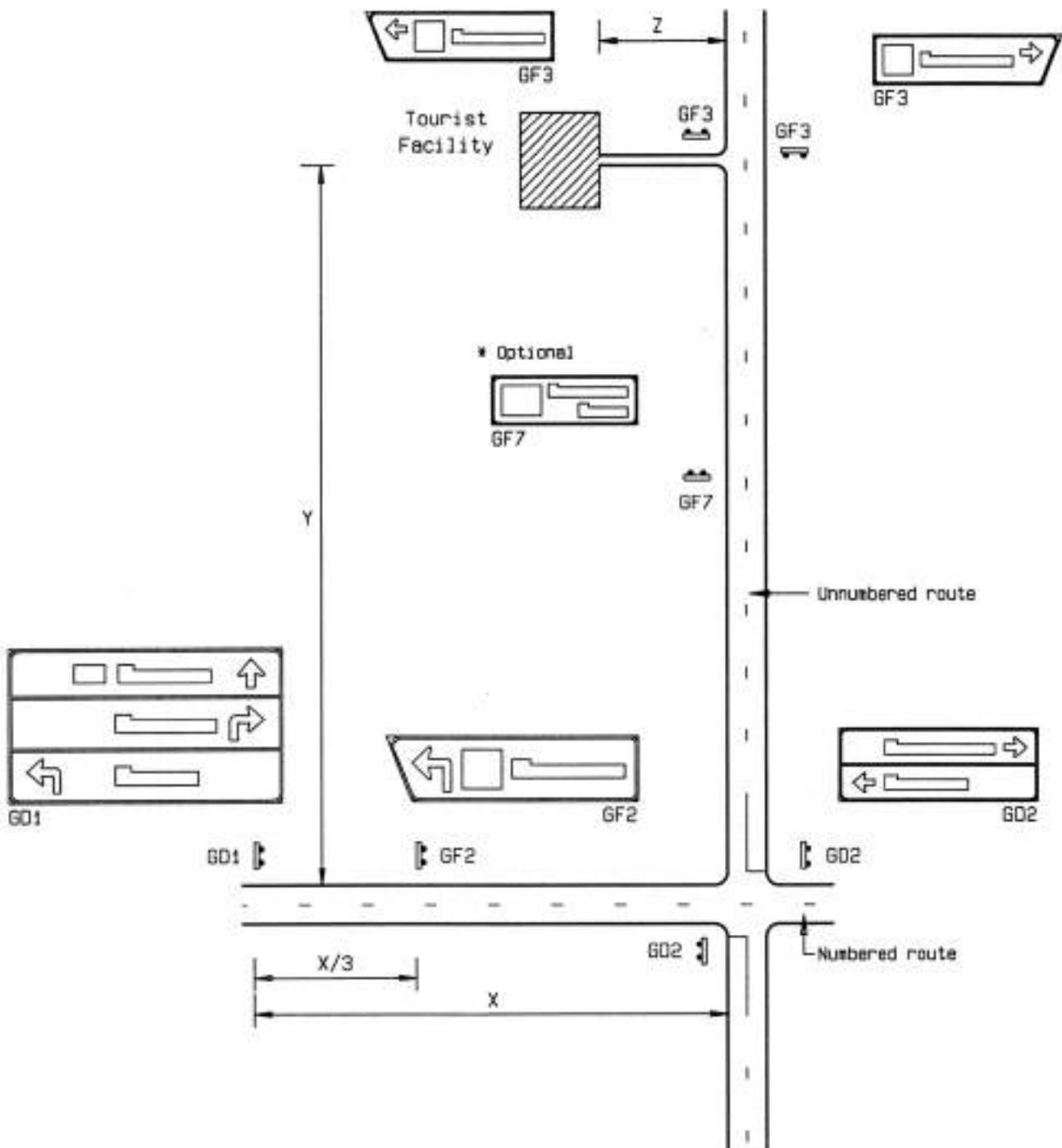
NOTES:

- (1) Values for distance "Y" + "Z" for which a sign maybe warranted are given in Volume 2, Chapter 4.
- (2) Access road distance "Z" may vary widely.
- (3) Signs GA2, GA3, GA4 and GA6 are standard FREE-

WAY DIRECTION signs.

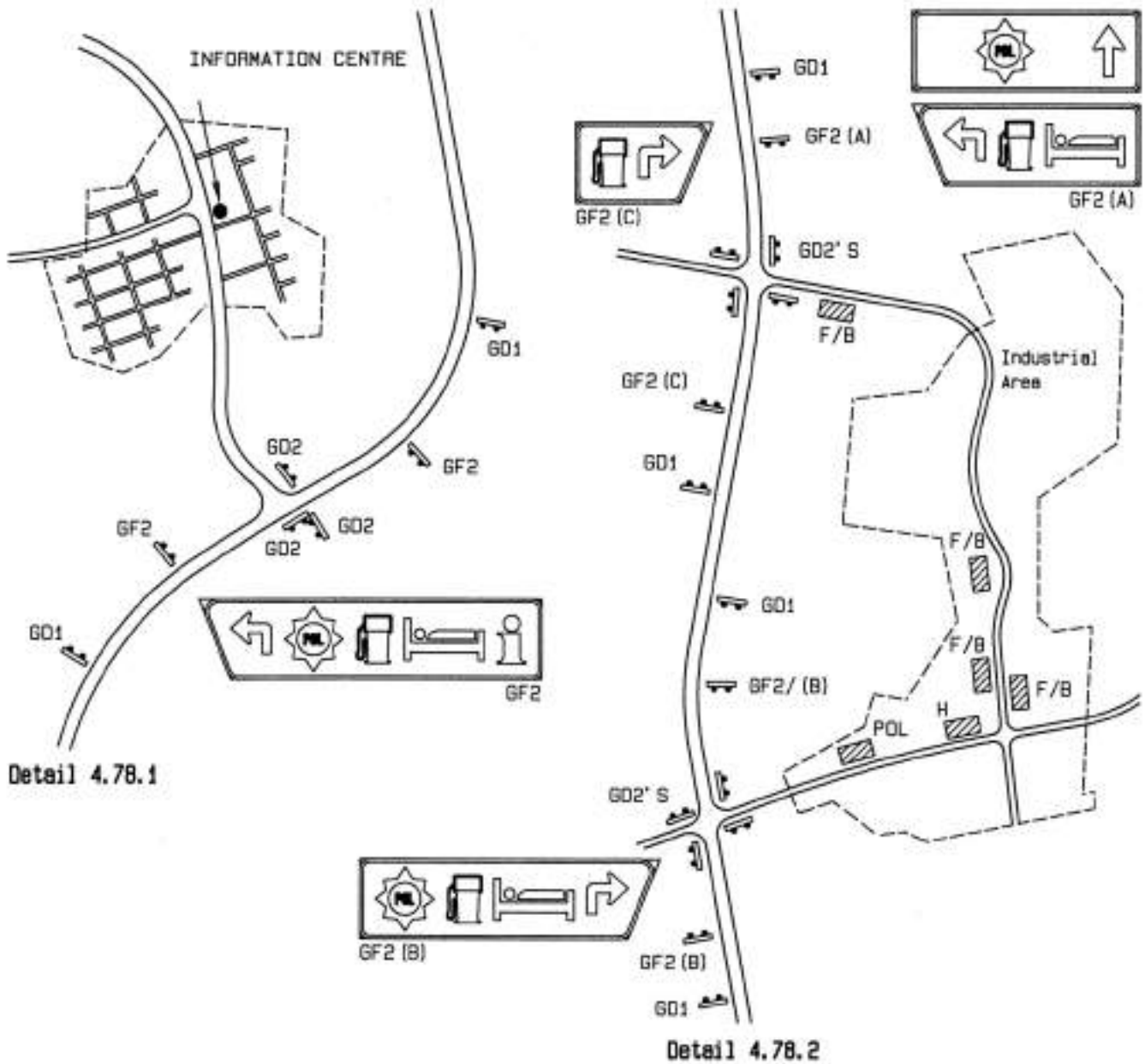
- (4) Where "Y" or "Z" is greater than 500 m, an advance sign GF2 may be provided on the cross road in advance of the final turn.

Fig 4.76 Tourism Signing Sequence-Class "A" Roads (Freeways)

**NOTES:**

- (1) Distance "X" is the standard advance locating distance for an ADVANCE DIRECTION sign GD1.
- (2) Values for distance "Y" + "Z" for which a sign may be warranted are given in Volume 2, Chapter 4.
- (3) Access road distance "Z" may vary widely.
- (4) Sign GD2 is a standard DIRECTION sign.
- (5) Where "Y" or "Z" is greater than 500 m, an advance sign GF2 may be provided in advance of the final turn.

Fig 4.77 Tourism Signing Sequence- Class "B", "C" or "D" Roads



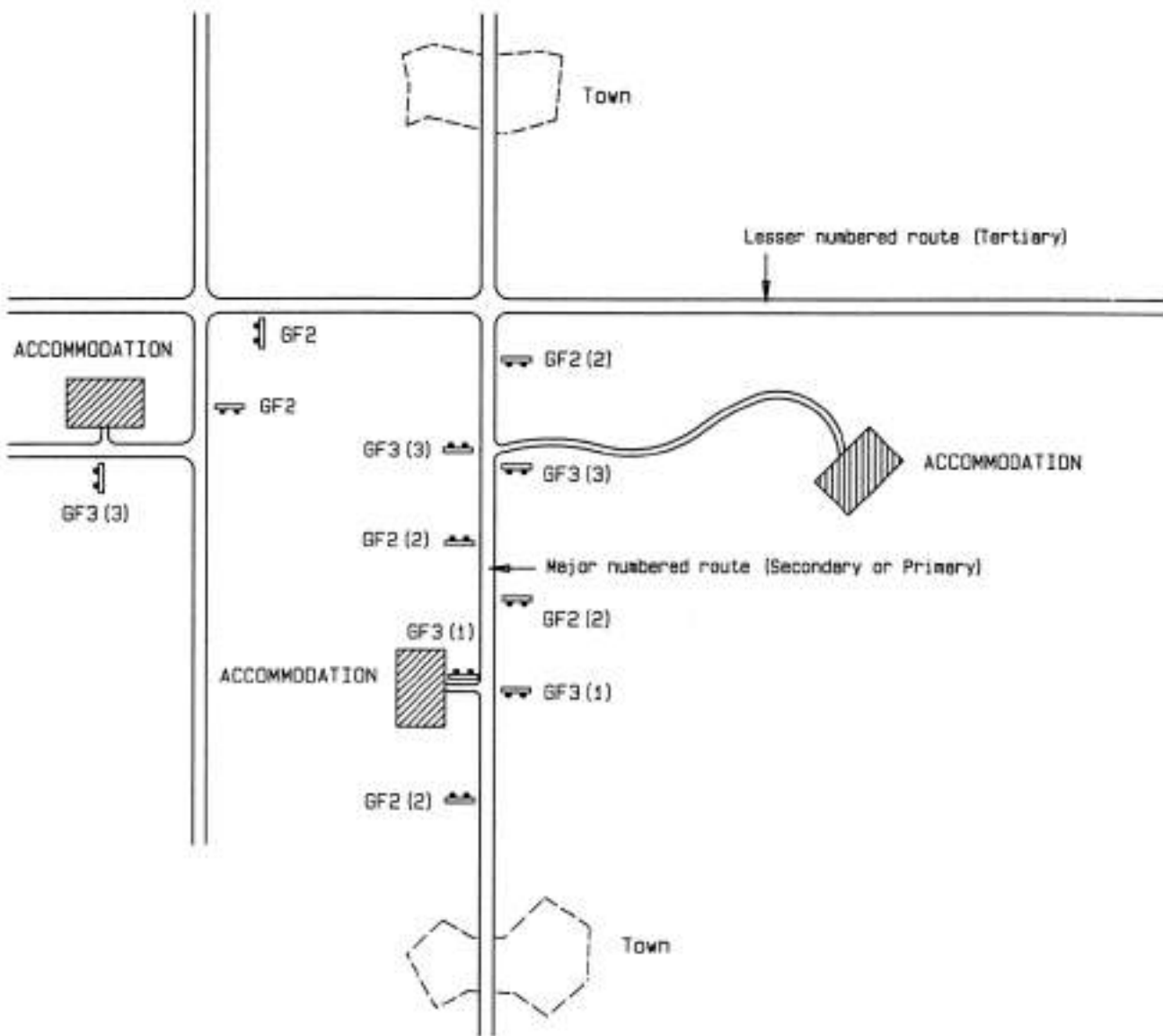
NOTES:

- (1) Detail 4.78.1 illustrates a single access by-passed town with the provision of an ADVANCE TURN tourism sign GF2 on each approach. If the town has many facilities of interest to tourists an INFORMATION CENTRE, BUREAU, or LAYBY should be provided approximately as indicated.
- (2) In Detail 4.78.2 sign GF2 (A) includes a straight-on stack so that drivers needing to reach Police service will be able to reach without having to travel through

the town. (The same could be done for the hotel accommodation if considered necessary). Sign GF2 (B) shows all facilities in both directions since the facilities are close-by. Sign GF2 (C) may be added because the fuel service is very close by. (NB- POL = Police; F- Fuel and H=Hotel).

- (3) See Figure 4.78 for details of Typical INFORMATION LAYBY.

Fig 4.78 Basic Principles- Tourism Signing for a By-Passed Town



NOTES:

- (1) FINAL TURN sign GF3 is optional.
- (2) ADVANCE TURN sign GF2 is desirable.
- (3) The provision of all tourism signs to accommodation facilities is subject to compliance with warrants.
- (4) Tourism signs should not normally be provided at the junction of two numbered routes. However, discretion may be exercised under the circumstances covered by paragraph 4.10.2.
- (5) Also refer to Figure 4.77.

Fig 4.79 Basic Principles - Tourism Signing for Accommodation

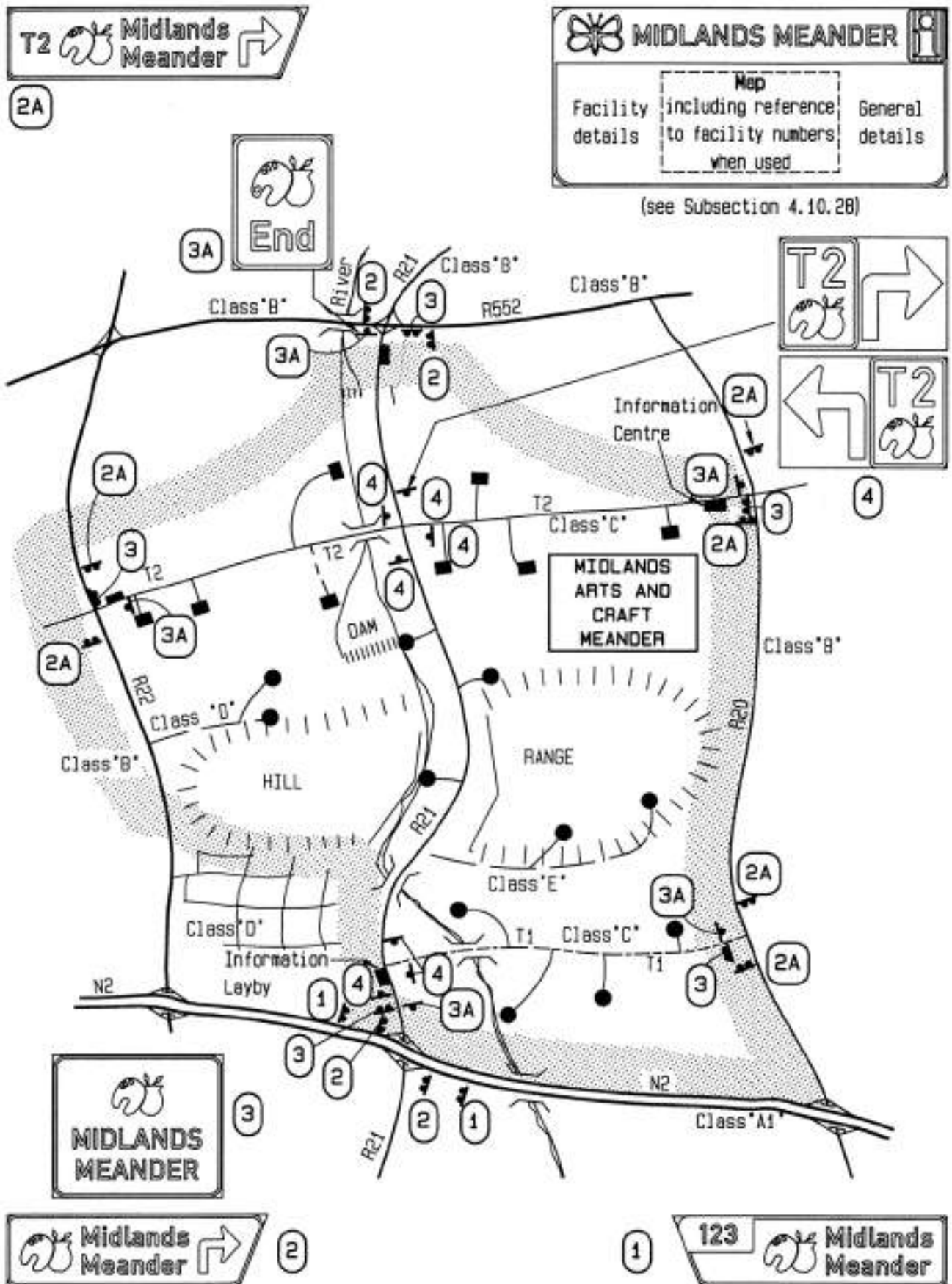
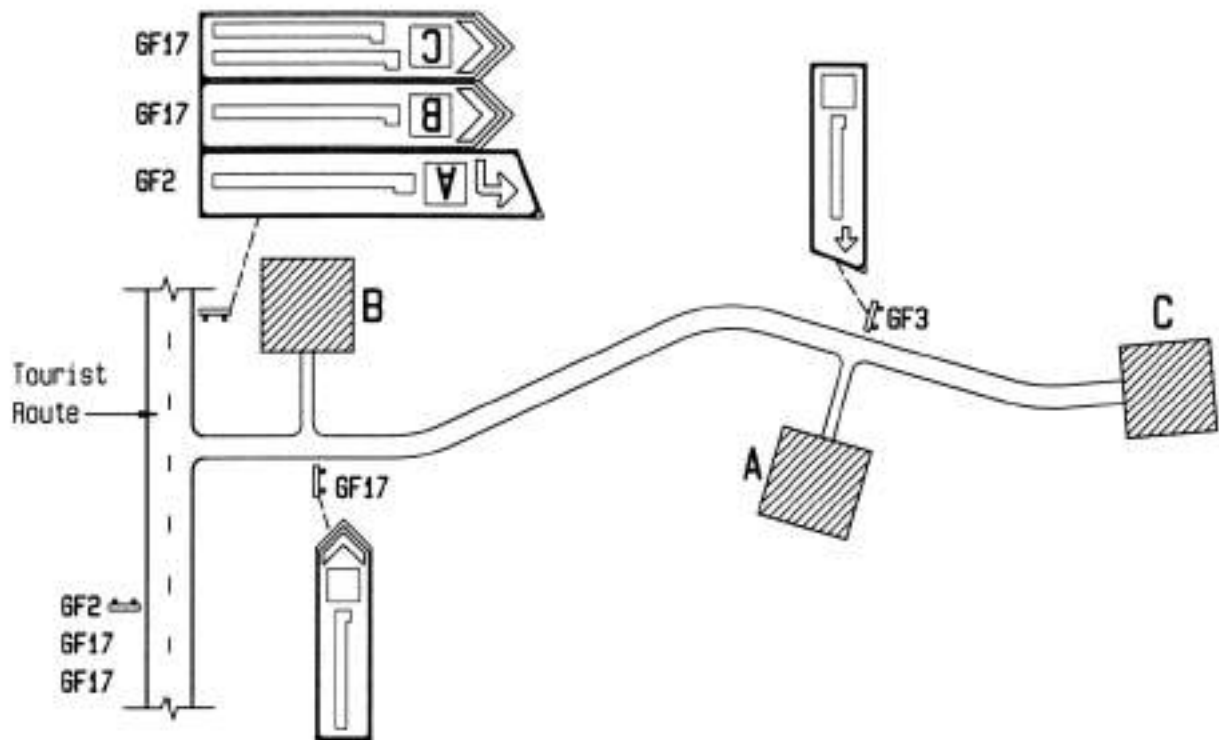
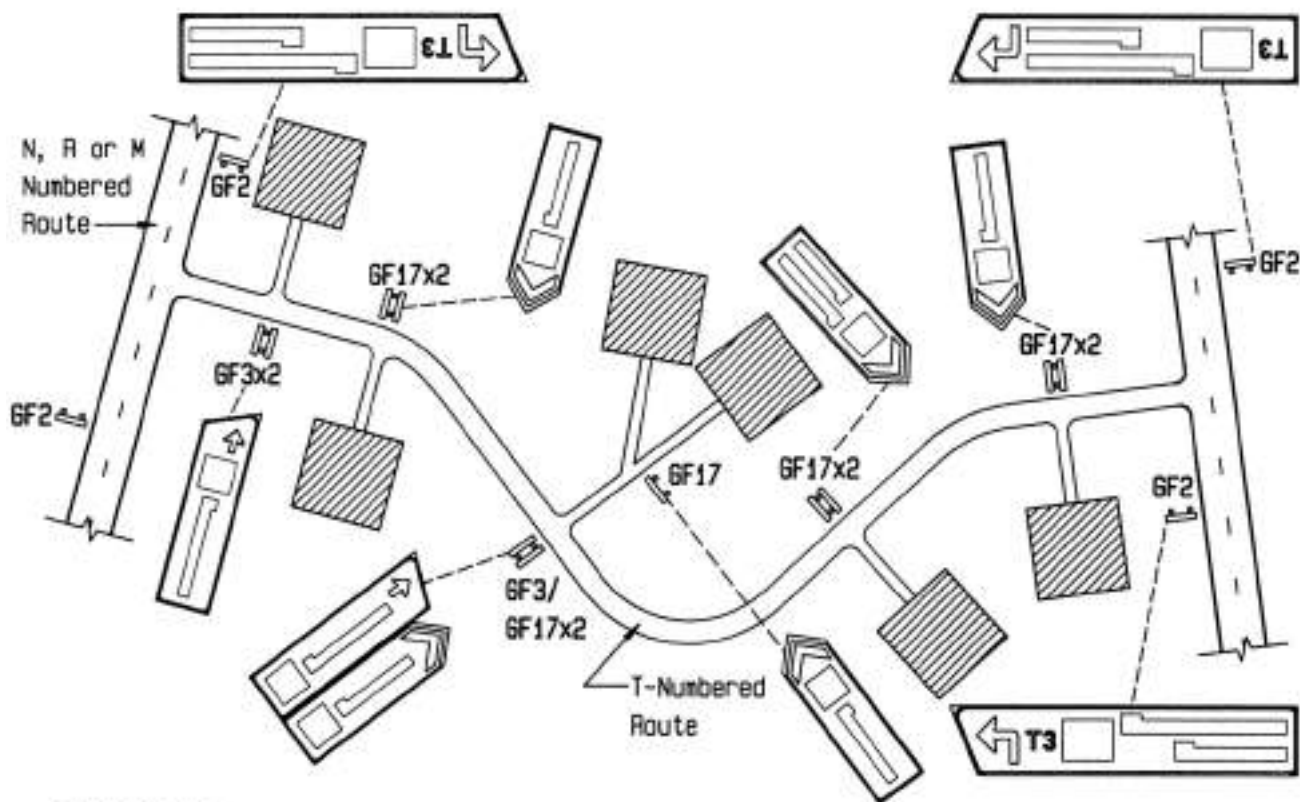


Fig 4.80

Signing of a High Density Tourism Area



Detail 4.81.1
Mixed Full-Time/Part-Time Facilities - Minor Dead End Road



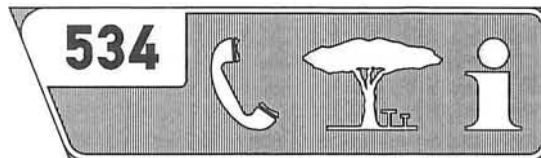
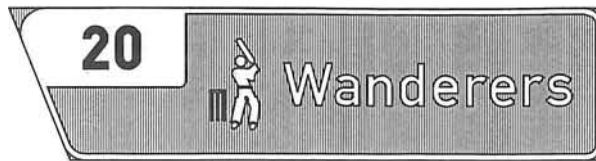
Detail 4.81.2
Mixed Full-Time/Part-Time Facilities - Tourist Route

Fig 4.81 Signing of Part-Time Facilities

FREEWAY ADVANCE EXIT

For dimensions
ref. Vol. 4
pages
7.2.1
to
7.2.14

GF1.1



COLOURS:
PERMANENT
Border & text: White retroreflective
Symbol(s): White or coloured retroreflective
(See Section 4.0)
-Background: Brown semi-matt or retroreflective
Interchange Number: Black semi-matt

4.10.17 Freeway Advance Exit

1 FREEWAY ADVANCE EXIT signs of the type GF1 are ground-mounted STACK-TYPE signs which may be used to supplement a freeway exit direction sign sequence **to give early guidance of a high speed exit at an interchange ahead, which serves a tourism facility or facilities, in addition to the Indicated destinations.** A GF1 sign shall not be used at a freeway system to system interchange. If a section of freeway has warranted the use of OVERHEAD direction signs the GF1 sign should be retained in its ground-mounted form unless this is not practical -

e.g.in a cutting provided with retaining walls or side space is otherwise limited.

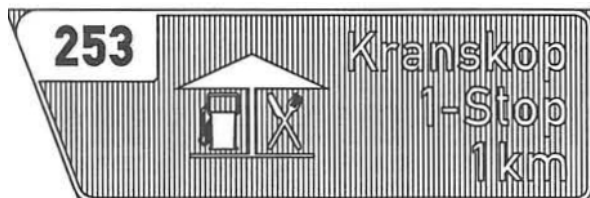
- 2 GF1 signs should be located on the left side of the roadway at a distance of 500 m to 600 m from the off-ramp exit point This should place the sign approximately half way between the FREEWAY ADVANCE EXIT DIRECTION sign GA2, and the FREEWAY EXIT DIRECTION sign GA3 located at the exit point If the position of the GA2 sign is significantly different to that recommended, the position of the GF1 sign may be adjusted accordingly. The position of the GF1 sign, as with any other freeway guidance sign, should be adjusted locally to allow for features such as crest vertical curves or bridge abutments which may tend to obscure it. The GF1 sign should not be located less than 300m from a GA2 or a GA3 sign.
- 3 A distance to the exit should not normally be included on a GF1 sign. However, when used to sign an exclusive exit to a roadside facility such as a Rest and Service Area, the GF1 sign may be located in the normal position of a GA2 sign. In this case the inclusion of the distance to

the exit, normally "1 km", is recommended. The inclusion of this distance on a GF1 sign for a named Rest and Service Area will commonly require that the signface contains three lines of text (see paragraph 4.10.9.4).

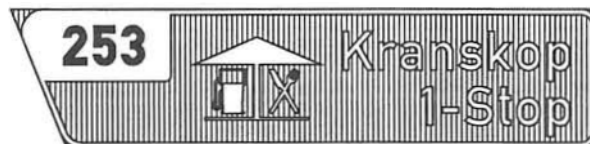
- 4 No arrow is displayed on GF1 sign. The GF1 sign shall always have a trapezoidal shape "pointing" to the left. If signing of an un-numbered high speed exit is required on a freeway the interchange number block should be replaced by a STACK-TYPE 2 arrow. Provision is made in Section 4.2 for the design of a sign which is installed initially without an interchange number but for which a number is anticipated within the life of the sign.
- 5 There is no difference in signface layout for GF1 signs for rural and urban applications as is the case with FREEWAY DIRECTION signs. The place name (town or city) shall not be used on a GF1 sign.
- 6 The information displayed on a FREEWAY ADVANCE EXIT sign GF1 may be wholly tourist attraction information or wholly tourist service information or it may comprise a combination of both types of tourism facility information. Figures 4.82 and 4.83 illustrate a range of permitted variations of signface design for GF1 signs.
- 7 A GF1 sign shall only comprise one STACK. This stack may contain up to three PANELS. Signface design principles are covered in Section 4.10.8. If two or three facilities of the same type require to be indicated this shall be accomplished within one PANEL or STACK using one common symbol. The symbol should be enlarged when three lines of text are required (see paragraph 4.10.9.4)



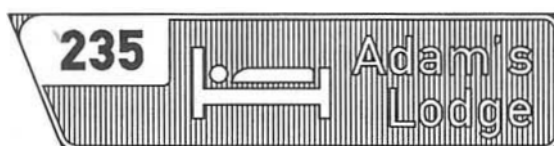
Detail 4.82.1



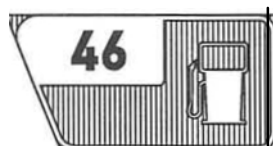
Detail 4.82.2



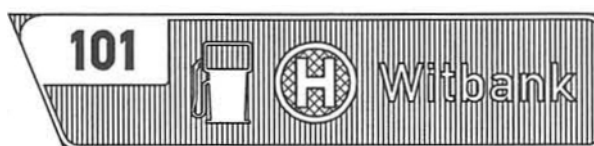
Detail 4.82.3



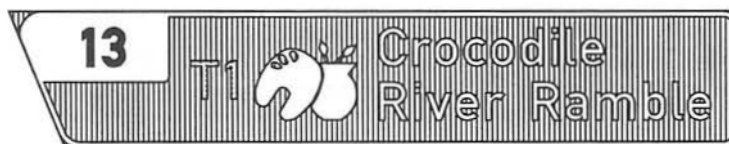
Detail 4.82.4



Detail 4.82.5



Detail 4.82.6



Detail 4.82.7



Detail 4.82.8



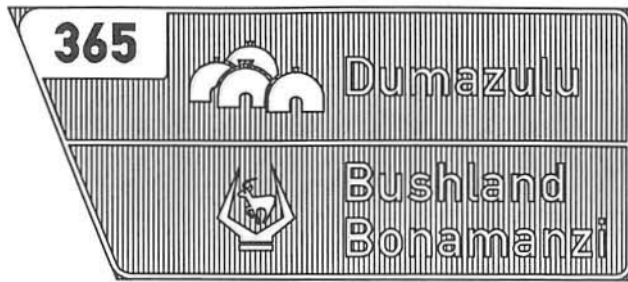
Detail 4.82.9

NOTES:

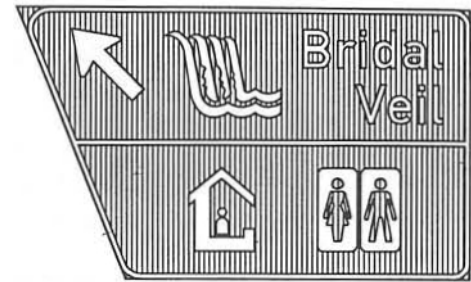
- (1) The examples illustrated in this Figure are all of single PANEL and single STACK signs. Further examples are given in Figure 4.83.
- (2) Principles illustrated are:
 - 4.82.1 - three facilities of the same type, left justified text, enlarged symbol for 3-line display;
 - 4.82.2- direct access advance exit sign to a Rest and Service Area with distance to exit;
 - 4.82.3 - direct access exit sign to Rest and Service Area;

- 4.82.4 - graded accommodation facility;
- 4.82.5 - single service available;
- 4.82.6- hospital symbol and name relocated to right side of other symbols (an emergency service normally should appear first from the left.)
- 4.82.7 - numbered tourist route;
- 4.82.8 - direct access advance exit sign to a Truck Rest and Service Area;
- 4.82.9 - direct access exit sign to Truck Rest and Service Area.

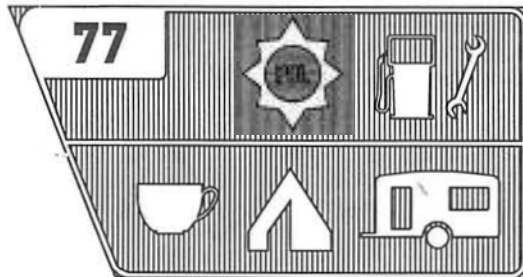
Fig 4.82 Permitted Variants of Freeway Advance Exit Signs - GF1.1



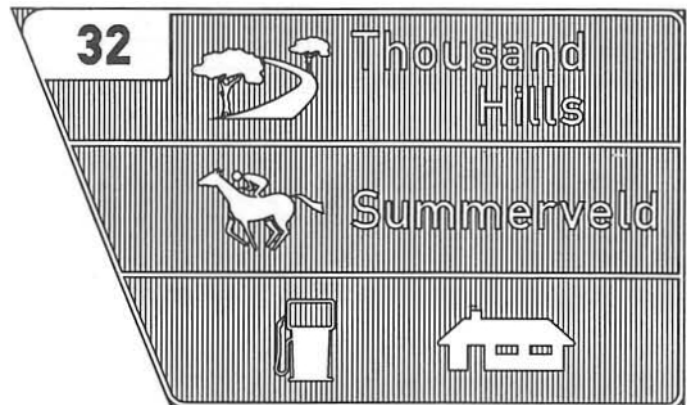
Detail 4.83.1



Detail 4.83.2



Detail 4.83.3



Detail 4.83.4



Detail 4.83.6

NOTES:

(1) The examples illustrated in this Figure are two and three PANEL single STACK signs.

(2) Principles illustrated are:

4.83.1 - two PANELS, both to Tourist Attractions, symbols centred on each other, text left justified;

4.83.2 - two PANELS, upper one to a "Tourist" facility and lower one to Tourist Services, no interchange number, service symbol spacings equalized;

4.83.3 - two PANELS, both to Tourist Services,

symbol order as per paragraph 4.10.8.8(g), symbols equally spaced in each PANEL;

4.83.4 - three PANELS, upper two to Tourist Attractions and lower one to Tourist Services;

4.83.5 - two PANELS, upper one with 3 destinations of one type of Tourist Attraction (note enlarged symbol), lower panel with Tourist Services.

(3) Example 4.83.1 shows correct right-over-left orientation for the ramp terminal but this is incidental. Other examples do not indicate orientation. This will be given by GF2 signs on the off-ramp.

Fig 4.83 Typical Examples of Panels on Freeway Advance Exit Signs - GF1

ADVANCE TURN

COLOURS

PERMANENT
Border, arrow
& text:

White retroreflective

Symbol(s):

White or coloured
retroreflective (See
Section 4.0)

Background:

Brown semi-matt or
retroreflective

GF2

For dimensions ref.
Vo/4
pages

7.2.15

to

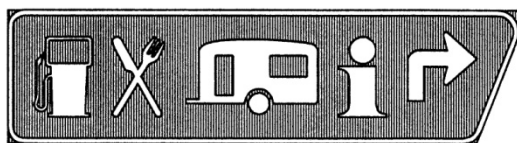
7.2.24

7.2.48

7.2.50

to

7.2.58

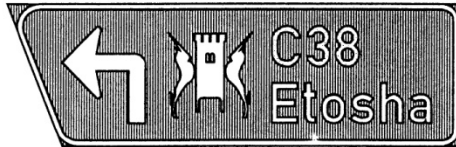


4.10.18 Advance Turn

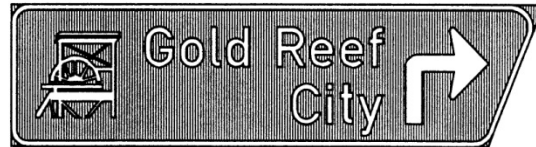
- 1 ADVANCE TURN signs of the type GF2 are ground-mounted STACK-TYPE signs which may be used to supplement direction signs on freeway off-ramps or on Class B, C or D roads **to give advance guidance that the junction ahead serves a tourism facility or facilities, in addition to the indicated destinations. GF2 signs may be used on their own when the junction ahead serves only a tourism facility.**
- 2 GF2 signs should be located on the left side of the roadway. When STACK-TYPE ADVANCE DIRECTION signs GD1 are used, the GF2 signs should be located beyond the GD1 sign, at a distance from the junction equal to two-thirds of the distance of the GD1 sign from the junction. On a freeway off-ramp similar conditions shall apply when an ADVANCE RAMP TERMINAL DIRECTION sign GA5 is used, subject to a minimum distance between signs of 60 m.
- 3 In special circumstances, at a junction where doubt might otherwise be created or where facilities exit to left and/or right and in the straight ahead direction, a GF2 sign may be used to indicate a straight ahead facility. Although this application does not involve a turn at the junction ahead, it is classified as an ADVANCE TURN sign for design purposes.
- 4 A distance to the turn should not normally be given unless the GF2 sign is being used in advance of a direct access Rest and Service Area in which case it is recommended that the sign be located 500 m to 1 km in advance of the access and the distance be indicated (see also Subsection 4.10.21).
- 5 A distance to the facility may be indicated on a GF2 sign when the distance is greater than might be expected by drivers, but not less than 5 km in the rural situation. Should the inclusion of a distance result in a requirement for three lines of text an enlarged symbol may be used (see Volume 4, Chapter 7). When several turns are required between the junction where a facility is first signed, and the FINAL TURN towards the facility is reached, a FOLLOW-UP variation of the GF2 sign may be utilized. This may be used on rural scenic routes or in urban areas. The FOLLOW-UP variation of the GF2 sign omits the use of a PRIMARY name but may include a distance, which may be less than 5 km.
- 6 Details of arrow types used on GF2 signs are given in Volume 4, Chapter 5. A GF2 sign shall display a STACK-TYPE 5 arrow when the display is for service(s) only and a STACK-TYPE 6 arrow for tourist attractions. When used for a straight ahead stack the GF2 sign shall use a STACK-TYPE 4 arrow.
- 7 The signface layout of GF2 type signs does not vary for rural and urban applications. However, the choice of letter size, on which the whole sign size is based, may vary considerably for high speed rural and low speed urban conditions. The choice of letter size is covered in the Section 4.4.
- 8 The information displayed on an ADVANCE TURN sign GF2 may be wholly for tourist attractions or wholly for services, or it may comprise a combination of both types of tourism facility. Figures 4.84 to 4.86 illustrate a range of permitted variations of signface design for GF2 signs.
- 9 A GF2 sign may comprise up to three STACKS, namely a straight-on stack, a right-turn stack and a left-turn stack, arranged vertically from top to bottom in this order, as for a STACK-TYPE ADVANCE DIRECTION sign GD1. These STACKS shall normally be mounted on common supports and shall have a clear vertical separation between stacks of 100 mm to 200 mm. A STACK may be subdivided into up to three PANELS but the total number of PANELS and/or STACKS used in one sign cluster shall not exceed three. When mounted on common supports it is recommended that all STACKS be made equal in length to the longest STACK. If a significant waste of sign area will result then the STACKS lengths may be made different.
- 10 Up to five service symbols may be displayed in one STACK up to a maximum stack length of 4000 mm. If a longer sign is required the symbols shall be re-arranged into two PANELS within the STACK. Symbols may be centred above/below each other or the spacing between symbols in one PANEL may be equalised.
- 11 When the GF2 sign is used in advance of a junction with a numbered route which serves only tourism destinations, the route number should be included on the GF2 sign in the text line above the name of the facility.



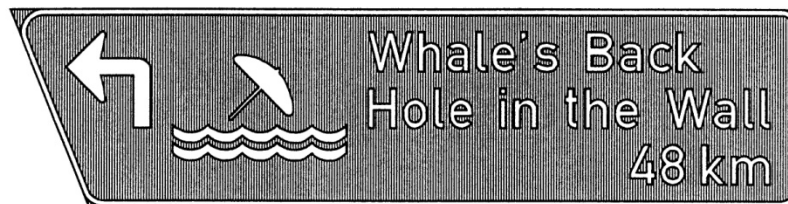
Detail 4.84.1



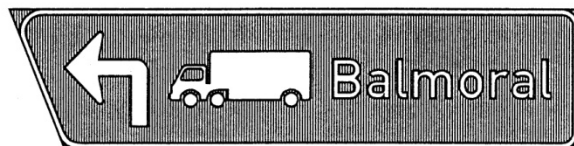
Detail 4.84.2



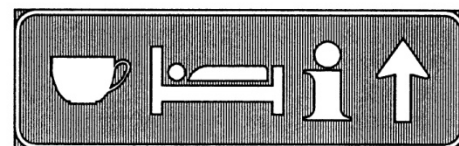
Detail 4.84.3



Detail 4.84.4



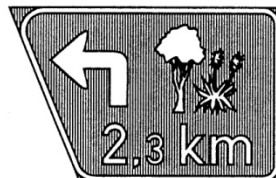
Detail 4.84.5



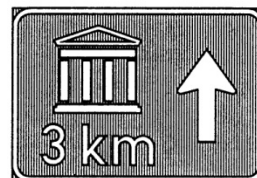
Detail 4.84.6



Detail 4.84.7



Detail 4.84.8



Detail 4.84.9



Detail 4.84.10

NOTES:

- (1) All examples are single PANEL single STACK signs. See Figure 4.84.
- (2) Principles illustrated are:
- 4.84.1 - straight-on advance sign with distance;
 - 4.84.2 - inclusion of route number- only destination a tourist attraction;
 - 4.84.3 - typical right justification into two lines;

- 4.84.4 - 3 lines including distance, enlarged symbol;
- 4.84.5 - named trucks - only rest area, symbol oriented in the direction of turn;
- 4.84.6 - "Services" only;
- 4.84.7 - follow-up sign, symbol only;
- 4.84.8 - follow-up sign, symbol plus distance;
- 4.84.9 - straight-on follow-up sign;
- 4.84.10 - advance sign for parking area.

Fig 4.84

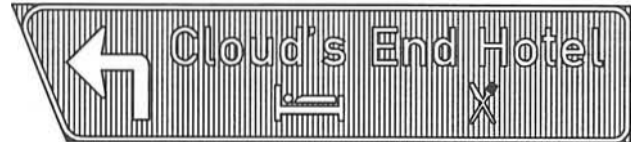
Permitted Variants of Advance Turn Signs - GF2



Detail 4.85.1



Detail 4.85.2



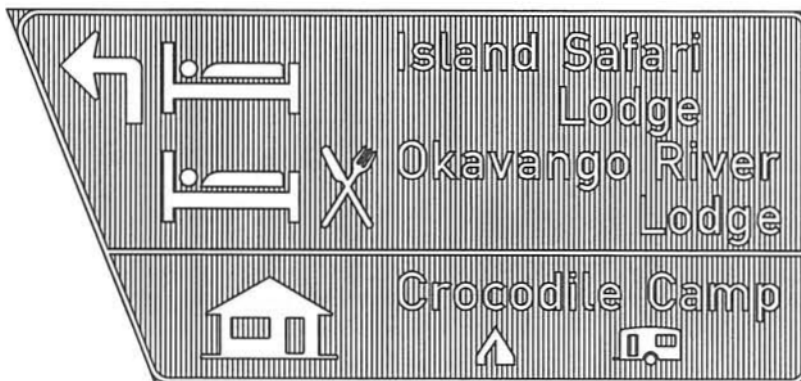
Detail 4.85.3



Detail 4.85.4



Detail 4.85.5

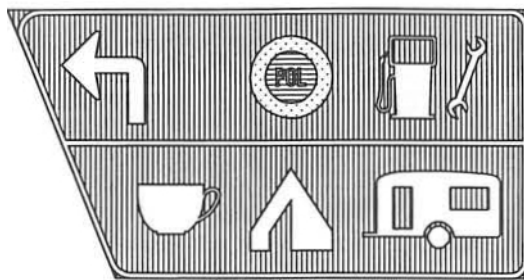


Detail 4.85.6

NOTES:

- (1) All examples illustrate options for the layout of ACCOMMODATION TOURISM signs including the use of the full name of the facility.
- (2) Principles illustrated are:
 - 4.85.1-accommodation with restaurant open to public - name in two lines- right justified;
 - 4.85.2-accommodation with no public restaurant;
 - 4.85.3-alternative layout using SUPPLEMENTARY SYMBOLS;
 - 4.85.4-three hotels in the same direction, with public restaurant - left justified;
 - 4.85.5-two hotels and a camp site (with chalets) in one direction - both hotels have public restaurants;
 - 4.85.6-alternative layout to Detail 4.85.5 - showing the need to separate the hotel symbols because on one has a public restaurant- the camp site indicates that its principal accommodation is chalets.

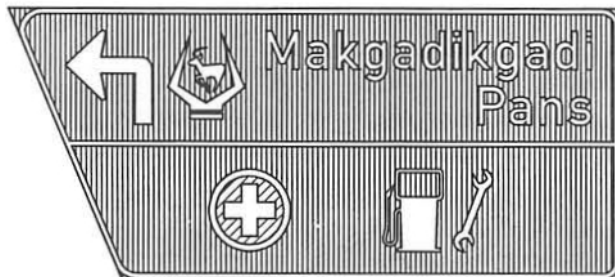
Fig 4.85 Accommodation Variants of Advance Turn Signs - GF2



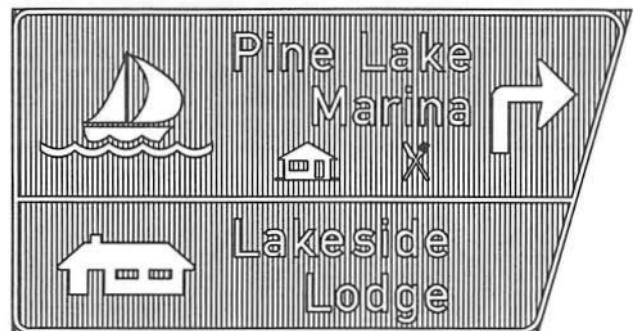
Detail 4.86.1



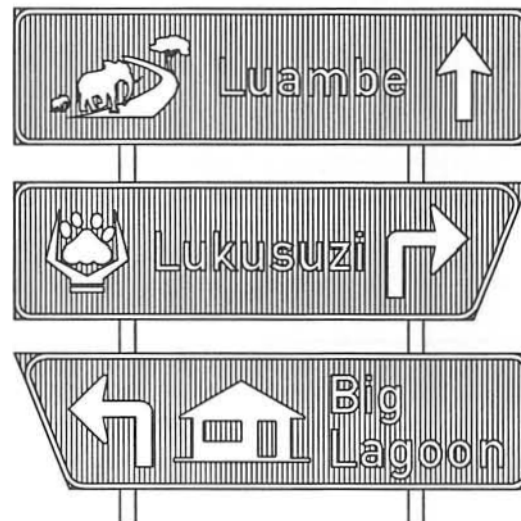
Detail 4.86.2



Detail 4.86.3



Detail 4.86.4



Detail 4.86.5

NOTES:

(1) Principles illustrated are:

- 4.86.1 - two PANELS, both to "Service" facilities ,next sign after Detail 4.84.3, all services in the same direction;
- 4.86.2 - two PANELS, two-part names right justified;
- 4.86.3 - two PANELS - top one Tourist Attraction, lower one Tourist Services;

4.86.4- two PANELS- both ACCOMMODATION examples;

4.86.5 - an example of three TOURISM DIRECTION sign stacks, with clear separation; stacks have been made the same length for aesthetic and mounting reasons ("Big Lagoon" stack dictates length); other stacks have internal spacings equalised to use up extra length; there is no attempt to justify text.

Fig 4.86

Typical Examples of Stacks and Panels on Advance Turn Signs - GF2

FINAL TURN

COLOURS:

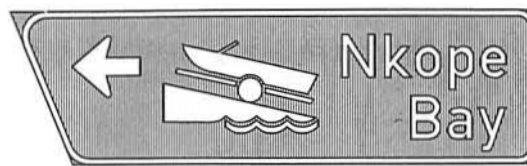
PERMANENT

Border, arrow & text: White retroreflective

Symbol(s): White or coloured retroreflective (See Section 4.0)

Background: Brown semi-matt or retroreflective

GF3



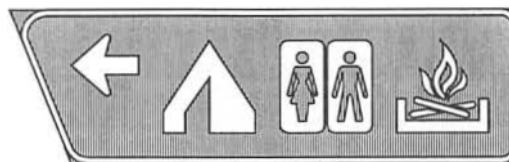
For dimensions
ref. Vo/4
pages

7.2.25
to

7.2.30

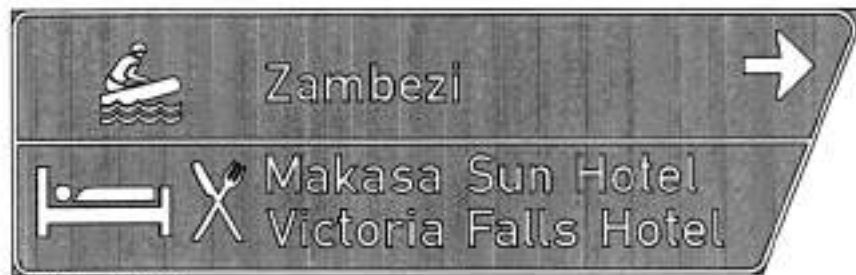
and

7.2.49



4.10.19 Final Turn

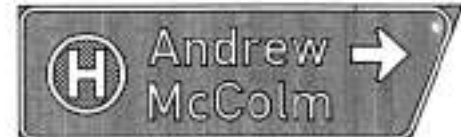
- 1 FINAL TURN signs of the type GF3 are ground-mounted STACK-TYPE signs which may be used **to indicate the final turn towards a tourism facility.**
- 2 GF3 signs should be located in the far left-hand corner of the junction, e.g. beyond the point at which the turning movement(s) will take place.
- 3 Sign GF3 should not be used if the facility and the turn-off is clearly visible from the approach road.
- 4 A distance to the facility may be included on a FINAL TURN sign GF3 when the facility is some distance from the junction or if the access road standard is significantly lower than that of the road approaching the final turn point. This distance should normally be greater than 5 km in rural situations but lesser distance may be indicated in urban areas, particularly in relation to such facilities as Police, hospitals or information laybys or centres.
- 5 If one or more FOLLOW-UP type GF2 signs have been used in advance of a FINAL TURN sign, the FINAL TURN sign should, when indicating a tourist attraction, re-introduce the PRIMARY name of the facility.
- 6 Details of arrow types used on GF3 signs are given in the Volume 4, Chapter 5. A GF3 sign shall display a STACK-TYPE 1 arrow for single PANELS and a STACK-TYPE 3 arrow for more than one PANEL. A straight on version of a GF3 sign should not normally be used. When signing facilities on lower classes of road the arrow may be omitted altogether as an economy measure.
- 7 GF3 signs should conform to the provisions of Subsection 4.10.8 and the additional provisions of Subsection 4.10.19 on ADVANCE TURN sign GF2. A range of typical examples is illustrated in Figure 4.86.
- 8 A GF3 sign may comprise up to two STACKS, namely a right-turn stack and a left-turn stack. These stacks shall normally be mounted on common supports with a clear vertical separation between stacks of 100 mm to 150 mm. A STACK may be subdivided into up to three PANELS but the total number of PANELS in a sign cluster shall not exceed three PANELS.



Detail 4.87.1



Detail 4.87.2



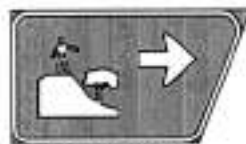
Detail 4.87.3



Detail 4.87.4



Detail 4.87.5



Detail 4.87.6



Detail 4.87.7

NOTES:

(1) Principles illustrated are:

- 4.87.1 - two PANEL combination with Tourist Attraction over Accommodation;
- 4.87.2 - three lines of text including a distance - enlarged symbol;
- 4.87.3- public access to hospital, name placed in two lines to shorten sign;

- 4.87.4- Truck Rest and Service Area;
- 4.87.5- omission of STACK-TYPE 1 arrow;
- 4.87.6- use of symbol on its own;
- 4.87.7- omission of STACK-TYPE arrow AND symbol only display.

Fig 4.87

Permitted Variants of Final Turn Signs - GF3

GORE EXIT

COLOURS:

PERMANENT

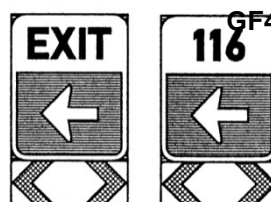
Border & arrow:	White retroreflective
Legend:	Black semi-matt
Background:	Brown retroreflective
Chevron:	Red retroreflective on white retroreflective

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4.10.20 Gore Exit

- 1 A GORE EXIT sign GF4 shall be used **to indicate to drivers the gore, or area of separation of the off-ramp from the main freeway carriageway, at the high speed exit from a freeway to a Rest and Service Area and to provide limited exit information in the form of the interchange or exit number, when allocated, or alternatively the word EXIT.**
- 2 GF4 signs, in combination with GORE CHEVRON sign, W414, shall be located within the nose area of the

gore as close to the end of the paved area as possible, consistent with adequate side clearance to the travelled way.

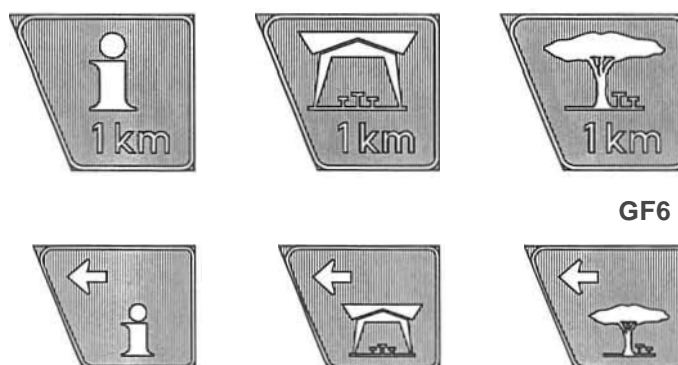
- 3 GF4 signs shall use a STACK-TYPE 3 arrow displayed in a horizontal position pointing to the left.
- 4 The size of GORE EXIT signs GF4 is fixed at 1600 mm wide and 1800 mm high. The CHEVRON sign should be 600 mm in height and 1600 mm wide resulting in an overall sign height of 2400 mm.

LAYBY

COLOURS:

PERMANENT

Border & arrow:	White retroreflective
Legend:	White retroreflective
Background:	Brown retroreflective or semi-matt



For dimensions

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7.2.32

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4.10.21 Layby

- 1 LAYBY ADVANCE signs GF5, and LAYBY TURN-IN signs GF6, are ground-mounted signs which may be used **to give guidance to drivers regarding the existence of a roadside layby ahead, and to indicate the point of entry to the layby, respectively.**
- 2 GF5 signs should be located on the left side of the road at a standard distance of 1 km or 3 km in advance of the roadside layby.
- 3 GF6 signs should be located on the left-side of the road at the point of entry to the layby. Wherever possible the sign should be located beyond the point of TURN-IN to the layby but if no suitable position is available the sign should be located immediately before the layby. A GF6 sign should not be used unless preceded by a LAYBY ADVANCE sign GF5.
- 4 GF5 signs include a fixed distance of 1 km in the signface display. If it is appropriate the distance displayed may be increased to 3 km. No arrow shall be used on a GF5 sign.

- 5 GF6 signs use a STACK-TYPE 1 arrow and shall not indicate any distance.
- 6 The LAYBY ADVANCE signs GFS and the LAYBY TURN-IN signs have a standard size for a given letter size irrespective of the symbol used. GF5 and GF6 signs are most commonly used to sign roadside Rest Areas of Classes 1 and 2 (facilities which are not named Rest and Service Areas) using symbols GFS 86-1 and GFS 86-2 respectively.
- 7 GF5 and GF6 signs may also be used for other roadside laybys providing tourist information (symbol GFS 85-8) for curio shop or farm stall (symbol GFS 85-12), or in remote areas, drinking water (symbol GFS 85-4). Roadside information laybys may also be provided with a TOURIST INFORMATION BOARD which may take on a wide variety of layouts but should utilise the tourism sign colour code and incorporate the TOURIST INFORMATION symbol GFS 85-8 displayed in the top right-hand corner (see Subsection 4.10.28).

CONFIRMATION

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GF7



COLOURS:

PERMANENT

Border:

Legend:

Background:

White retroreflective
White retroreflective
Brown retroreflective
or semi-matt

4.10.22 Confirmation

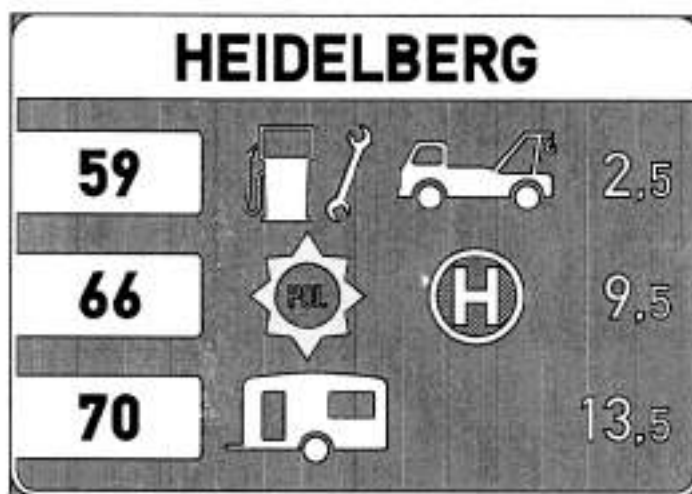
- 1 CONFIRMATION signs GF7 may be used **to give reassurance or confirmational guidance to drivers that they are travelling towards the tourist facility of their choice and that it is located at the distance indicated.**
- 2 GF7 signs are not recommended for general use. Their use should be reserved for situations where a tourist facility is located some significant distance along a road and when the facility is the only public destination on that road.
- 3 In rural situations sign GF7 should not be repeated at regular intervals along the final approach road to the facility. The use of GF7 signs in urban areas may offer a useful compact sign to reassure drivers seeking, for instance, an INFORMATION CENTRE, particularly in a by-passed town.
- 4 GF7 signs should be located on the left side of the roadway and a short distance beyond a road junction. The distance from the junction should range between 30 m in urban areas, to 60 m in rural areas.
- 5 GF7 signs differ from CONFIRMATION signs of the type GD3 in that the distance should be indicated below the facility name and should be followed by the letters "km". Due to its limited application a GF7 sign should normally only indicate the name of one tourist facility and should not normally include the display of a route number unless the sign is indicating the only destination along a numbered route. If a route number is displayed it should be centred above the tourism message (see Volume 4, Chapter 7).

SERVICE EXIT SEQUENCE

GF8.3

COLOURS:
 PERMANENT
 Border: White retroreflective
 Symbols: White or coloured retroreflective
 (See Section 4.0)
 Interchange Number: Black semi-matt
 Place name: Black semi-matt
 Background: Brown semi-matt or retroreflective

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 pages
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4.10.23 Service Exit Sequence

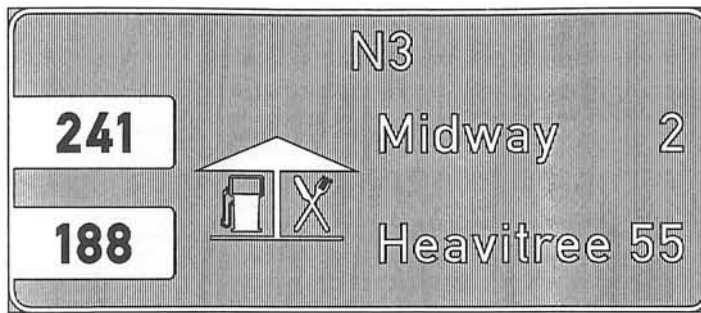
- 1 A SERVICE EXIT SEQUENCE sign GF8.2 or GF8.3 may be used **to provide guidance, in advance of a number of freeway exits as to the service facilities available at these exits, or adjacent to them.**
- 2 This sign should be reserved for freeway by-pass situations where a wide range of service or accommodation facilities are available at a number of exits on the by-pass.
- 3 GF8 type signs should be located on the left side of the roadway at a distance of 2 km to 4 km from the first exit which has service facilities. Care should be exercised to achieve adequate separation from other DIRECTION signs. In a metropolitan environment, it may be advantageous to locate a GFB sign a short distance from a systems interchange on the exit side.
- 4 GFB signs may display service information related to two or three sequential interchanges on a section of roadway. When there are many interchanges on a section of road, consideration may be given to providing GF8 signs systematically along the section. Inter-
 - changes at which services are not available need not be indicated on GF8 signs.
- 5 The information given on a GFB sign should comprise:
 - (a) the town or city name in the top panel (LOCATION information);
 - (b) the interchange numbers for the next two or three interchanges in sequential order from top to bottom on the left side of the sign;
 - (c) up to three service symbols at each of the different exits;
 - (d) the distances from the sign to each interchange exit point without the letters "km".

A SERVICE EXIT SEQUENCE sign shall NOT display any PRIMARY names e.g. hospital or hotel. These PRIMARY names may be used in the normal way on subsequent GF1, GF2 and GF3 signs.
- 6 The general rules relating to symbol order as given in Subsection 4.10.8 shall be adhered to.

REST AND SERVICE SEQUENCE

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GF9.1



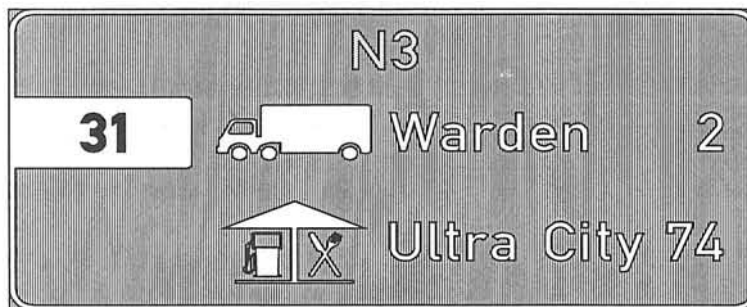
COLOURS:

PERMANENT

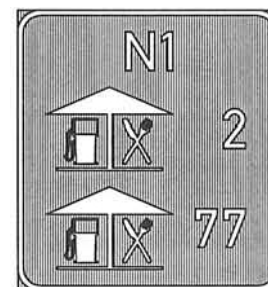
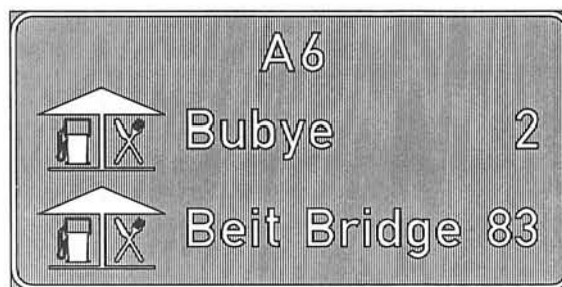
Border & legend: White retroreflective
Symbols: White or coloured retroreflective (See Section 4.3)

Route number: Yellow retroreflective
Interchange: Black semi-matt

Number: -
Background: - Brown semi-matt or retroreflective



GF9.2



4.10.24 Rest and Service Sequence

- 1 A REST AND SERVICE SEQUENCE sign of the type GF9.1 or GF9.2 may be used **to provide early guidance to drivers along a route, as to the distances to the next two places where Rest and Service Area facilities are available.**
- 2 The use of this sign should be reserved for sections of freeway or class B route on which Rest and Service Areas have been provided at regular intervals.
- 3 GF9 type signs should be located on the left side of the roadway systematically along a route. Depending on the spacing of the Rest and Service Areas a sign spacing of not less than 50 km is recommended based on the closest sign to a facility being located 2 km in advance of the facility.
- 4 If a route has been allocated interchange or junction numbers, these should appear on the left side of a Rest and Service Sequence sign as illustrated by sign type GF9.1. If no numbers have been allocated sign type GF9.2 should be used.
- 5 The information given on a GF9.1 sign should comprise:
 - (a) the route number at the top of the sign;
 - (b) the interchange numbers for the next two interchanges or junctions serving Rest and Service Areas, in sequential order, from top to bottom, on the left side of the sign;
 - (c) the appropriate symbols;
 - (d) the names of the Rest and Service Areas, including trucks only facilities;
 - (e) the distances from the sign to each interchange exit point to the nearest kilometre, without the use of the letters "km".
- 6 The information given on a GF9.2 type sign should comprise:
 - (a) the route number at the top of the sign;
 - (b) the appropriate symbols;
 - (c) the names of the Rest and Service Areas, including

trucks only facilities (use of this information is optional- it may be omitted to reduce sign area);

- (d) the distance from the sign to each interchange exit point, to the nearest kilometre, without the use of the letters "km".
- 7 It should be noted that, due to the relatively large distances between Rest and Service Areas, signs may possibly be located so that the Rest and Service Areas referred to on one sign may straddle a provincial boundary

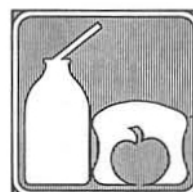
In this case the interchange numbers will jump from a low value to a high value, or vice versa, because the interchange numbering policy is based on these numbers starting from zero at each provincial boundary for any route crossing from one province to another.

- 8 If two sequential facilities are of the same class then these may be linked to one common symbol rather than two.

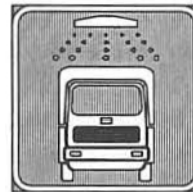
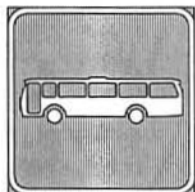
REST AND SERVICE "TOTEM"

GF10

COLOURS:
 PERMANENT
 Border. White retroreflective
 Arrow & symbol: White retroreflective
 Background: (1) Brown retroreflective
 (2) Green or blue retroreflective
 Route number. Yellow retroreflective (with background (2))



For dimensions
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4.10.25 Rest and Service "Totem"

- 1 REST AND SERVICE "TOTEM" signs in the GF10 series may be used within a Rest and Service Area **to guide users of the area towards the specific facility they require.**
- 2 The GF10 type of sign shall only be used within a Rest and Service Area. It is common that within such Rest and Service Areas facilities are segregated by vehicle class -
 e.g. light vehicles and heavy vehicles.

Different levels of facility may also be provided according to the needs of the different vehicle classes. To cater for this flexibility a standard sign measuring 600 mm x 600 mm shall be used for each message (symbol). A wide range of symbols and arrows are available and a sign indicating the adjacent roadway route number may also be used. Each square sign may be specified for manufacturing purposes by the number

GF10 followed by a suffix giving the symbol number (see Volume 4, Chapter 7 for symbol numbers and examples of sign clusters).

- 3 GF10 signs should be mounted in vertical or horizontal clusters in a "TOTEM" fashion. They may be located in any suitable position for maximum effectiveness.
- 4 Arrow examples use STACK-TYPE 1 arrows or STACK-TYPE 5 arrows.
- 5 Route numbers should be indicated in the largest possible letter size. A route number comprising a designatory letter plus two numerals will normally fit at a 280 mm letter size. Due to the low speed environment of Rest and Service Areas the use of DIN 1451 Style "A" lettering may be used.
- 6 Detailed examples of internal REST AND SERVICE "TOTEM" signing is given in Volume 2, Chapter 4.

ROADSIDE EMERGENCY SERVICE

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GF11



GF12



COLOURS:

PERMANENT

Border & arrow: White retroreflective

Legend: White retroreflective

Symbol: Full colour

(See Section 4.0)

Background: Brown retroreflective

GF13



GF14



4.10.26 Roadside Emergency Service

- ROADSIDE EMERGENCY SERVICE signs GF11, GF12 and GF13 may be used on a roadway **to indicate to drivers the existence, position of, and turn-in point to, SOS telephone sites or temporary emergency field units**. In addition, sign GF14 may be used to **indicate that the last SOS telephone site on a section of roadway is 1km ahead**.
- EMERGENCY SERVICE SPACING sign GF11, EMERGENCY SERVICE ADVANCE sign GF12 and LAST EMERGENCY SERVICE sign GF14 should be located on the left side of the roadway. These signs should be positioned well away from DIRECTION signs if at all possible. The distance on sign GF12 may be reduced to 300m if necessary. This may be particularly appropriate if an SOS telephone has been provided within a freeway interchange.
- EMERGENCY SERVICE TURN-IN sign GF13 should also be located on the left side of the roadway just before the turn-in to the SOS telephone layby or the area being used for a temporary emergency field unit. This sign uses a STACK-TYPE 1 arrow inclined in the direction of the layby.
- Temporary emergency field units may be established alongside major tourist routes during peak holiday traffic periods to reduce emergency service response times. FIRST AID symbol GFS 81-4 may be used on signs of the types indicated to advise drivers of the position of the field unit.

PARKING

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GF15



COLOURS:

PERMANENT

Border:

Symbol:

Background:

White retroreflective

White retroreflective

Brown semi-matt or

retroreflective

4.10.27 Parking

- PARKING sign GF15 may be used **to indicate to drivers the availability of a parking service free of restriction or limitation**.
- GF15 signs should be used to **identify** parking areas which offer a parking service and which are open to the public free of any charge or time restriction. Such parking areas could range from an area provided at some tourist attraction such as a lookout point or a small beach to a major car park at a regional shopping centre or at an airport.
- ADVANCE TURN GF2 or FINAL TURN GF3 TOURISM service signs displaying GENERAL SERVICES PARKING symbol GFS 85-1 may be used, according to the criteria relevant to the use of such signs, to indicate the **direction to free and charged and/or time restricted parking areas**.
- Charged or time restricted parking areas shall be controlled by PARKING RESERVATION regulatory signs which are colour coded white on a blue background.

TOURIST INFORMATION

COLOURS:

PERMANENT

Border:	White retroreflective
Symbols:	White retroreflective
Background:	Brown semi-matt or retroreflective

GF16

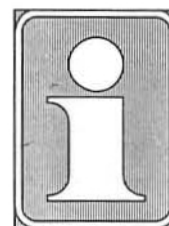
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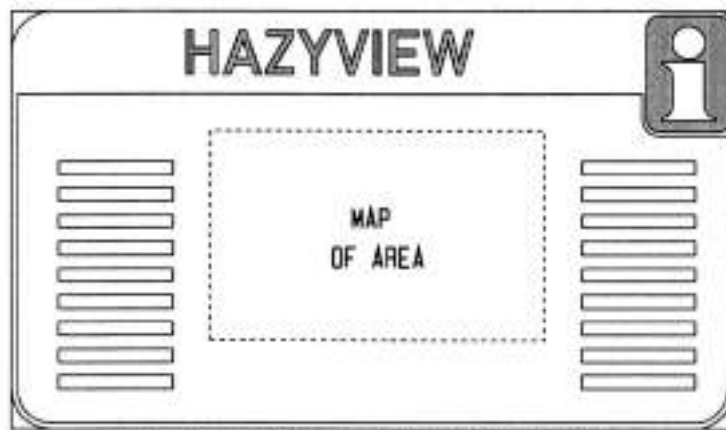
7.2.44

7.2.45

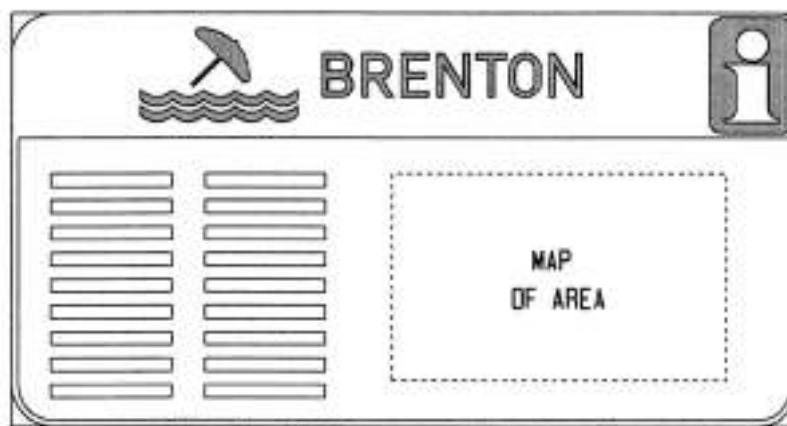


4.10.28 Tourist Information

- TOURIST INFORMATION sign GF16 may be used **to indicate to drivers the availability of a tourist information service either at a comprehensive TOURIST INFORMATION CENTRE or BUREAU or at a roadside TOURIST INFORMATION LAYBY**. The sign may be incorporated into the face of an INFORMATION BOARD provided at the information facility. In smaller centres local publicity associations commonly provide a tourist information function. Such associations should be encouraged to display sign GF16 mounted in such a way as to be visible to approaching drivers. This may include mounting on the wall of the building in which the association is located, at 90° to the wall. However, the use of sign GF16 should only be warranted if basic tourist information for the area is available on a 24 hour basis. The information displayed must be amended from time to time to include new tourist facilities and it must also be regularly updated for detailed changes such as telephone numbers, opening hours etc (see paragraphs 4.10.28.10 to 4.10.28.14).
- The need to provide tourist information will generally result from an inability or impracticality to sign all tourist attractions and services which might warrant signing in a particular region, area or town, until in close proximity to the facility. The existence of a great many facilities in an area can create confusion amongst tourists and the numbers may be so great that even a reasonably detailed map of the area cannot satisfy drivers' needs (see paragraph 4.10.28.6).
- Motivation for the provision of one or more TOURIST INFORMATION CENTRES, BUREAUX or LAYBYS in an area will require a co-ordinated planning effort by the Regional Tourist Liaison Committee in the area (including the responsible road authority). It is likely that the cost of providing a facility may have to be shared. Before going to the expense of providing a centre or layby a survey of the needs of the area should be undertaken and a co-ordinated plan prepared to ensure that the information centres are provided in the most effective positions, and if several are required that they are provided in a systematic manner.
- Limitations have been laid down regarding the amount of tourist service information which may be provided on TOURISM signs at access points to by-passed towns (see Subsections 4.10.1 and 4.10.10). When there is a significant amount of additional information required in relation to tourist attractions available in such a town it is to be expected that the town authorities would wish passing tourists to be aware of all these facilities since the tourist activity is likely to contribute to the financial well-being of the community. To satisfy these demands a TOURIST INFORMATION LAYBY may offer a suitable compromise. Such a layby must be constructed in a safe manner and to acceptable standards (see Figure 4.88). Guidelines for the provision of TOURIST INFORMATION LAYBYS at by-passed towns are given in Volume 2, Chapter 4: *Tourism Signing*.
- Metropolitan areas, by virtue of their size, are likely to have many tourist attractions of regional or even national importance. It is often difficult to find space to provide DIRECTION signs at least in parts of such areas. It is therefore likely to be even more difficult to provide adequate TOURISM signs. Ultimately the provision of a network of TOURIST INFORMATION CENTRES, BUREAUX and/or LAYBYS is likely to be the most cost effective way of satisfying tourists' needs in this type of environment. It is recommended that these be provided on a systematic basis. They should be named or numbered and each should include reference to adjoining centres or laybys. Sites for centres or laybys located in suitably conspicuous positions that will enable the centres to function effectively are likely to be difficult to find in developed areas. Local authorities should consider combining an information facility with some other easily accessible facilities such as service stations, rest and service areas or public open spaces.
- There are a number of areas in Southern Africa which are intensively travelled by tourists. As tourist numbers grow so will the randomness of travel and therefore the pressure for tourist information. It is recommended that these areas be developed into HIGH DENSITY TOURIST AREAS and that each area be provided with a strategically located TOURIST INFORMATION CENTRE, BUREAU or LAYBY and that each of these include reference to adjoining centres or laybys. The use of collective "area" symbols may be of advantage to keep signface displays to reasonable dimensions (see Subsection 4.10.12 and Figure 4.89).
- TOURIST INFORMATION CENTRES, BUREAUX or LAYBYS provided in any of these circumstances MUST be indicated on maps of the areas as soon as this is practical.
- Primary objectives of providing TOURIST INFORMATION CENTRES, BUREAUX or LAYBYS are:
 - to maximise the effectiveness of the basic navigational system by increasing awareness of the route numbers in the area and destination names used on DIRECTION signs;
 - to centralise the information sources for the benefit of all tourist users;



Detail 4.88.1 - Without Theme Symbol



Detail 4.88.2 - With Theme Symbol

NOTES:

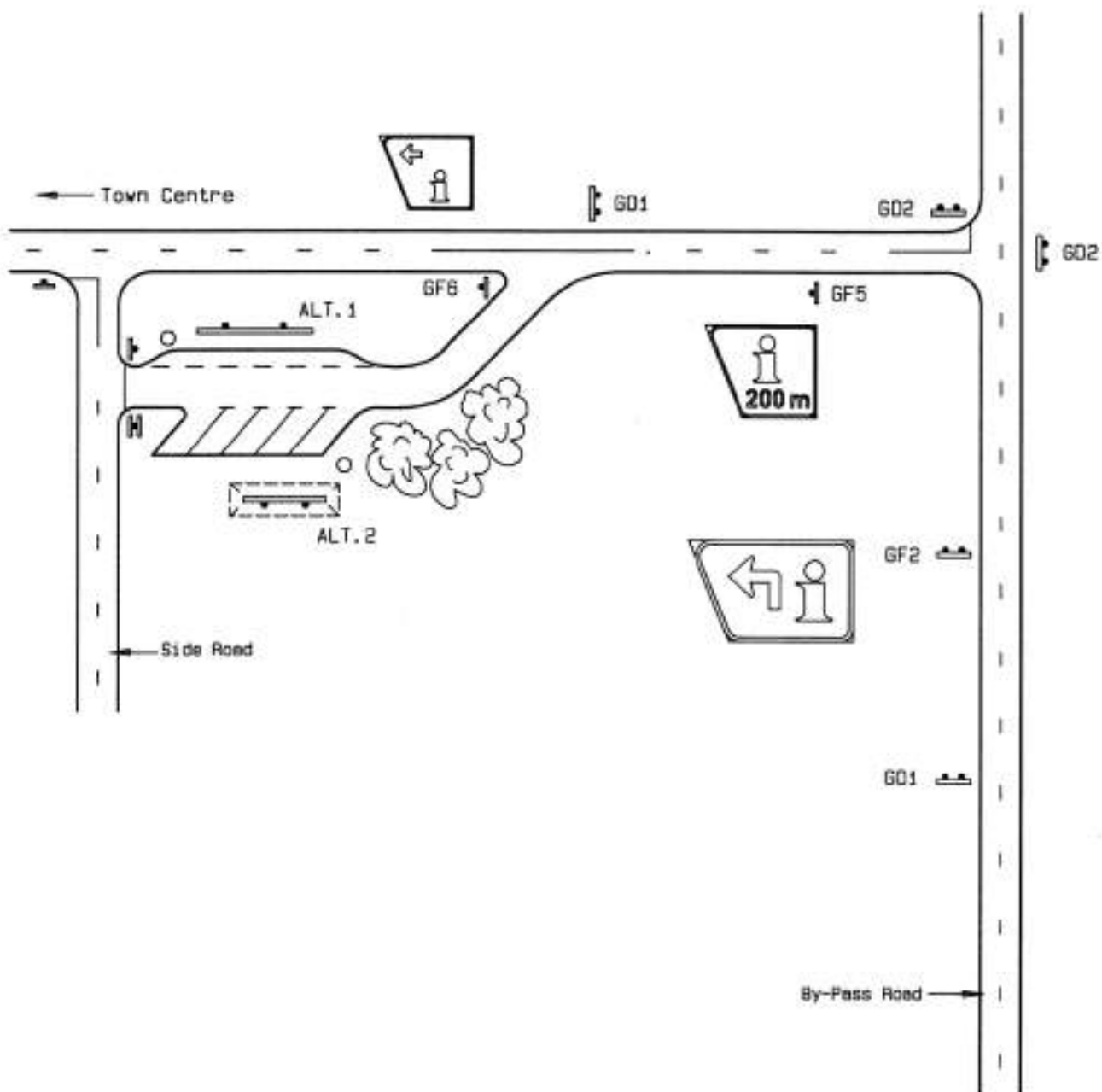
- (1) The two alternative TOURIST INFORMATION BOARDS illustrated incorporate the "Location" panel principle used on a number of DIRECTION signs. The name in the top panel indicates the area in which the board is located. The use of a symbol is optional.
- (2) The use of brown letters on a white background is recommended for the location panel. If a symbol is used the panel depth should be increased to equal the

depth of the GF16 sign displayed in the top right corner. The main board background shall be brown (see Volume 4, Chapter 7 for limited dimensional details).

- (3) The relative positions of the map and the information is open to individual interpretation. The use of white letters on the brown background is recommended but not mandatory, provided an effort is made to provide a visual link between TOURISM signs and the information board to present an integrated system to drivers.

Fig 4.88

Typical Tourist Information Boards

**NOTES:**

- (1) The detail shows two possibilities. Alt. 1 shows a TOURIST INFORMATION BOARD intended to be read from the vehicle, whereas Alt. 2 provides for tourists to leave their vehicles.
- (2) Rubbish bins shall be provided. If possible the layby can also provide basic shade and rest facilities.
- (3) The layby should be designed to make turning around and returning to the main road a safe manoeuvre since many visitors are likely to do this. It may help to arrange the layby to connect with a side road as illustrated.

Fig 4.89

Information Layby - By-Passed Town

- (c) to keep to a minimum the number of signs that may need to be provided by road authorities to the general benefit of tourist environments;
- (d) to provide a simple navigational link between maps and information centres "on the ground" which is much easier for map-makers to accommodate than all the information that may be given at the centre.
- 9 Once TOURISM signs such as ADVANCE TURN sign GF2, FINAL TURN sign GF3, ADVANCE LAYBY sign GF5, LAYBY TURN-IN sign GF6, or CONFIRMATION sign GF7, incorporating the TOURIST INFORMATION symbol GFS 85-8, are provided to direct drivers towards information centres, bureaux or laybys it is important that these be followed up if necessary with compact signs to "trailblaze" drivers towards the facility. The provision of these "follow-up" signs is particularly important in urban areas.
- 10 The information that should be readily available on a 24-hour basis at the centre or layby should relate to:
- the location of emergency services such as the police, hospital/first aid post and telephone;
 - accommodation facilities;
 - the nearest automatic teller facility;
 - the availability of vehicle services;
 - the tourist attractions in the area accessible from the centre, bureau or layby;
 - a map with linking information to other information centres or laybys in the town or area.
- 11 Information laybys should be provided to the highest possible standard. They may take one of two forms:
- the information, including the map, may be read without leaving the vehicle;
 - the layby is also a rest area and the facilities provided require tourists to leave their vehicles.
- 12 Typical layouts for TOURIST INFORMATION BOARDS are illustrated in Figure 4.88. These boards
- and the information displayed on them may be sized to be either read from a vehicle or from outside the vehicle. For further information on tourist information boards refer to Volume 2, Chapter 4.
- 13 An information centre or layby should provide the following to an adequate standard:
- all-weather road surface;
 - safe turning capability to permit drivers to leave the layby in the direction from which they arrived;
 - a rubbish bin;
- In addition it is recommended that the following be provided:
- adequate parking;
 - shade over the information medium;
 - picnic facilities.
- A typical TOURIST INFORMATION LAYBY is illustrated in Figure 4.89.
- 14 Many tourist destinations already have tourist offices run by local publicity associations. Regional Tourism Liaison Committees should make such offices aware of the function of TOURISM signs and specifically of the availability of sign GF16. It will assist the spread of awareness of the TOURISM sign system if the TOURIST INFORMATION sign GF16 becomes an identifying symbol at all levels. Tourist offices of this type will normally be open for 8 to 10 hours a day. They should be encouraged to display a notice, either in a window or on a board, which contains the same basic information as detailed in paragraph 4.10.28.12 so that this is available on a 24-hour basis.
- 15 A similar INFORMATION sign IN12 is provided in white on a green background to identify general information centres or laybys provided to give information of a non-tourist nature. Such facilities are often provided at industrial areas.

PART-TIME/TEMPORARY FACILITY

COLOURS:

PERMANENT

Border: White retroreflective
 Symbols: White retroreflective
 Background: Brown semi-matt or retroreflective

TEMPORARY

PERMANENT

Border: Yellow semi-matt
 Legend: Yellow semi-matt
 Background: Black semi-matt

GF17

For dimensions
 ref. Vol 4
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 7.2.61
 7.2.62



TGF17



4.10.29 Part-Time and Temporary Facilities

- 1 PART-TIME FACILITY signs of the type GF17 are ground-mounted FINGERBOARD shaped signs which may be used only on roads within a designated HIGH DENSITY TOURISM AREA **to give guidance that the junction serves a part-time tourist facility i.e. a facility which is not available on a full-time basis.** The time limitations or the message "OPEN" or "CLOSED" as appropriate, should preferably be indicated on an appropriate sign at the property entrance, outside the road reserve.
- 2 TEMPORARY FACILITY signs of the type TGF17 are ground-mounted FINGERBOARD signs which may be displayed by an approved agent **to give guidance that a temporary tourist facility or "special event", lies in the direction indicated by the sign.**
- 3 GF17 and TGF17 signs should be located on the left side of the road to achieve their purpose to best advantage. To this end the signs may be provided in advance of a turn. Under normal circumstances, however, GF17 signs are intended to be "final turn" signs located at the entrance to the tourist facility property. Part-time tourist services are likely to be very infrequent. Most GF17 signs are therefore be provided for part-time tourist attractions. GF17 will therefore normally be located just beyond the access when this is on the left, and opposite to access when it is on the right.
- 4 The TEMPORARY FACILITY sign TGF17 is used in a different manner. Subject to local controls it is suggested that a maximum of six TGF17 signs be permitted for one special event venue. This number of signs will normally permit temporary signing on two approach routes to the venue for two to four turns away from the venue. **If the venue has been classified as a destination and appears on DIRECTION signs GD1, GD2 or GD4, LOCAL DIRECTION signs GDL1, GDL2 or GDL3, or TOURIST DIRECTION signs GF1, GF2, GF3 or GF17 then GDF17 signs shall not be used for events at the venue.**
- 5 Since PART-TIME FACILITY signs GF17 may only be erected within a designated HIGH DENSITY TOURIST AREA they may commonly be provided when PERMANENT TOURIST DIRECTION signs GF2 and GF3 are also provided for full-time facilities or to indicate TOURIST ROUTES. The location of GF2 and GF3 signs shall take priority over GF17 signs although GF17 sign(s) may be displayed on the same supports as GF2 or GF3 signs. GF17 signs may be used to indicate part-time facilities from a numbered route and from un-numbered roads. {If a HIGH DENSITY TOURISM AREA effectively has "perimeter" roads these should be considered to be "within" the area and thus able to have GF17 signs provided on them).
- 6 GF17 signs, like all TOURIST DIRECTION signs, should display an approved symbol plus primary name of the facility (which identifies it from other similar facilities) in order to limit the amount of text displayed and thereby sign size. The symbol may be specific to the attraction concerned or it may be a common collective, or "theme", symbol used by all facilities within the designated HIGH DENSITY TOURISM AREA.
- 7 TGF17 signs, since they are only provided for a short period of time, need not display a symbol. In order to simplify their manufacture and easy re-use, the colour code is the reverse of that normally specified for TEMPORARY road signs i.e. yellow-on-black rather than black-on-yellow. The letter style may be DIN"B" or DIN"A", and may be upper case, or upper/lower case. Upper case lettering of a re-usable specification is more readily available in pre-cut form. The approved agency providing the signs may display their logo in the manner indicated in the dimensioned detail in Volume 4, Chapter 7.
- 8 Figure 4.81 gives two examples of typical part-time signing situations which include full-time and part-time facilities. Warrants and criteria, and details of PART-TIME FACILITY sign GF17 and TEMPORARY FACILITY sign TGF17 applications are given in Volume 2, Chapter 4: *Tourism Signing*.

4.11 LOCAL DIRECTION

4.11.1 General

- 1 This class of guidance sign has been provided to supplement the normal direction signing provided in terms of the Navigational Aids policy (see Chapter 8). LOCAL DIRECTION signs are therefore often supplementary to DIRECTION signs. The DIRECTION sign system, which is recommended on all Class "B" routes in rural and urban areas, primarily provides navigational and orientational information. This information is given in the form of route numbers (Class "B" routes are numbered routes), and important destination names. The importance of a destination in the context of its ability to provide orientation is recognised by its designation as "familiar" "control" or "service". "Local destinations" are outside the framework of providing system navigation or orientation, but are considered to generate sufficient traffic interest to warrant the provision of LOCAL DIRECTION signs.
- 2 Figure 4.3 in Section 4.1 describes the information given by guidance signs in diagrammatic form. The illustration develops the information given by the different classes of guidance sign into "Primary", "Secondary" and "Tertiary" layers. Tertiary information is non-orientational and as such can be supplementary to the "Secondary" (orientational) level signs, or it can be used at a lower level in the road network on its own. The "Tertiary" layer of information is provided by both LOCAL DIRECTION signs and TOURISM DIRECTION signs. There are many similarities between the two classes of direction sign. Figure 4.90 shows the relationship between LOCAL and TOURIST DESTINATIONS (for further information on TOURISM DIRECTION signs see Section 4.10).
- 3 The LOCAL DIRECTION sign system has been developed primarily to supplement DIRECTION signs in urban areas. In many instances, due to space constraints, urban guidance may largely be provided by ROUTE MARKER signs rather than the larger DIRECTION signs. Specific urban guidance signing concepts are covered in Section 4.5 and in greater depth in Volume 2, Chapter 9:- *Urban Guidance Signing*.
- 4 The provision of supplementary LOCAL DIRECTION signs on Urban Class "B" routes in addition to DIRECTION signs **must be carried out with care. It is not difficult, in a busy urban street environment, to overload drivers with information to the extent that they are unable to take all the information in.** The ultimate result of such a situation could be confusion leading to an accident, but at the very least the result is a waste of financial resources in providing the ineffective signs (see Subsection 4.11.4). **LOCAL DIRECTION sign shall not be used on freeways.**
- 5 An optional application of LOCAL DIRECTION signs may be to use them exclusively on the more important un-numbered or tertiary arterial routes in urban areas instead of DIRECTION signs. If used in this manner they should provide an exit destination for each leg of the junction to which they apply. Examples of signs appropriate to this function are given in the Subsections on individual sign types, and in Volume 4, Chapter 13.
- 6 Since the TOURISM DIRECTION and LOCAL DIRECTION sign sub-classes tend to deal with similar types of non-orientational destinations it can be difficult or confusing trying to allocate a particular type of destination to one or other sub-class. Many relevant destination types have already been identified and classified (see Figure 4.90 and Volume 2, Chapter 4: *Tourism Signing* and Chapter 9: *Urban Guidance Signing*). In an urban environment it can be argued that it is probably more important to have uniformity of sign appearance rather than to be concerned about the strictly correct allocation of a destination to a class, particularly when considering low level of use destinations. The normal differentiation between classification as a tourist destination or not, relates to the purpose of travel being for pleasure or recreation.
- 7 In certain areas it is quite possible that the overall demand for local direction and/or tourism direction signs may be greater than can reasonably be catered for by the provision of individual signs for candidate destinations. Local authorities should approach such potential problem areas in a pro-active manner. A signing plan for local and/or tourism destinations should be prepared. Elements of such a planning process are covered in Volume 2, Chapters 4 and 9. Factors such as the following should be taken into account:
 - (a) an established road user need for a sign;
 - (b) the availability of access to the destination by the general public (rather than exclusive access to member groups);
 - (c) proximity of destinations to each other;
 - (d) traffic safety;
 - (e) competitive advertising;
 - (f) any other relevant factor.

Part of a pro-active plan for an area with a potential for an over demand for signs could be the centralisation of information at INFORMATION CENTRES, BUREAUX or LAYBYS (see Subsection 4.10.26). **A well organised approach to this level of guidance signing is to be preferred over the permitting of uncontrolled, informal signs to local or tourism destinations by the operators of the facilities at the destinations.**
- 8 LOCAL DIRECTION signs are very similar in principle to TOURISM DIRECTION signs (see Subsections 4.11.2, 4.11.5 and 4.11.6). Wide use is made of symbols to achieve message transfer to drivers. This is intended to reduce the need for text on signfaces to a minimum wherever possible. The symbols used on LOCAL DIRECTION signs must be approved and aesthetically acceptable.
- 9 LOCAL DIRECTION signs are either STACK-TYPE signs or FINGERBOARD type signs. ADVANCE LOCAL DIRECTION sign GDL1 and LOCAL DIRECTION sign GDL2 are STACK-type signs. They will most commonly be used as single stack signs but multiple stack-type signs may be used when appropriate. ADVANCE LOCAL DIRECTION signs GDL1 shall be located in advance of the turn to which they apply, and, unless this is the final turn towards the destination, they will not normally be followed by a LOCAL DIRECTION sign GDL2. Sign GDL2 is normally used at the final turn towards the destination, which may be the actual access point to a property. When used as a supplement to DIRECTION signs or ROUTE MARKER signs on a Class "B" route, sign GDL1 should be located approximately 2/3 of the distance from the turn that ADVANCE DIRECTION sign

GD1 is located (see Figure 4.58). If ADVANCE LOCAL DIRECTION sign GDL1 and LOCAL DIRECTION sign GDL2 are to be used, on urban un-numbered but important traffic carrying routes, as a systematic provision of destination information they should be positioned as indicated in Figure 4.58 for normal DIRECTION signs. Figures 4.91 to 4.94 illustrate various applications of LOCAL DIRECTION signs.

- 10 FINGERBOARD signs GDL3 may be used in a similar manner to either sign GDL1 or sign GDL2, but at a lower level in the urban street network, or to lower level of use destinations (see Subsection 4.11.3). If a local authority chooses to use sign GDL3 in significant numbers it is recommended that an assessment of likely destination types be made and a standard length of sign be used. This can result in an attractive and ordered appearance, particularly if many signs are to be provided.
- 11 If multi-stack LOCAL DIRECTION signs are required a local authority may opt to use COMPOSITE LOCAL DIRECTION signs GDL1/GDL2 (see Subsection 4.11.12). This sign type permits the combination of elements of the ADVANCE LOCAL DIRECTION sign GDL1 and the LOCAL DIRECTION sign GDL2.
- 12 When a local authority uses LOCAL DIRECTION signs in place of DIRECTION signs, as described in Paragraph 4.11.1.9, a street name may be combined with sign GDL2 as illustrated in Subsection 4.11.10 and detailed in Volume 4, Chapter 13.
- 13 LOCAL DIRECTION signs may incorporate tourism information in an insert panel and local direction information may be incorporated into DIRECTION signs as an insert panel, or as a complete stack (see Subsections 4.11.9 and 4.11.10 and Volume 4, Chapter 13).

4.11.2 Local Direction Signing Principles

- 1 LOCAL DIRECTION signs, as a sub-class of the guidance sign class, perform a function similar to DIRECTION signs but tend to embody many of the principles developed for TOURISM DIRECTION signs.
- 2 LOCAL DIRECTION signs provide tertiary level information (see Figure 4.90). As a group they should not be seen as providing a medium to carry an overload of information from the DIRECTION sign system. In a similar sense the information they do provide must be considered in the context of the level of information also provided by DIRECTION and TOURISM DIRECTION signs at specific sites. **It is not good practice to exceed the design criteria for the transfer of information (see Section 4.4).**
- 3 For orientational DIRECTION signs to function effectively, it is recommended in Section 4.8 that a stack should be provided for each exit path from a junction i.e. for a crossroad junction this means a stack for the straight-on direction and one each for the right and left turn directions. **Since local direction signs do not have an operational function stacks should only be provided for those directions serving warranted local destinations.** This principle is the same as that used for tourist direction signs.
- 4 On the approaches to a Class "B" junction, ADVANCE TURN tourism signs GF2 and ADVANCE LOCAL DIRECTION signs GDL1 may be similarly located at two-thirds and one-third of the distance from the junction which would be appropriate for an ADVANCE DIRECTION sign GD1. Alternatively the two types of sign may be mounted on common supports, one above the other, or they may be designed as a single composite sign, either of which types of sign should be located at "two-thirds GD1" distance from the junction (see Figures 4.91 to 4.94).
- 5 LOCAL DIRECTION signs GDL2 or FINGERBOARD signs GDL3 should normally only be located at the final turn towards, or at or opposite the point of access, to the local destination. Local direction signs may be provided either in conjunction with normal direction signs or without them.
- 6 If an urban authority wishes to provide local direction signs for the lower categories of local destination (see Table 9.1), mainly on Class "C" and "D" streets, then a system using only LOCAL FINGERBOARD signs GDL3 may be adopted.
- 7 It is likely that local direction and tourist direction signs will both be required at many junctions. **This will add to driver workload when all signs are required and this aspect must be taken into account in the design (see Volume 1, Chapters 1 and 4).** Therefore, if local AND tourism direction signs are warranted at a junction, signs should be provided in one of the ways indicated in paragraphs 4.11.2.4 and 4.11.2.5, namely:
 - (a) by combining the two signs on common supports so that the total sign message of the tourist and local destination signs is within the limits stated in Section 4.4 for a single sign; OR
 - (b) by designing a composite sign with the tourism message displayed as an "insert" panel on the ADVANCE LOCAL DIRECTION sign GDL1; PROVIDED that if the GD1 sign is not already in place, the position allocated for it from the junction should be increased by 50% if at all possible, and the distances of the supplementary sign be increased accordingly (see Figure 4.91).
- 8 If local destinations require to be signed in more than one direction the resultant sign should conform to normal stack-type sign rules SUBJECT to any other provisions given below. This rule applies whether the sign concerned is a local sign, a tourism direction sign or a sign combining both destination types.
- 9 If a numbered route carrying high volumes of traffic generated by local destinations intersects another numbered route which leads to several local destinations an attempt must be made to find group descriptions for the destinations to reduce the display demand. This may take the form of symbols plus SINGLE identifying names. (NOTE: the most likely solution to this problem should be the display of the appropriate collective name as a destination on the normal direction sign system, since, by virtue of its importance or familiarity it is likely to have orientational value - such a name may commonly be the name of the suburb in which all the local destinations are located.)
- 10 Once a local destination has been signed the principle of message continuity shall be applied so that it is signed through subsequent changes of direction until the destination is reached (NOTE: for this reason straight-on local direction stacks are not normally recommended.)
- 11 A LOCAL DIRECTION sign, as with any other road sign, shall be legible. However, the principle used in the tourism signing system of using one letter size smaller

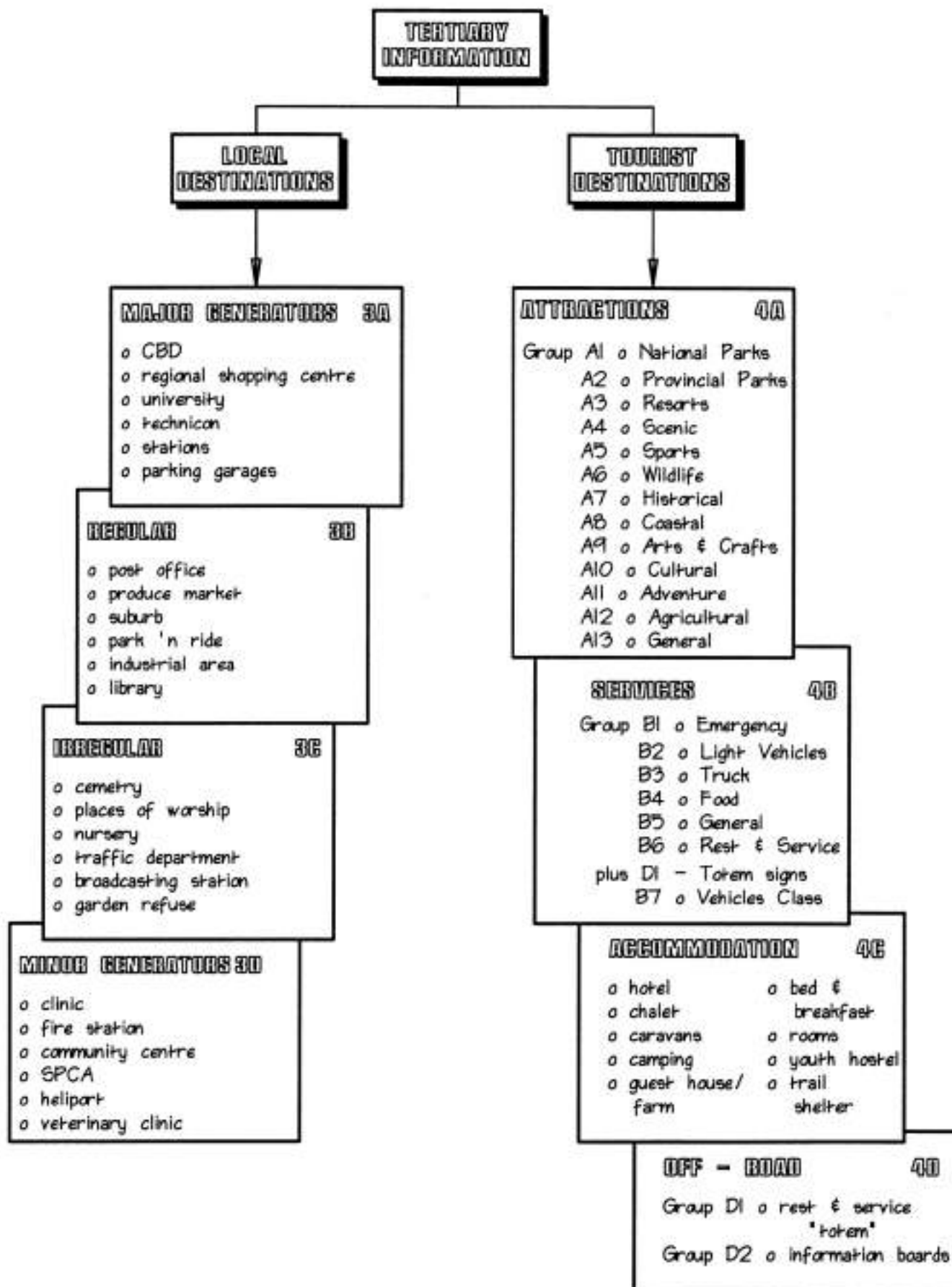


Fig 4.90

Tertiary Level Guidance Information

than used on the normal DIRECTION signs should be considered for LOCAL DIRECTION signs if the amount of information displayed is limited.

- 12 **A limit of 8 "bits" of information should be applied to any combined local/tourism direction sign. If separate signs are used each should be limited to 6 "bits" of information (NOTE: This provision will, particularly in combination with normal direction signs, potentially allow very high levels of information to be displayed. Such high levels of information should not be permitted if all other relevant design factors are not of the highest order - see Volume 1, Chapter 4).**
- 13 **Subject to the limitation on the number of "bits" of information given above, the maximum number of destination names which may be displayed on any local direction sign or combined local/tourist direction sign should be four names.**
- 14 Correctly colour coded route trailblazer panels may be incorporated in the form of "insert" panels, subject to other rule requirements. Such route trailblazer information could be appropriate for drivers wishing to move upwards in the street hierarchy from the local level. It should be noted that if a TRAILBLAZER sign in the GE series is required at a junction it is normally located in the same position as that recommended above for LOCAL DIRECTION signs.
- 15 If more than one destination name is permitted on a local direction sign stack, it is recommended that, where possible, the order of appearance of the destination names should be such that the name requiring a driver response first be placed above any name in the stack requiring a later response i.e. if one destination is reached before another it should be above the other, OR if a turn comes up first which leads to one destination, that destination should appear above the other.
- 16 **The LOCAL DIRECTION signing system should not be seen as an overflow system for the primary and secondary systems.**

4.11.3 Classification of Local Destinations

- 1 The scope for a destination to qualify for inclusion on a LOCAL DIRECTION sign is vast. Subsection 4.11.4 deals briefly with warrants for local destinations (for more detail see Volume 2, Chapter 9).
- 2 Local destination types, which have been identified to date, have been classified into four groups based largely on the level of traffic which the destination generates, or may be likely to generate in the future. A selection of these destination types is illustrated in "layers" 3A to 3D in Figure 4.90. A more complete list is given in Table 4.11 but it is likely that local authorities will need to consider additional types of destination for classification from time-to-time. The level of traffic generation used to classify local destinations is not precise. This is because in one local authority area a specific destination type may generate far more traffic than the same type of destination in another local authority area. The boundaries between the different classes need not therefore be considered too rigid. The classes of local destination are described as follows:
 - (a) major traffic generator - major use - traffic has significant daily peaks and continues all day long;
 - (b) major traffic generator - regular use - traffic does not peak significantly but there is all day use for five

- or six days of the week;
 - (c) minor traffic generators - irregular use - traffic may be quite high on one or two days of the week but at a much lower level on other days;
 - (d) minor traffic generators - minor use - low traffic levels but still reflecting public demand.
- 3 It should be noted that although transport terminal destinations such as railway station, airport, bus station, harbour and heliport, and CBD's, industrial areas and power stations *are* listed as local destination types at a local level they may also appear on primary (Class "A" routes) and secondary (Class "B" routes) DIRECTION signs if they are large generators of traffic.

4.11.4 Warrants

- 1 **Since LOCAL DIRECTION signs are supplementary to primary and secondary level direction signs the most important warrant to be satisfied in any specific urban guidance signing situation involving the possible provision of LOCAL DIRECTION signs is the ability of drivers to take in the proposed additional information in terms of their driving environment and workload. Therefore if DIRECTION signs, and/or existing LOCAL or TOURIST DIRECTION signs, contain information in excess of the limits given in Section 4.4 additional LOCAL DIRECTION signs shall not be provided.**
- 2 **As supplementary tourism signs it is a basic hypothesis that, with the aid of map, brochures, verbal directions etc. the existing hierarchy of numbered routes, orientational destinations given on DIRECTION signs, and an adequate system of street name signs, drivers should be able to reach a point in relatively close proximity to their intended urban local destination before supplementary local direction signs may be considered necessary.**
- 3 From this hypothesis the provision of LOCAL DIRECTION signs in urban areas should, **irrespective of any individual warrants applicable to the type of local destination,** conform to the following principles:
 - (a) **LOCAL DIRECTION signs are not warranted when the location of the destination concerned is obvious to road users,** PROVIDED that even if the location of the destination is obvious, if the access to it is not obvious, an appropriate LOCAL DIRECTION sign may be used to identify the point of access;
 - (b) **the provision of LOCAL DIRECTION signs should not commence further from the destination than the nearest numbered route;**
 - (c) the facilities available at the local destination must be of a **standard which is acceptable** to a reasonable road user;
 - (d) when a number of local destinations can be reached in one direction, from a particular junction, an attempt must be made to determine some **single collective name** which will adequately guide road users in the correct direction e.g. a suburb name may be more appropriate than the names of four or five local destinations within, or close to, such a suburb;
 - (e) in extreme cases where many local destinations (and indeed tourist destinations as well) occur, consideration should be given to providing a suitable **information layby** with enough local detailed

TABLE 4.11 LOCAL DESTINATION CLASSIFICATION TABLE 4.11

Grouping According to Traffic Generation

Group 3A	Group 3B	Group 3C	Group 3D
MAJOR GENERATORS		MINOR GENERATORS	
MAJOR USE	REGULAR USE	IRREGULAR USE	MINOR USE
Central Business Area ⁽¹⁾⁽²⁾ Regional Shopping Centre ⁽³⁾ Railway Station ⁽¹⁾ Airport ⁽¹⁾ Bus Station ⁽¹⁾ Harbour ⁽¹⁾ Mine Parking Garage Modal Transfer Station	Information Layby Post Office Automatic Teller Industrial Area Park 'n Ride Waste Disposal Site Produce Market Conference Facilities Educational Establishment Swimming Pool Civic Centre Licencing Offices	Cemetery Garden Refuse Places of Worship Sports Club Traffic Department Electricity Department Testing Grounds	Clinic Fire Station Community Centre Heliport Bicycle Route ⁽⁴⁾ SPCA / AACL

NOTES:

- (1) These destination types may also be used within the primary and secondary direction signing systems.
- (2) Central Business Area can also be signed in smaller towns at a lower level of warrant.
- (3) Shopping centres (or business areas) may be signed in smaller towns at a lower level of warrant.
- (4) A bicycle route should be signed within the route using BICYCLE ROUTE MARKER signs GE17- see Volume 1.
- (5) Only when suburb names are not used specifically for orientation purposes (choice of one direction over another). When used for orientation suburb names should appear on GD1 and/or GD2 signs.

GENERAL NOTES:

- (1) All local destination types are subject to other warrants (see Volume 2, Chapter 9).

information to simplify the local navigation process; the need for such a facility is likely to have arisen from requests for signs from the relevant community or communities; in such a case a special effort will have to be made regarding the funding of the layby and its facilities which in all probability will require direct involvement of the community.

- 4 When considering the application of warrants for local destinations it is very likely that the apparent need for a LOCAL DIRECTION sign will result either from a public need noted by the relevant urban authority based on observed problems or complaints received, OR from applications received from owners or operators of the local facility who seek to ensure that the public can

find their facility. **A very important reason for urban authorities to approach the provision of tertiary level supplementary direction signs with care is the question of precedence. Once one type of destination has been signed, it becomes very difficult to deny further applications to sign similar facilities particularly if the warrant or motivation for the original sign is in any way suspect.** Whilst it is necessary to approach the provision of guidance signs based on an application from a party representing a specific destination in the fairest and most unbiased way, because there are very definite limits to the accumulation of road-side information which drivers can be expected to take in, **setting a precedent**

should be done with the full knowledge of its future implications. Wherever possible any application for local direction signs should be assessed in terms of the real or perceived need for road users to find the facility concerned **and should not be seen simply as a means to promote competitive or commercial interests. It is not a requirement of road traffic signs that they should perform such functions.**

- 5 Detailed warrants relating to the provision of LOCAL DIRECTION signs in urban areas have been developed and are detailed in Volume 2, Chapter 9. In deriving the warrants the general provisions described in paragraph 4.11.3.2 relating to traffic generation characteristics have been used as a starting point. The following factors have been considered the most significant in developing further warrant criteria:
 - (a) traffic generation or attraction;
 - (b) frequency of use i.e. regularly or irregularly;
 - (c) the number and quality of facilities or destinations with due regard to the function and likely users of the facility;
 - (d) the distance from which the local destination may be considered for signing.
- 6 In order to qualify for the provision of LOCAL DIRECTION signs from the nearest numbered route a local destination must be classified in either Group 3A or Group 3B.
- 7 Local destinations in Groups 3C or 3D should normally only be signed at a local level on Class "C" or Class "D" roads and normally within a local traffic area. An authority may use discretion to upgrade a specific local destination classified in Groups 3C or 3D if it generates traffic commensurate with the requirements of Group 3A or 3B so that it may be signed from the nearest numbered route.
- 8 Authorities may also exercise discretion, particularly in upgrading the distance from which a local destination may be signed, including the possibility of signing from one numbered route to another. The following conditions should be considered relevant:
 - (a) if it can be demonstrated that a significant percentage of those travelling to a local destination travel from outside the region within which the destination is located the following factors may warrant discretionary relaxation of the distance at which the first sign may be located:
 - (i) the number of users from outside the region are at least 25% to 33% of all users, AND
 - (ii) the region can be considered to have a "catchment" of 5 km radius for towns or metropolitan areas with populations of less than 100 000 and of 10 km radius for towns or metropolitan areas with populations of 100 000 or more;

NOTE: the onus to satisfy the relevant road authority with regard to the above requirements should rest with an applicant;

 - (b) if there are several possible approach routes to the facility and the urban authority wishes to:
 - (i) influence the route used by drivers for whatever reason, or
 - (ii) avoid wasteful travel due to the possibility of incorrect choice of route, then discretion may be exercised;
 - (c) if the facility is located on a route (numbered), or street, close to and parallel to another numbered

route, then discretion may be used when locating signs;

(d) if the road for which a sign is being considered is a bypass.

- 9 If an urban authority decides to use discretion with regard to the norms governing sign positioning, the reasons for this action should be recorded to assist in resolving similar cases in the future and to maintain consistent and defensible policies.

4.11.5 Signface Design Principles

- 1 The general principles relating to guidance signface design and layout are covered in Chapter 1 and in Sections 4.1 to 4.4.
- 2 The signface design principles for LOCAL DIRECTION signs are essentially the same as those developed for TOURISM DIRECTION signs. LOCAL DIRECTION signs are likely to be generally simpler in layout than TOURISM DIRECTION signs due to the lesser need to display multiple symbols (tourist services) and the relatively rare likelihood of more than one local destination in one direction. LOCAL DIRECTION signs do not have the cut-back vertical side used on TOURISM DIRECTION signs and are therefore rectangular. The use of these standards means that the internal spaces are 20% to 30% less than on DIRECTION signs which is considered acceptable in terms of the supplementary role of LOCAL DIRECTION signs.
- 3 The use of DIN 1451 Style "B" lettering is recommended. Consideration may be given to the use of DIN 1451 Style "A" lettering in low speed urban environments.
- 4 **LOCAL DIRECTION signface design places a high reliance on bold SYMBOLS to transfer the main part of the message to road users. When the PRIMARY name of a destination is also used, it is used to qualify the reference of the symbol.** The vertical signface dimensioning is related to these symbols rather than the text. The height of each symbol is capable of supporting two lines of text without increasing the vertical height of the sign. Two techniques are therefore recommended to further contain LOCAL DIRECTION sign sizes when text is involved. These techniques are:
 - (a) if the PRIMARY name is a two or more part name-

e.g. "Durban Deep" (mine)

then the name could be placed in two lines in a right-justified form -

e.g. **Durban**
Deep
 - (b) if the PRIMARY name is long and can be satisfactorily hyphenated without risk of loss of meaning or readability then the primary name should be hyphenated and placed in two lines in a right justified form-

e.g.

**Mwananya-
mala**

or

**Chaman-
culo**

When, for ease of the arrangement of words, the lower line of text becomes longer than the top line then the text should be left justified. Two or more lines of text referring to two or more destinations of a common type (i.e. two schools) should be left justified.

- 5 LOCAL DIRECTION signs also do not use multiple-panel layout of TOURISM DIRECTION signs. If one stack of a multiple-stack sign needs to display two local destinations they should appear in one stack, with the closer one above the further away one. If the two destinations are of the same type only one symbol need be displayed. If the two destinations are of different types then both relevant symbols should be displayed.
- 6 Since LOCAL DIRECTION signs are commonly used in supplement to DIRECTION signs on which route numbers are displayed, route numbers shall not be displayed on LOCAL DIRECTION signs even if they are provided on a numbered route.
- 7 The fact that route numbers are not used on LOCAL DIRECTION signs, together with the normal use of a symbol preceding the text, means that vertical justification between adjacent stacks is not normally worth providing. However, an improved aesthetic effect will result when two symbols are required in one stack, if the symbols are centred over one another, and the following primary names are also left justified.
- 8 If a destination is located same distance beyond the final turn towards it, a distance may be included on the GDL2 or GDL3 sign. This treatment is not likely to be common in urban areas but can occur fairly frequently in "peri-urban" areas. The distance to the nearest 100 m should be located below the destination name and right justified on it. The distance numerals should be followed by the letters "m" or "km" as appropriate.
- 9 When the local destination is at the end of the road and it is the only public destination, such a destination may be included in the stack of a DIRECTION sign, provided for the junction in question, within a white "insert panel".
- 10 The various signface design principles described in this section are specifically illustrated for LOCAL DIRECTION signs in Volume 4, Chapter 13.

4.11.6 Symbols

- 1 The PRIMARY name of the local destination shall be preceded by an appropriate symbol when one is available. Only one symbol shall be used with one PRIMARY name.
- 2 If, for whatever reason, the use of a primary name is not considered necessary, a symbol may be used on its own in a LOCAL DIRECTION sign. Such a display may also include a distance in accordance with paragraph 4.11.5.8. This type of LOCAL DIRECTION sign may be used as a "follow-up" sign at one or two turns after the first turn towards the destination, provided the same symbol appeared with the destination name as a GDL1 sign at the first turn.

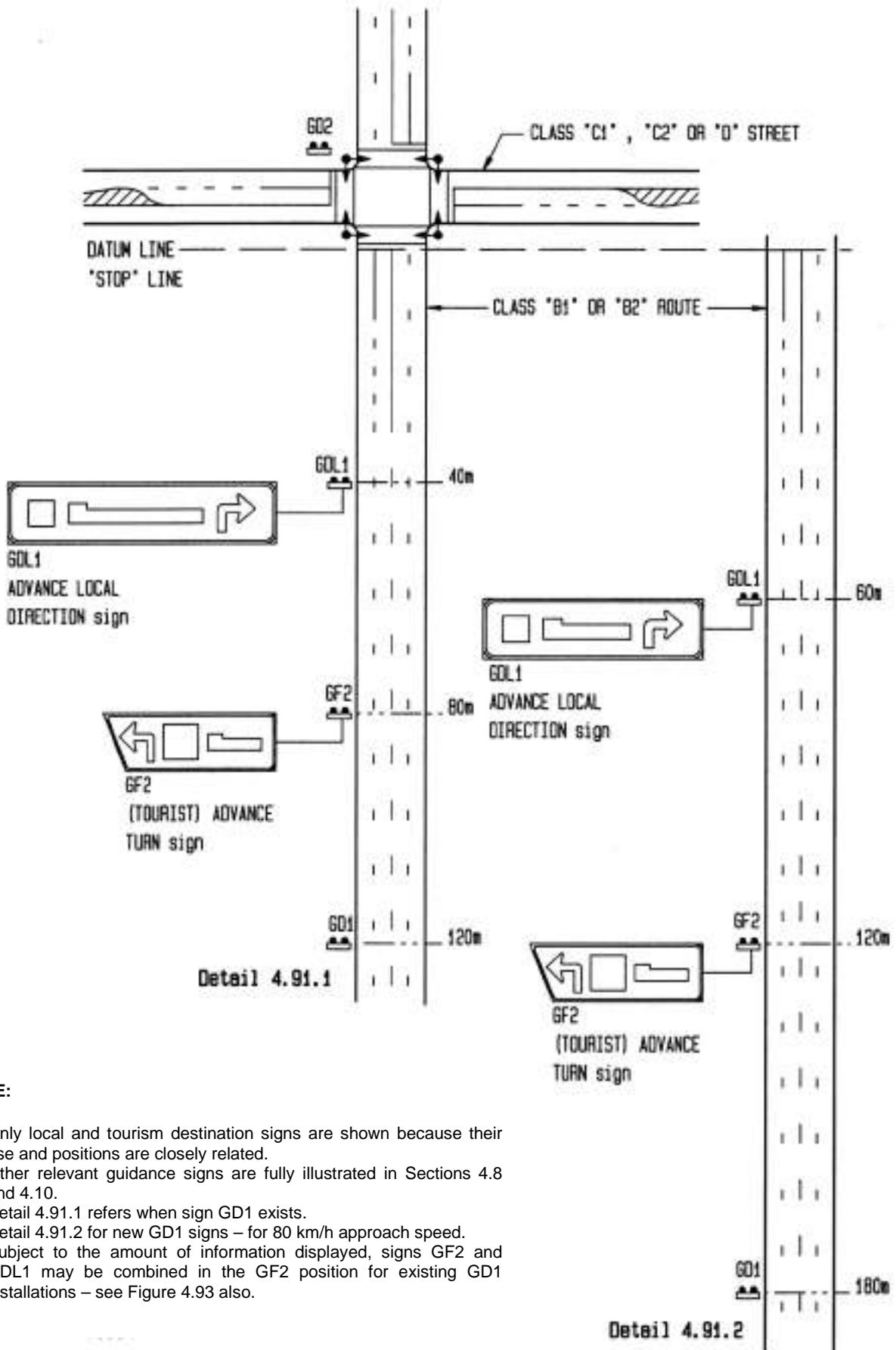
- 3 LOCAL DIRECTION symbols are sized according to the same dimensional criteria as TOURISM DIRECTION symbols with a nominal design height and width of 15"d" where "d" is the letter stroke width used on the sign (and the letter height is 7"d"). LOCAL DIRECTION symbols may include symbols used on tourism signs and those used on direction signs provided they are correctly sized.
- 4 If a symbol should need to be used with three PRIMARY names representing three destinations of the same type in the same direction, then the symbol size should be increased by one standard increment in the value of "d".

4.11.7 Shape, Size and Colours

- 1 LOCAL DIRECTION signs shall be rectangular in shape, with the exception of the FINGERBOARD type sign which shall have one side shaped to a point. All signs shall be provided with a border of a colour which contrasts with the sign background colour. PERMANENT direction signs normally have a horizontal format. TEMPORARY local direction signs used within construction sites should, where possible, minimise the horizontal dimension to reduce side space requirements.
- 2 The size of LOCAL DIRECTION signs is dependent on the symbol and destination messages to be displayed and the choice of letter size to be used (see Section 4.3).
- 3 PERMANENT local direction signs shall have a white background colour with black legend and arrows and blue border. TEMPORARY local direction signs shall have a yellow background with all other signface details in black.
- 4 Special colour variations are permitted. An "insert" panel may be provided in brown to display a tourist destination or in blue to include a reeway trailblazer message (see examples in Subsections 4.11.12, and in Volume 4, Chapter 13).

4.11.8 Retroreflectivity

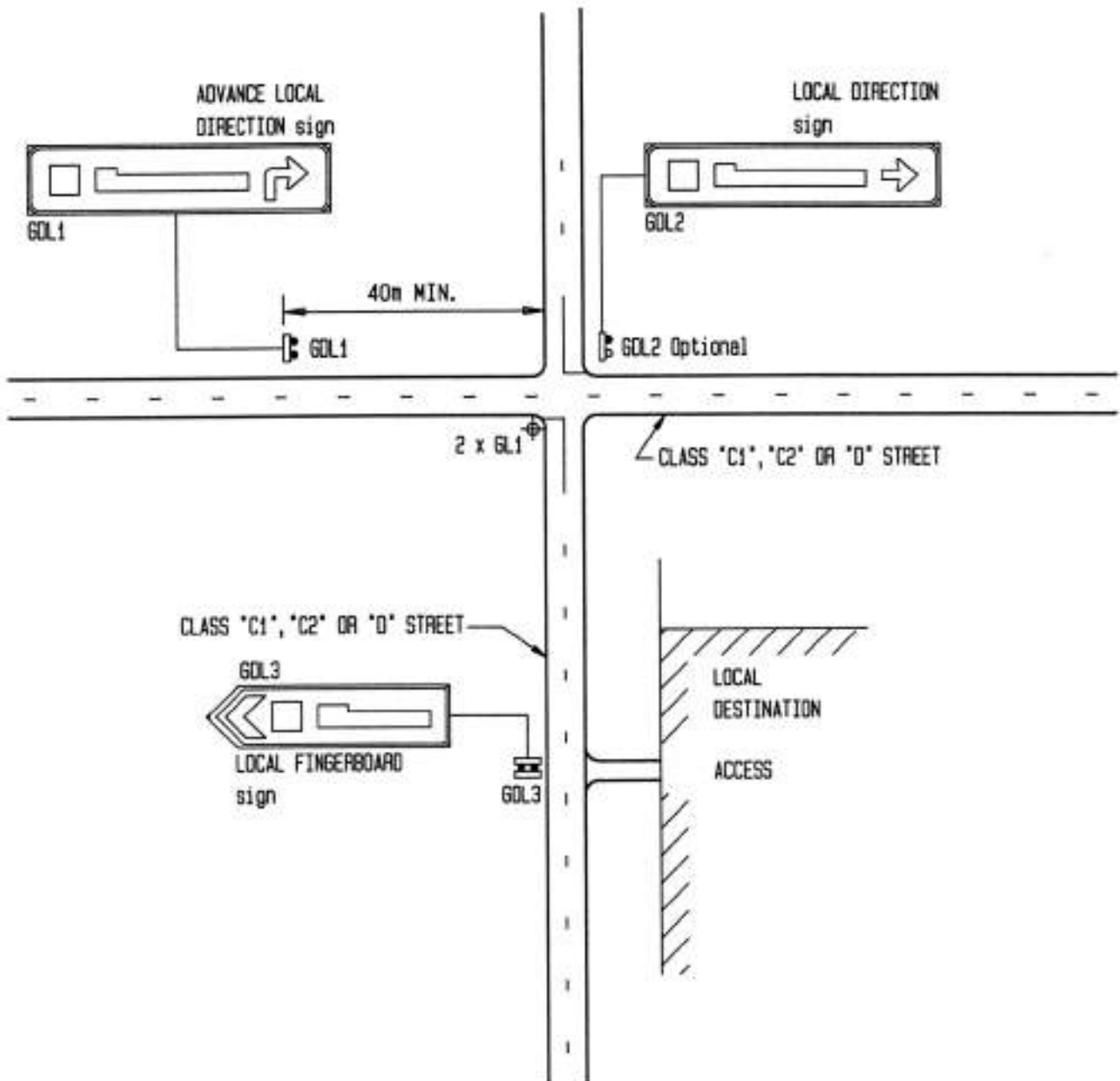
- 1 It is recommended that the background and borders used on PERMANENT local direction signs be retroreflective. All arrows, symbols and text shall be semi-matt.
- 2 The background to all TEMPORARY direction signs shall be retroreflective and the border and legend semi-matt.
- 3 The retroreflective materials used shall conform to the provisions laid down in Chapter 1. The use of a higher grade of white background material is not recommended in order to avoid the risks of "overglow", from the material, rendering the symbol and/or text illegible under night-time illumination.



NOTE:

- (1) Only local and tourism destination signs are shown because their use and positions are closely related.
- (2) Other relevant guidance signs are fully illustrated in Sections 4.8 and 4.10.
- (3) Detail 4.91.1 refers when sign GD1 exists.
- (4) Detail 4.91.2 for new GD1 signs – for 80 km/h approach speed.
- (5) Subject to the amount of information displayed, signs GF2 and GD1 may be combined in the GF2 position for existing GD1 installations – see Figure 4.93 also.

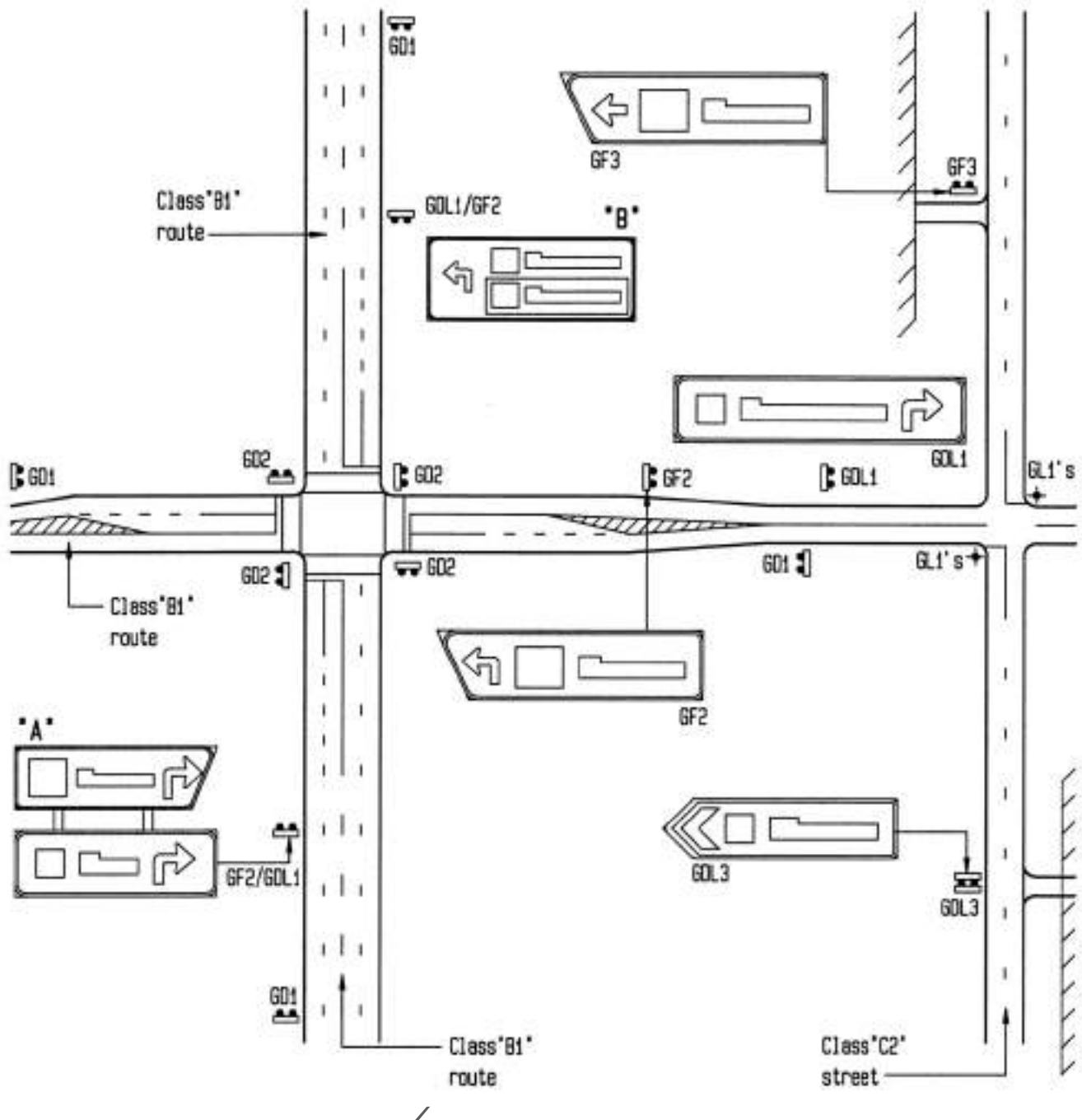
Fig 4.91 Supplementary Local Direction Signing – Class “B” Route



NOTE:

- (1) The local direction signs shown can be follow-up signs to the signs in Figure 4.91 or they may be the only signs used from a lower class of street (where direction signs are not warranted).
- (2) Arrangement may also be used from Class "8" routes using route marker signs.
- (3) The two GDL3 signs shown at the access allow for both directions of approach - this is optional.

Fig 4.92 Local Direction Signing - NO Standard Direction Signs

**NOTE:**

- (1) Only local and tourism direction signs are shown because their use and positions are closely related.
- (2) Other relevant guidance signs are fully illustrated in Sections 4.8 and 4.10.
- (3) Subject to the amount of information displayed, signs GF2 and GDL1 may be combined in the GF2 position for existing GD1 installations. The signs may be combined on common supports as shown at "A" or the messages may be combined on a single sign face at "B".

Fig 4.93**Local/ Tourist Direction Sign Combinations**

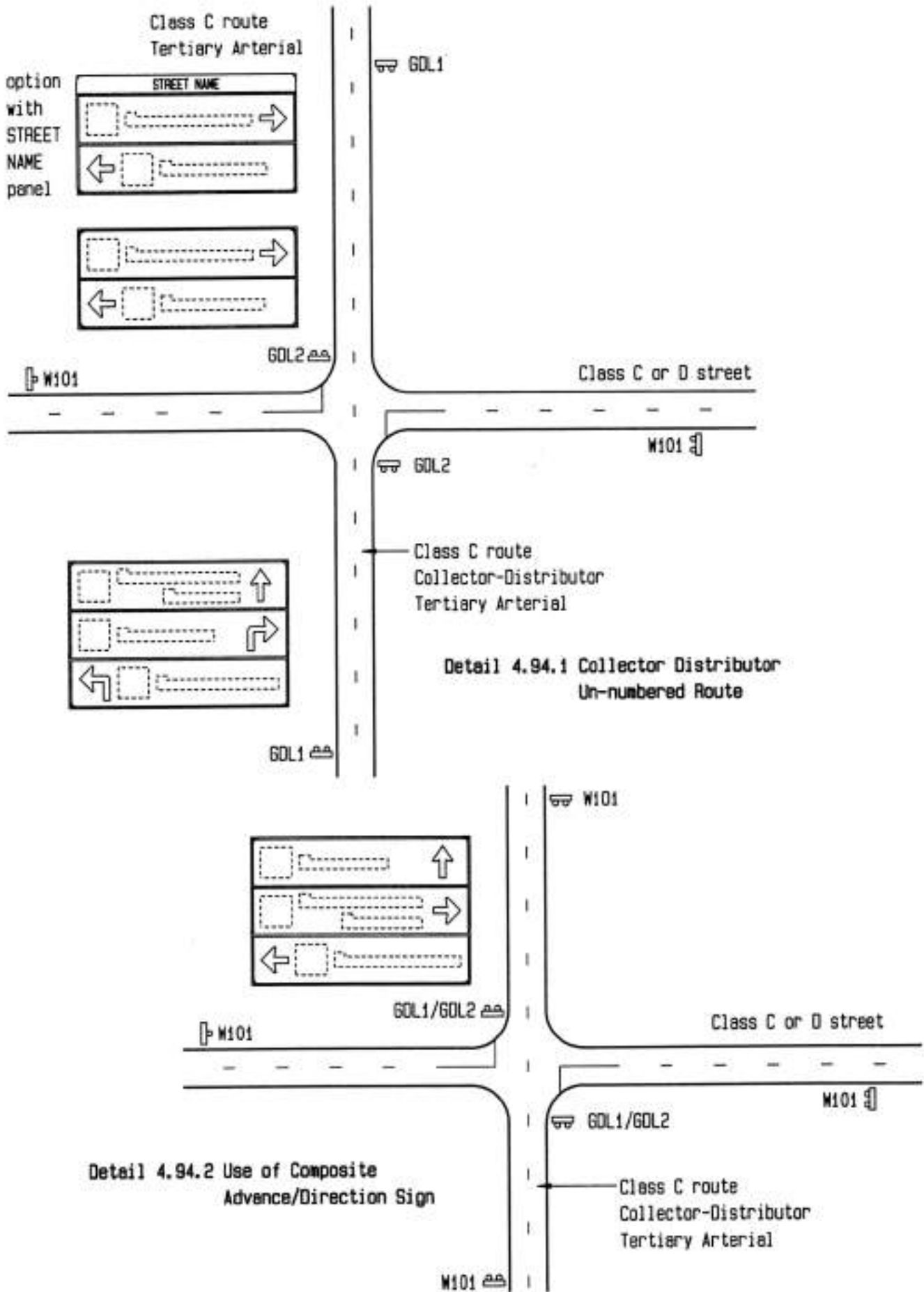


Fig 4.94

Local Direction Signing- Tertiary Arterial

STACK-TYPE ADVANCE LOCAL DIRECTION

For dimensions
ref. Vol 4
pages
13.2.1
ro
13.2.9

GDL1
Black semimatt



COLOURS:

PERMANENT

Border:
Arrows, text
Symbol
Background

Blue retroreflective
Black semi-matt
Black semi-matt
White retroreflective

TEMPORARY

Border, arrows
Text and symbol
Background

Black semi-matt
Black semi-matt
Yellow retroreflective

4.11.9 Stack-Type Advance Local Direction

- 1 STACK-TYPE ADVANCE LOCAL DIRECTION signs of the type GDL1 may be used in advance of a junction on a Class B road to supplement existing DIRECTION signs GD1, GD2 or GD1/GD2, or in advance of a junction on a lower class road **to give advance guidance to drivers regarding the direction to local destinations which do not form part of the navigational / orientations/ system.** A separate stack for each direction of exit from a junction **need not** be provided because of this lack of orientational function.
- 2 GDL1 signs should be located on the left side of the roadway. The signs should be located in advance of the junction as follows:
 - (a) on their own on Class C or D roads - in accordance with Figure 4.58;
 - (b) on a Class B route to supplement DIRECTION signs - at 2/3 of the distance given in Figure 4.58 for the DIRECTION provided no TOURISM DIRECTION sign already occupies such a position; OR
 - (c) on a Class B route to supplement DIRECTION and TOURISM DIRECTION signs is already in place or is also required, either:
 - (i) at 1/3 of the distance given in Figure 4.58 for the DIRECTION sign with an existing TOURISM DIRECTION sign at the 2/3 distance; OR
 - (ii) at the 2/3 distance in combination with a TOURISM DIRECTION sign, either as two stacks pointing in opposite directions or as a composite sign GDL1 with a TOURISM insert panel (see Figure 4.95).
- 3 The sign position in paragraph 4.11.9.2(c)(i) should only be used as a last resort, and only in a 60 km/h, or lower speed environment. If a sign installation involving separate DIRECTION, TOURISM DIRECTION and LOCAL DIRECTION signs is being designed for original installation the distance of sign GD1 from the junction should be increased by at least 50% from that given in Figure 4.58. Such an installation must also be assessed for potential driver information overload (see Chapter 1, Sections 1.7 and 1.8, and Sections 4.1 to 4.4 of this Chapter).
- 4 GDL1 signs shall not display route numbers.
- 5 GDL1 signs should normally include an arrow, a symbol and a destination name in each stack in a similar manner to TOURISM DIRECTION signs. Text only or symbol only messages, in addition to the appropriate arrow may be displayed. Arrows used are standard STACK-TYPE arrows which are detailed in Volume 4, Chapter 5. Due to the standard size of symbol, STACK-TYPE 4 and STACK-TYPE 6 arrows are most commonly used. Symbols are sized in the same manner as tourism symbols. Some symbol types are common to direction sign and/or tourism sign symbol categories but may be differently sized. For this reason symbols for use on LOCAL DIRECTION signs are detailed in Volume 4, Chapter 13.
- 6 The most common application of sign GDL1 is likely to be as a single-stack sign supplementing DIRECTION signs on Class B roads or in stand-alone situations on lower class roads. However, GDL1 signs may incorporate multiple-stacks with the same basic design criteria as DIRECTION signs i.e. maximum of three stacks, one stack for one direction etc. Figure 4.95 illustrates a range of permitted variants of sign GDL1 including examples with multiple stacks, more than one destination in a stack and with an insert panel (see also Figure 4.96). GDL1 signs followed by GDL2 signs at the junction may be used on a systematic basis for signing un-numbered tertiary arterial roads or collector-distributor roads (see Figure 4.94).
- 7 TEMPORARY versions of sign GDL1, numbered TGDL1, may be specified if such a provision is considered economic. Temporary sign colours shall be black semi-matt arrow, symbol, text and border on a yellow retroreflective background.
- 8 For the COMPOSITE LOCAL DIRECTION sign GDL1/GDL2 alternative to the use of both GDL1 and GDL2 signs see Subsection 4.11.11.



Detail 4.95.1



Detail 4.95.2



Detail 4.95.3



Detail 4.95.4



Detail 4.95.5



Detail 4.95.6



Detail 4.95.7



Detail 4.95.8

NOTES:

- (1) Detail 4.95.1 shows justification/centring of text/symbols where this does not affect sign size. Details 4.95.3, 4.95.4, 4.95.5 and 4.95.8 show similar treatment with individual variations depending on the position and type of arrow being used.
- (2) Detail 4.95.2 shows justification/centring of text/symbols where the sign in question could be smaller if the treatment in Detail 4.95.7 was to be used. Detail 4.95.2 is included to illustrate the relative difference between the two styles of signface layout.
- (3) Detail 4.95.3 shows an example with a tourism insert panel. This is the preferred layout for this type of message combination (see Figure 4.96 for other insert panel options).
- (4) Details 4.95.5 and 4.95.6 show two destinations in one stack, the former two destinations of a different type and the latter two of the same type.
- (5) Detail 4.95.7 gives details of the option to include a street name panel.

Fig 4.95 Permitted Variants of Advance Local Direction Sign - GDL1

STACK-TYPE LOCAL DIRECTION

For dimensions
ref. Vol 4
pages

13.2.10
to
13.2.13
and
13.2.18
13.2.19

GDL2



COLOURS:

PERMANENT

Border:	Blue retroreflective
Arrows, text	Black semi-matt
Symbol	Black semi-matt
Background	White retroreflective

TEMPORARY

Border, arrows	Black semi-matt
Text and symbol	Black semi-matt
Background	Yellow retroreflective

4.11.10 Stack-Type Local Direction

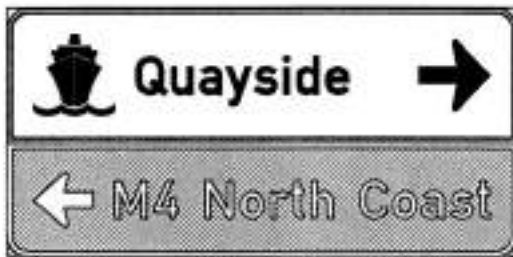
- 1 STACK-TYPE LOCAL DIRECTION signs of the type GDL2 may be used **to indicate to drivers the final turn towards a local destination**. Sign GDL2 will therefore commonly be a single stack sign, unless there are local destinations to left and right at the junction. A local destination is one which does not form part of the navigational/orientational destination system used on Class B (and Class A) numbered routes.
- 2 GDL2 signs should be located in the far left-hand corner of the junction e.g. beyond the point of turn. If the intersecting roadway is a dual carriageway road way, or if there is a turning sliproad, sign GDL2 may be located on the central median island or on the turning sliproad island respectively, provided this is practical and safe.
- 3 GDL2 signs shall not display route numbers.
- 4 GDL2 signs should normally include an arrow, a symbol and a destination name in a similar manner to TOURISM DIRECTION signs. Text only or symbol only messages, in addition to an arrow may be displayed. Arrows used are standard STACK-TYPE 3 arrows as detailed in Volume 4, Chapter 5. Symbols are sized in the same manner as tourism symbols. Same symbol types are common to direction sign and/or tourism sign symbol categories but may be differently sized. For this reason symbols for use on LOCAL DIRECTION signs are detailed in Volume 4, Chapter 13.
- 5 GDL1 signs may be displayed on numbered Class B routes when the local destination has direct access for such a route. The more common application will be on lower class roads at the final turn towards the destination access. On minor roads and for low use destinations FINGERBOARD LOCAL DIRECTION sign GDL3 may be used in place of sign GDL2 (see Subsection 4.11.11).
- 6 LOCAL DESTINATION signs GDL2 may also be used in sequence with ADVANCE LOCAL DIRECTION sign GDL1 as an alternative to DIRECTION class signs on an important Class C tertiary arterial road or collector-distributor road.
- 7 Figure 4.96 shows some of the options for more complex versions of LOCAL DIRECTION sign GDL2 de- sign. When used at a T-junction sign GDL2 should be displayed above T-JUNCTION CHEVRON hazard marker sign W409. Sign W409 shall be constructed to match the overall length of sign GDL2. The sign variant types shown in Figure 4.96 may be used for GDL1 signs. Similarly, when appropriate, the principles of some of the GDL1 variants shown in Figure 4.95 may be used on GDL2 signs.
- 8 Multiple-stack GDL2 signs used as part of the systematic signing of a tertiary arterial road may incorporate a street name panel on top of the sign in similar manner to GD2 signs. The text height for the street name may be reduced to 2/3 to 3/4 of the size of lettering used for the local destination names.
- 9 TEMPORARY versions of sign GDL2, numbered TGDL2, may be specified if such provision is considered economic. Temporary sign colours shall be black semi-matt arrow, symbol, text and border on a yellow retroreflective background.
- 10 For the COMPOSITE LOCAL DIRECTION sign GDL1/GDL2 alternative to the use of both GDL1 and GDL2 signs see Subsection 4.11.11.



Detail 4.96.1



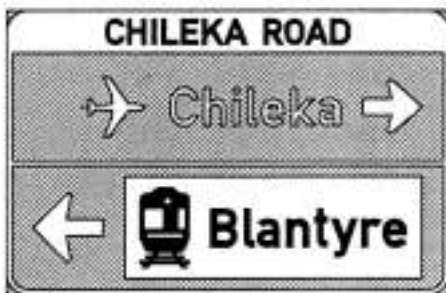
Detail 4.96.2



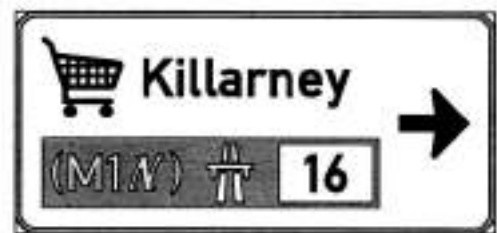
Detail 4.96.3



Detail 4.96.4



Detail 4.96.5



Detail 4.96.6

NOTES:

- (1) Detail4.96.1 shows a two-stack GDL2 sign with a street name panel on top. Such a sign would be part of a comprehensive LOCAL DIRECTION sign system installed on tertiary arterial routes. In this example text has been displayed in two lines to reduce sign length and to further reduce sign size no attempt has been made to centre symbols over each other or to justify text on the left.
- (2) Detail4.96.2 is similar to Detail4.96.1 but illustrates the option to centre symbols and left justify text. In this example this is achieved without increase in sign size due to the upper stack name being shorter than the lower stack name. Note the extension of the lower stack name under the right turn arrow. Note also the use of

hazard marker sign W409.

- (3) Details 4.96.3 to 4.96.6 illustrate sign combination options as follows:
 - Detail4.96.3 - combination of DIRECTION sign stack with LOCAL DIRECTION stack – **NOTE:** double centre border due to colour combinations;
 - Detail4.96.4 - TOURISM insert panel on LOCAL DIRECTION stack;
 - Detail4.96.5 - LOCAL DIRECTION insert panel in a DIRECTION sign stack;
 - Detail4.96.6 - freeway TRAILBLAZER insert panel in LOCAL DIRECTION stack.

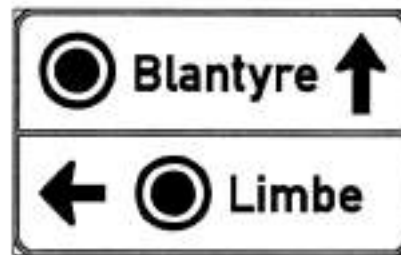
Fig 4.96 Permitted Variants of Local Direction Sign - GDL2

STACK-TYPE COMPOSITE LOCAL DIRECTION

For dimensions
ref. Vol 4
pages

13.2.14
to
13.2.16

GDL1/GDL2



COLOURS:

PERMANENT

Border:	Blue retroreflective
Arrows, text	Black semi-matt
Symbol	Black semi-matt
Background	White retroreflective

TEMPORARY

Border, arrows	Black semi-matt
Text and symbol	Black semi-matt
Background	Yellow retroreflective

4.11.11 Stack-Type Composite Local Direction

- 1 STACK-TYPE COMPOSITE LOCAL DIRECTION signs of the type GDL1/GDL2 may be used instead of an ADVANCE LOCAL DIRECTION sign GDL1 PLUS a LOCAL DIRECTION sign GDL2 **to indicate to drivers the direction to local destinations which do not form part of the navigational/orientational system.**
- 2 GDL1/GDL2 composite signs should be located in the far left-hand corner of the junction e.g. beyond the point of turn in the position normally used for sign GDL2.
- 3 GDL1/GDL2 signs shall not display route numbers.
- 4 GDL1/GDL2 signs follow the general layout rules appropriate to GDL1 signs but use STACK-TYPE 3 arrows in place of STACK-TYPE 6 arrows in the right and/or left turn stacks.
- 5 Since GDL1/GDL2 composite signs have, by virtue of their description, more than one stack, it is very unlikely that such signs will be used to supplement DIRECTION signs on Class B routes. Their use is more appropriate as an economical form of systematised signing for tertiary arterials (see Figure 4.94 and Volume 2, Chapter 9: *Urban Guidance Signing* for more details on the application of GDL1/GDL2 signs).
- 6 Vertical centring of symbols and justification of text is recommended where this can be achieved without a significant increase in sign size.
- 7 TEMPORARY versions of signs GDL1/GDL2, numbered TGDL1/TGDL2, may be specified if such a provision is considered economic. Temporary sign colours shall be black semi-matt arrow, symbol, text and border on a yellow retroreflective background.

FINGERBOARD LOCAL DIRECTION

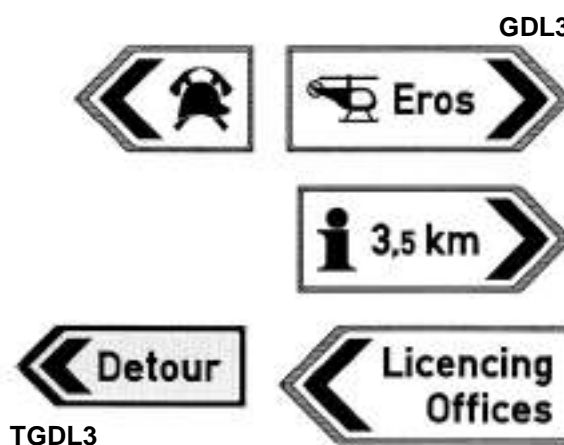
COLOURS:

PERMANENT

Border:	Blue retroreflective
Arrows, text	Black semi-matt
Symbol	Black semi-matt
Background	White retroreflective

TEMPORARY

Border, arrows	Black semi-matt
Text and symbol	Black semi-matt
Background	Yellow retroreflective



For dimensions
ref. Vol 4
pages

13.2.17

4.11.12 Fingerboard Local Direction

- 1 FINGERBOARD LOCAL DIRECTION signs of the type GDL3 may be used at a low level in the road network **to guide drivers towards low use local destinations.**
- 2 GDL3 signs should normally be located in the same manner as GDL2 signs, namely in the far left corner of a junction.
- 3 FINGERBOARD LOCAL DIRECTION signs GDL3 may be used on their own as a tertiary level of direction signing instead of ADVANCE LOCAL DIRECTION signs GDL1 and/or DIRECTION signs GDL2. GDL3 signs are generally more compact than GDL1 or GDL2 stack-type signs on a message for message basis. In terms of the manner in which LOCAL DIRECTION signs may be applied generally, a local authority could adopt a policy to use only sign GDL3 for local destinations. With careful planning it may be appropriate to adopt a standard length of sign, in the range of 1,2 m to 1,5 m and display all local destination messages in such a standard sign. This type of approach could lead to a very tidy local destination signing system. In order to fit a wide range of lengths of destination name onto a standard length of
 - 4 GDL3 sign the use of signs with DIN "B" lettering AND signs with DIN "A" lettering, should be considered.
 - 4 A system such as that described in the previous paragraph could also support a local authority policy to permit a local destination to be signed by a maximum of 3 to 4 GDL3 signs in total. This could permit signs on two approaches to the destination, working from the final turn and then away from this final turn. Alternatively all signs could be located on one approach, route subject to the nearest numbered route being the furthest point at which a sign could be provided.
 - 5 If a standard length of GDL3 sign is adopted a local authority may also develop a policy which permits up to a maximum of 3 or 4 signs in any one junction corner. This approach has the benefit that new destinations can be accommodated up to the set maximum without revising existing signs.
 - 6 TEMPORARY FINGERBOARD sign TGDL3 may be specified but is identical in specification to sign TGD4.

4.12 DIAGRAMMATIC

4.12.1 General

- 1 DIAGRAMMATIC signs have been developed as a result of a need to indicate to drivers an often difficult to anticipate change in the layout of the roadway ahead. Bold diagrammatic representations of the road layout have been evolved in which arrows represent traffic lanes or flows. In this way the alternative of using worded messages, often in two or more languages, may be avoided. Although DIAGRAMMATIC signs are relatively large they are often smaller than would be a comparable worded message sign.
- 2 The greatest need for DIAGRAMMATIC signs has arisen in the field of temporary signing for roadworks. The major rehabilitation of some of Southern Africa's most important roads required that a special effort be made to sign the rapidly changing road layout effectively.
- 3 Although the development of DIAGRAMMATIC signs resulted from temporary signing needs these signs can be equally applicable in permanent situations. The range of likely PERMANENT situations requiring diagrammatic signs is, however, significantly less than that for TEMPORARY diagrammatic signs.
- 4 DIAGRAMMATIC signs, in general, portray messages which have a "warning" connotation. The type of message to be displayed is, however, normally too complex to fit into a standard triangular ADVANCE WARNING sign in the "W" series. Several DIAGRAMMATIC signs have been developed which may be used as an alternative to a conventional ADVANCE WARNING sign. In effect they display the same message but are considered to have a more effective "target" value than the conventional warning sign, even if that were to be displayed on a HIGH VISIBILITY background. The signs offer guidance to drivers regarding conditions ahead and also give guidance as to what actions are likely to be required of drivers in order to negotiate these conditions. The "hazard" aspect of the message is indeed most commonly related to the manner in which drivers may decide to negotiate the change in roadway alignment.
- 5 Ground-mounted DIAGRAMMATIC signs developed to date have been classified into the following groups based on the functional indication given by the arrows on the signface -
 - (a) GS100 series - traffic movement affected by obstruction(s);
 - (b) GS200 series - additional lane;
 - (c) GS300 series - lane use control by regulation (incorporating a regulatory sign);
 - (d) GS400 series - lanes merging;
 - (e) GS450 series - lanes converging (but not merging);
 - (f) GS500 series - arrestor bed and other heavy vehicle related messages (excluding regulatory control of heavy vehicles covered in (c)).
 - (g) GS600 series - unique overhead diagrammatic signs;
 - (h) GS6000 series - overhead versions of other signs (sign number generated by putting a 6 in front of normal 3-digit number group);
 - (i) GS700 series - public transport;
 - (j) GS800 series - at-grade lane layout;
 - (k) GS900 series - junction with warning. (See Subsections 4.12.5 and 4.12.6.)
- 6 Distance information is commonly included on SUPPLEMENTARY PLATE signs mounted below DIAGRAMMATIC signs (see Subsection 4.12.4). The inclusion of word messages on DIAGRAMMATIC signs should only occur in exceptional circumstances. As a general rule if a potential diagrammatic sign displays a "map" of a road layout rather than the lane configuration it should be classified as a MAP-TYPE ADVANCE DIRECTION sign GD9 and as such may include place names in a rural application or street names in an urban application (see Subsection 4.8.9).
- 7 The display of symbols representing different classes of vehicles is not generally recommended. Such displays should preferably be reserved for unique signs designed for specific applications.
- 8 The fact that many DIAGRAMMATIC signs indicate "hazard" related situations should be borne in mind when considering them for permanent application. **The availability of the sign series shall not be seen as saving grace for inadequate geometric design. In practice the use of permanent DIAGRAMMATIC signs should be limited.**
- 9 The same limitation does not apply to the use of temporary DIAGRAMMATIC signs. It is generally accepted that temporary road alignments during construction or rehabilitation are below the standards appropriate to the completed roadway.
- 10 The combination of DIAGRAMMATIC guidance signs with other guidance signs such as DIRECTION or FREEWAY DIRECTION signs should be undertaken with care. When both forms of guidance are provided, space to accommodate the signs may become inadequate, and they may interfere with each other. The amount of information presented to drivers within a short distance can exceed the ability of a driver to effectively process this information.

4.12.2 Temporary Diagrammatic Signing

- 1 Many of the DIAGRAMMATIC signs detailed in the following Subsections on specific sign series are temporary signs. This is because the range of possible "hazard" related lane configurations within roadworks environs is considerable. **Every effort has been made to avoid DIAGRAMMATIC signs becoming unnecessarily complex in their layout.** The examples provided should therefore be considered as "standards".
- 2 In this context it is highly recommended that the geometric treatment of lanes at roadworks sites be designed around the sign examples available, and that new designs should not be created particularly if these are complex. **Only one change in lane or roadway configuration shall be indicated in one sequence of DIAGRAMMATIC signs with a very limited number of exceptions.** If two or more actions are required of drivers each action should be indicated separately in different sequences of signs. Unstable traffic flow tends to occur after each of the situations in which the use of DIAGRAMMATIC signs is recommended. Sufficient distance must therefore be provided for the traffic flow to stabilize before the next action likely to result in further instability is required of drivers.

- 3 A typical arrangement of temporary signing at roadworks is illustrated briefly in Figure 4.98. Temporary signing at roadworks is dealt with in detail in Volume 2, Chapter 13, including many figures covering typical applications.
- 4 Temporary messages at roadworks may need to be varied at short notice or for short periods of time. The various DIAGRAMMATIC signs may be manufactured in a number of ways as very basic forms of VARIABLE MESSAGE sign to facilitate this process. **However, the resultant signface display must remain an accurate rendition of the required message, to the required dimensions, so that the whole system of temporary (and DIAGRAMMATIC) signing is not brought into disrepute with a resultant and long lasting loss of effectiveness.** If such variable messages are to be accommodated on one signface the number of messages to be dealt with on any one sign should be limited to two or three (see Chapter 9).
- 5 The alternative to changing the signfaces many times is that signs may need to be moved around a site relatively frequently. It is therefore worth considering manufacturing these temporary signs from a lighter material than is conventional for permanent signs. The resultant sign may become less durable and a contractor will have to balance these aspects to achieve the most efficient use of his signs.
- 6 The relatively large temporary DIAGRAMMATIC signs are often located very close to passing traffic. Once again a lighter sign will be likely to represent a reduction in hazard to vehicles and site staff at the risk of potentially greater damage to the sign itself in the event of a collision involving the sign.
- 3 Arrows representing opposing traffic flows point downwards and shall always be made shorter than the arrows representing the traffic flows to which the sign applies. The difference in upward and downward pointing arrow lengths is approximately equal to twice the depth of the arrow head.
- 4 The arrows used on all signs except on arrestor bed and downward pointing overhead signs utilize the arrow head of a STACK-TYPE 1 arrow. The arrow head is specified in terms of "d" the stroke width of DIN 1451 Part 2 letters. **It should be noted, however, that for certain sign sizes the shaft width of the arrows is slightly reduced in width over that used on Stack-Type arrows.** These dimensional details are fully covered in Volume 4, Chapter 8. The range of upward-pointing arrow types used on DIAGRAMMATIC signs is illustrated in Figure 4.9 (see Section 4.2).
- 5 **It is a basic principle of the application of DIAGRAMMATIC signs that they shall display a one-part message only, which shall require, in turn, only one action at a time on the part of drivers. Thus a lane-drop shall not be combined with a change of direction on a DIAGRAMMATIC signface display.** Sign series GS400 is the only series which includes arrows representing lanes which actually merge together on the signface, in the direction of travel indicated by the sign. This is, in fact, the specific function of this sign series. An exception to the basic principle applies to a number of arrows which depict an INCREASE in the number of lanes i.e. the arrow forks from one shaft into two. Sign GS151 is an example of such a sign. Sign GS152 shows a change of alignment to the left (away from opposing traffic) AND the splitting of one lane into two. Neither of these circumstances, either separately, or together, is inherently unsafe and will not normally warrant the use of a DIAGRAMMATIC sign. However, some additional factor such as horizontal or vertical curvature, high traffic volumes, vegetation or poor sight distance may justify the use of such a sign (see Subsection 4.12.11).

4.12.3 Signface Design Principles

- 1 The basic principles applicable to the design of DIAGRAMMATIC signs are that, with two sub-group exceptions, there shall be a black arrow representing each lane in the direction of travel represented by the sign and "obstructions" to the normal or anticipated flow of traffic are indicated by red blocks. The exceptions to these principles are represented by the arrestor bed signs sub-group and certain overhead lane use control signs which utilize a single downward pointing arrow. If overhead signs are specified and regulatory control is required over more than one lane, a separate sign, each with a downward pointing arrow, should be located centrally over each lane.
- 2 In a limited number of examples, one or more downward arrows may be used to indicate opposing traffic. **In general, one arrow only is used to indicate the presence of an opposing flow of traffic whether it comprises one or several lanes.** There are, however, a number of temporary application signs which may utilize two downward arrows because it has been felt that it is necessary to indicate the number of opposing traffic lanes. The majority of these latter signs relate to the beginning or end of a dual carriageway or to a three-lane two-way traffic operating condition. **The primary function of the arrow per lane display of DIAGRAMMATIC signs is intended to make drivers aware of what happens to the lanes displayed. The presence of opposing traffic may be important from a safety point of view, but it has been a design principle that the number of approaching lanes is rarely relevant.**
- 6 The "obstructions" represented on the signs by red blocks of various shapes may be real physical obstructions such as concrete barriers, median islands, delineation devices, excavations etc, or they may be perceived "obstructions" such as at a lane-drop where a section of the roadway width does not continue but there may be no physical obstruction. The number of shapes of red blocks has been kept to a minimum. These are detailed in Volume 4, Chapter 8. If a need arises to design a new sign every effort should be made to utilize one of the existing standard blocks. In order to do this it is acceptable that the spaces between sign components may differ from those used on existing sign designs (see Subsection 4.12.10).
- 7 Standard REGULATORY signs in the "R" series may be incorporated into the signface of certain DIAGRAMMATIC signs. When a regulatory sign with a white border is required to be displayed on a white background of a PERMANENT diagrammatic sign the regulatory sign shall have a narrow black border displayed OUTSIDE its standard perimeter. Certain temporary Regulatory signs include an inset black border on a yellow background. If such signs are to be displayed on a yellow TEMPORARY diagrammatic sign background the black border on the regulatory sign shall be widened to equal the width of a permanent sign white border. (These dimensional details are given in Volume 4, Chapters 2 and 8).

4.12.4 Supplementary Plate Signs

1 It is a common principle to include a distance message with a diagrammatic sign. This may be:

- (a) a distance to the situation indicated on a sign;
- (b) a distance for which the condition on the sign will continue to occur.

This distance message shall be indicated below ground-mounted DIAGRAMMATIC signs in separate SUPPLEMENTARY PLATE signs IN11 (or TIN11). On overhead DIAGRAMMATIC signs a distance message shall be displayed within the signface and SUPPLEMENTARY PLATE signs shall not be used.

2 Although the applications are less common, a SUPPLEMENTARY PLATE sign used with a DIAGRAMMATIC sign may also display an advisory speed or some other text message. It is a common feature of DIAGRAMMATIC signs that they be repeated longitudinally along a road or laterally on either side of a carriageway. Under such circumstances signs placed on the same lateral line shall display the same message, including that given by the supplementary plate, when used.

3 Whenever possible supplementary plate signs should be manufactured to standard heights and the width should match that of the sign with which they are to be used. Temporary supplementary plate signs should be designed to be easily removed or changed as the work pattern alters. It is recommended that contractors and maintenance authorities keep a range of standard temporary supplementary plate signs available for this purpose. **Once again it will bring the signing system into disrepute if the information displayed is not maintained in an accurate condition.** For greater detail on SUPPLEMENTARY PLATE signs see Chapter 5 and Volume 4, Chapter 9.

4 SUPPLEMENTARY PLATE signs may utilise DIN 1451 Part 2 Style "A" or "B" lettering. The use of Style "B" lettering is preferred for increased legibility distance. If Style "A" lettering is used the greatest height of letter which will fit the relevant standard sized SUPPLEMENTARY PLATE sign should be used.

4.12.5 Warrants

1 Detailed warrants for the use of DIAGRAMMATIC signs have not been researched and established.

2 In general their use is most appropriate on multi-lane roads. When normal geometric and visibility or sight distance standards prevail the use of permanent DIAGRAMMATIC signs is unlikely to be warranted. However, if design standards have to be lowered for economic or topographical reasons the use of DIAGRAMMATIC signs may be warranted rather than conventional warning signs.

3 Situations in which DIAGRAMMATIC signs are most likely to be required or warranted are:

- (a) to indicated temporary lane or alignment changes at roadworks sites of even a relatively minor, or short term, nature;
- (b) when it is necessary to control lane use by application of regulations which may differ from lane to lane;

(c) in advance of the provision of climbing lanes or overtaking opportunity lanes to advise drivers of an overtaking opportunity ahead;

(d) to indicate changes in lane configuration on three lane two-way sections of roadway that are sufficiently long to warrant altering the number of lanes in one direction from two lanes to one, and *vice versa* in the opposite direction, particularly to permit overtaking opportunities at regular intervals in both directions (since such lane configurations are commonly provided as an interim measure pending major upgrading of a road, standards may not be as high as normal);

(e) at major changes in roadway cross-section and/or lane configuration e.g. end of a dual roadway, or a lane-drop combined with poor sight distance, or at lane merge or converge situations when it is not obvious whether lanes merge or not, or for urban traffic calming measures etc.;

(f) at special heavy vehicle control or safety situations such as arrestor beds or compulsory stops, in advance of tunnels, steep downgrades or at mass measuring stations or other features.

4 Overhead DIAGRAMMATIC signs will normally be warranted in a similar manner to other guidance signs (see Subsection 4.1.9). However if lane use control is to be implemented the only practical way in which control can be achieved may require the use of overhead signs.

4.12.6 Sign Numbering

1 In order to accommodate a wide variety of DIAGRAMMATIC signs the signs have been allocated to functional groups. Although some of these groups comprise only a small number of signs each group has been allocated a separate range of numbers to allow for the addition of new signs in the future.

2 The numbers have been allocated in blocks of 49 or 99 as follows (the numbers of temporary signs are preceded by the letter "T"):

(a) 100 series - **Traffic Movement Affected By Obstructions** - GS101 to GS199 and TGS101 to TGS199 (Subsection 4.12.11);

(b) 200 series - **Additional Lane-** GS201 to GS250 and TGS201 to TGS250 (Subsection 4.12.12);

(c) 300 Series - **Lane Use Control By Regulation** - GS301 to GS399 and TGS301 to TGS399 (Subsection 4.12.13);

(d) 400 Series -

(i) **Lanes Merging** - GS401 to GS450 and TGS401 to TGS450 (Subsection 4.12.14);

(ii) **Lanes Converging** - GS451 to GS499 and TGS451 to TGS499 (Subsection 4.12.15);

(e) 500 Series - **Arrestor Bed and Other Heavy Vehicle Guidance and Control** - GS501 to GS599 and TGS501 to TGS599 (Subsection 4.12.16 and 4.12.17);

(f) 600 Series - **Unique Overhead Signs** (i.e. involving a signface layout NOT included in one of the other series) - GS601 to GS699 and TGS601 to TGS699 (Subsection 4.12.18);

(g) 6000 Series - **Overhead Signs** incorporating a basic sign design used in one of the other series

GS100 to GS900; this number is generated by putting a "6" in front of the other series number e.g. GS6101, GS6209 or GS6405, if the overhead signface display includes a distance the sign number should be qualified by the letter "D" e.g. GS6101D, GS6209D or GS6405D (Subsection 4.12.18);

- (h) 700 Series - **Public Transport**- GS701 to GS799, temporary versions are not likely to be required but are not precluded (see Subsection 4.12.19);
 - (i) 800 Series - **At-Grade Lane Layout** - GS801 to GS899, temporary versions are not likely to be required but are not precluded (see Subsection 4.12.20);
 - (j) 900 Series - **Junction with Warning** - GS901 to GS999 and TGS901 to TGS999 - this series refers to signs of different junction layout by number (NOT to the type of warning sign used) (see Subsection 4.12.21).
- 3 PERMANENT and TEMPORARY versions of a sign are only indicated in subsequent Subsections when both are likely to be used. Many signs will only be used in permanent applications and many others only in temporary applications. Space has been left for PERMANENT or TEMPORARY signs to be added in the future as and when a demand occurs. When this happens the signs shall be accorded the number equivalent to the existing permanent or temporary sign. If a completely new signface design is required the resultant sign shall be numbered with the next available number in the appropriate category. No attempt shall be made to insert signs between existing numbers or to use other prefix or suffix forms of numbering.

4.12.7 Sign Sequences

- 1 It is common practice when use of a DIAGRAMMATIC sign is justified, that two or more signs are displayed in sequence.
- 2 A sign sequence may comprise one or more advance signs, with appropriate distance supplementary plate signs, in addition to a sign located approximately at the position where the displayed condition occurs or starts to occur. Thus a two sign sequence may comprise one advance sign and a sign at the point of change, or two advance signs.
- 3 When approach speeds are high the number of signs displayed may be further increased. A sequence of more than three signs is likely to be rare. However, in temporary roadworks situations, particularly on freeways it has been found effective to repeat the sign messages on the left and right of multi-lane carriageways.
- 4 The number of signs required or capable of being displayed will be largely a function of individual site conditions such as traffic approach speeds, sight distances, side space etc. Typical examples of permanent and temporary DIAGRAMMATIC sign sequences are given in Figures 4.97 and 4.98. A considerable number of additional temporary diagrammatic sign sequence examples are given in Volume 2, Chapter 13.
- 5 Signs in a sequence with the same message must be spaced adequately apart to be effective. The concept of repeating the sign message is intended to achieve its objective of driver understanding but this will not be effective if signs are so closely spaced as to appear as

a "blur" of information. A separation between repeat DIAGRAMMATIC signs of 200 m is recommended for approach speeds of 80 km/h to 100 km/h. The closest distance that a DIAGRAMMATIC sign displaying a distance on a supplementary plate sign (IN11.3 or TIN11.3) should be located in advance of the condition to which it refers should be 100 m in rural areas and 60 m in urban areas. The same sign may be used to identify the point at which a change occurs. Such a sign should not include a distance supplementary plate sign but may for instance, include an advisory speed supplementary plate sign (IN11.1 or TIN11.1).

4.12.8 Shape, Size and Colours

- 1 DIAGRAMMATIC signs are rectangular in shape and, in principle, should be vertically formatted. (Signs displaying more than three arrows may tend to become square or, effectively horizontally formatted.)
- 2 The basic range of overall sizes for DIAGRAMMATIC signs is the same as for HIGH VISIBILITY signs. The standard width/height sizes are:
 - 1800 mm/2400 mm, 1200 mm/1600 mm and 900 mm/1200 mm.

The smallest size is only recommended for low speed urban applications where side space is very limited (see Volume 4, Chapter 8).
- 3 The use of standardized overall widths and heights is intended to simplify manufacture and rapid mounting or moving, particularly for temporary signs.
- 4 Dimensions within the signface are given in Volume 4, Chapter 8. As a general rule arrow and block sizes should be standardised and any variations required by different designs is taken up by varying the spaces between signface components.
- 5 The colours of the PERMANENT diagrammatic signs are the same as used on HIGH VISIBILITY signs in that the background is white and the border red. All arrows, and any text or symbols, shall be black. The indication of an "obstruction" shall be by means of a red block.
- 6 TEMPORARY diagrammatic signs conform to the general colour code for temporary signs in that the background is yellow and the border black. All arrows and any text or symbols shall be black and "obstructions" shall be indicated by red blocks.
- 7 If a regulatory or warning sign is incorporated into the signface of a diagrammatic sign it shall be displayed in its standard permanent or temporary colours as appropriate.

4.12.9 Retroreflectivity

- 1 It is recommended that, because of the general "hazard" connotation and high visibility requirement of DIAGRAMMATIC signs, they be manufactured with all white, yellow or red areas fully retroreflective. All black areas shall be semi-matt.
- 2 The placing of red retroreflective material on yellow retroreflective material can result in poor luminous contrast between the two colours under certain circumstances (see Chapter 1).

4.12.10 Other Diagrammatic Signs

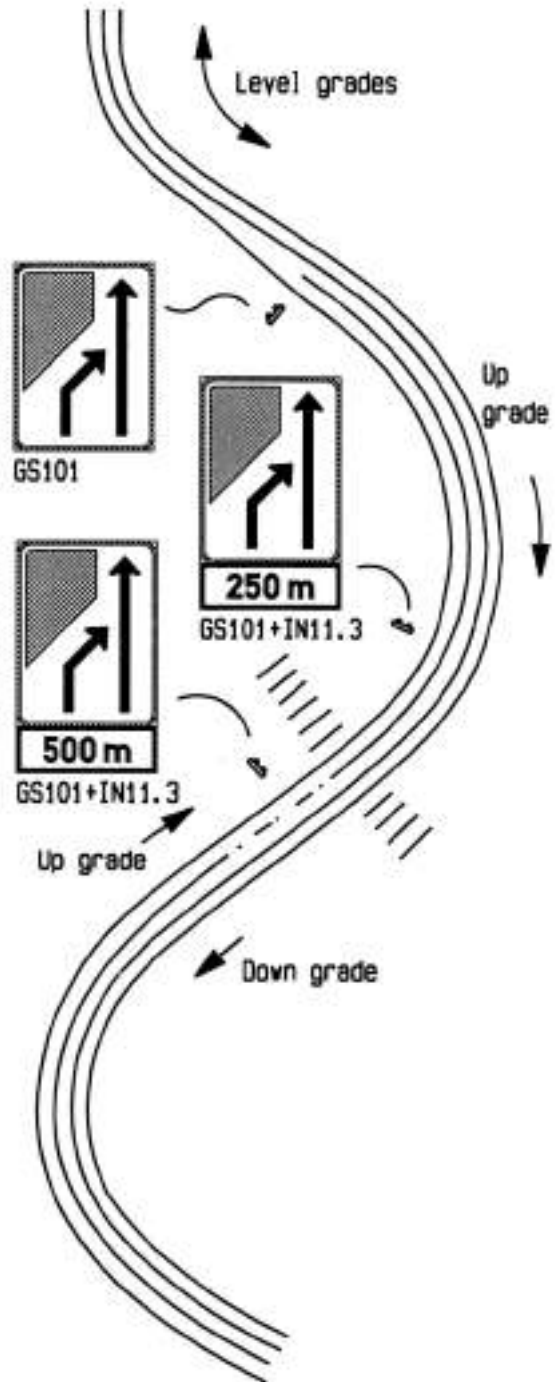
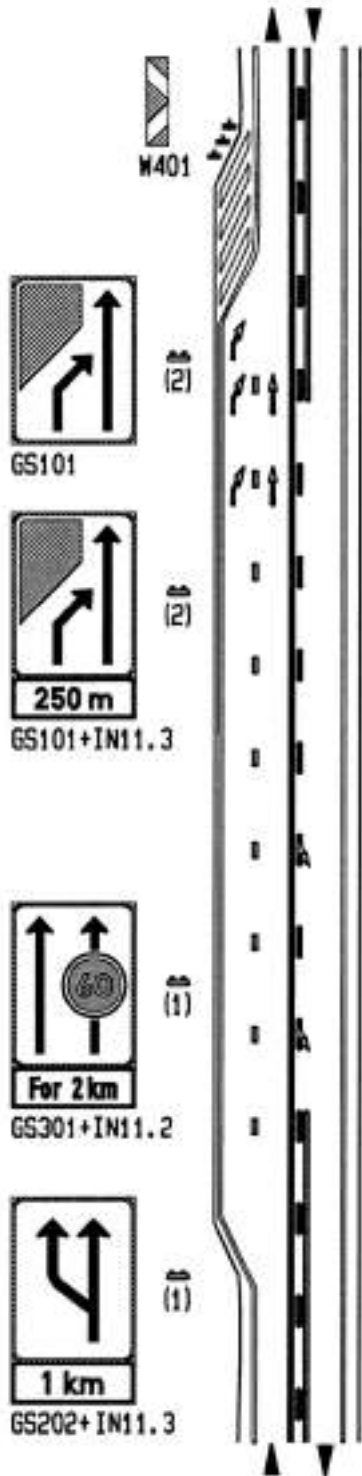
- 1 In spite of the number of signs detailed in the following

Subsections every effort has been made not to create DIAGRAMMATIC signs which do not have a specifically required use.

- 2 DIAGRAMMATIC signs are, however, a relatively new concept and it is anticipated that additional designs will be required from time to time. Designers should maintain a systematic approach to such design bearing in mind the principles given in Subsections 4.12.3 and 4.12.8. Standard sign sizes and components should be utilized.
- 3 The need to use a PERMANENT or TEMPORARY version of a DIAGRAMMATIC sign which has previously been used only in the other form should be well motivated and should be reported to the Secretary of the COLTO Road Traffic Signs Technical Committee.
- 4 The need to manufacture additional sign designs shall be reported by the designer, manufacturer or authority to:

The Secretary
Route Numbering and Road Traffic Signs Sub-Committee
c/o Department of Transport
Private Bag
X193
Pretoria
0001.

This will enable a co-ordinated approach to new sign designs to be adopted.



Detail 4.97.1 Addition and Dropping of a Climbing Lane

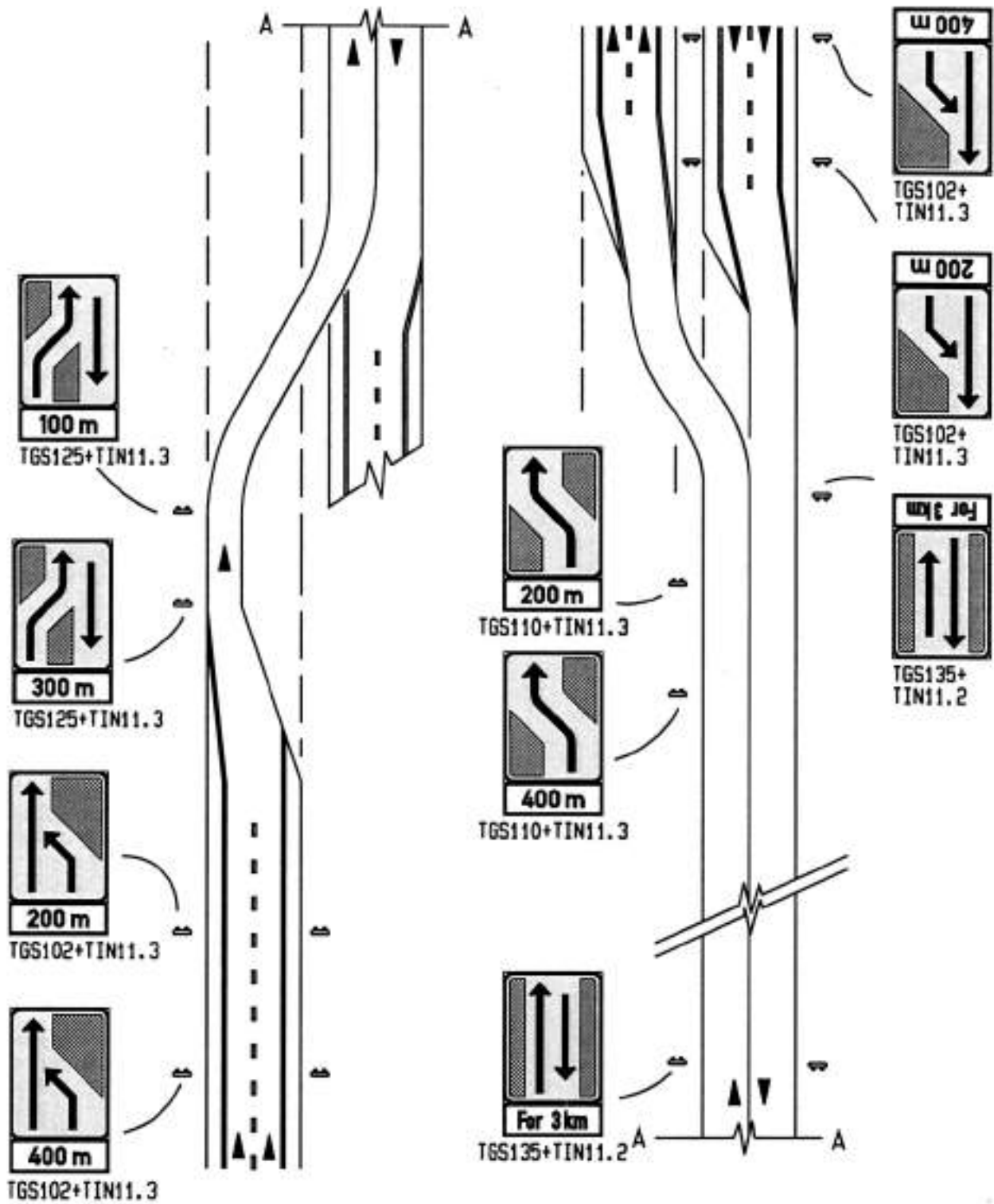
Detail 4.97.2 Lane Drop

NOTES:

(1) Detail 4.97.1 illustrates a typical climbing lane sequence involving a range of different signs. Signs (1) are optional. Signs (2) form a two sign sequence which in some circumstances may be the only signs necessary for such a situation.

(2) Detail 4.97.2 illustrates a typical sign sequence for a lane drop where vertical and horizontal alignment and the approach speed of traffic warrant an extra advance sign.

Fig 4.97 Typical Permanent Diagrammatic Sign Sequences



Detail 4.98.1 Lane Drop / Median Crossover

Detail 4.98.2 Reduced Width / Median Crossover / Lane Drop

NOTES:

(1) The detail illustrates, in a somewhat simplified form, temporary diagrammatic sign sets, or sequences, typical of a major freeway roadworks site.

(2) Identification of the actual point at which a change in a roadway configuration occurs is normally given in roadworks circumstances by more compact signs such as regulatory signs (e.g. TR103 or TR104) or warning signs (e.g. W401 or W402) which have been omitted for clarity (see Volume 2, Chapter 13).

Fig 4.98 Typical Temporary Diagrammatic Sign Sequences

4.12.11 Traffic Movement Affected by Obstruction

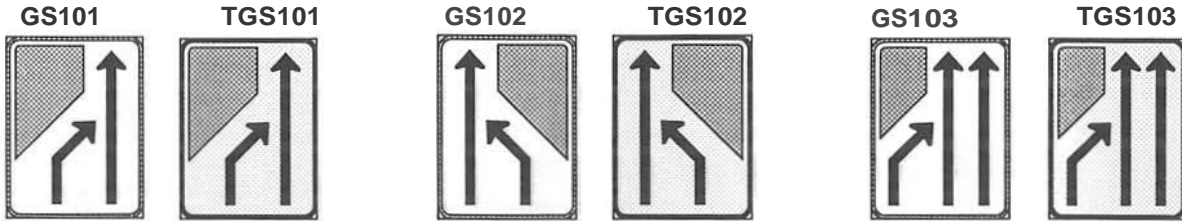
- 1 DIAGRAMMATIC signs in the GS100 series may be used **to give guidance to drivers that traffic movement is affected by an obstruction, or perceived obstruction, in the road ahead.** The principles relevant to the message display of signs in this series are covered in Subsections 4.12.2 and 4.12.3.
- 2 It shall be a basic principle that GS100 series signs shall relate to only one road condition requiring driver action (see paragraphs 4.12.2.2 and 4.12.11.9).
- 3 GS100 series signs may be PERMANENT or TEMPORARY. It should be noted that TEMPORARY DIAGRAMMATIC signs are primarily intended to be used at roadworks sites where work activity, in conjunction with a temporary, normally sub-standard, alignment combine to produce a hazardous situation. Such conditions may be temporary for a matter of hours, for days or even for months but they remain part of an active work area and are constantly changing at a detailed level. If, for whatever reason, a sub-standard road alignment is created, which will exist for some months (or years) but is not the site of on-going work activities, such a situation should, if warranted, be signed with PERMANENT signs, and not with TEMPORARY signs.
- 4 The functional meaning of each individual sign type is given on the following pages below each sign. Although numbered individually many signs are paired for description purposes because their function is simply handed to the left or the right. Where there is no obvious pairing the signs are described individually. Few permanent applications of the signs in this category are likely to occur. Only those that are known to have been used are illustrated.
- 5 GS100 series signs, particularly in their TEMPORARY applications, are commonly displayed in sequence sets, although they may be used on an individual basis. The signs should normally be mounted on the left side of the roadway. However, if the situation is relevant to traffic on the right side of a multi-lane one-way roadway the signs may be effectively mounted on the right-side of traffic. In roadworks sites involving high traffic volumes it is recommended that signs be mounted on the left and right sides if possible (see Subsections 4.12.2 and 4.12.7 and Figures 4.97 and 4.98).
- 6 When GS100 signs of the same type (such as GS101 or TGS101 indicating a lane drop on the left) are repeated in sequence they must be placed an adequate distance from the point to which they apply and an adequate distance apart. Advance signs shall be provided with a SUPPLEMENTARY PLATE sign IN11.3 (TIN 11.3) indicating the distance to the obstruction (see Subsection 4.12.8).
- 7 Signs TGS101 to TGS129 relate to a reduction in the number of lanes or to changes in lane alignment as a result of an obstruction occurring in the roadway. Signs TGS130 to TGS144 relate to a roadway width which is reduced by a longitudinal obstruction or in some other way inhibited (by the presence of workmen for instance). Signs TGS130 to TGS144 will normally be displayed within the restricted section, not in advance. They should therefore be provided with SUPPLEMENTARY PLATE signs IN11.2 (TIN11.2) indicating the distance for which the condition will continue to occur. These signs may be positioned at regular intervals, displaying decreasing distances to give drivers a "count-down" type of message. Signs TGS145 (GS145) to TGS150 (GS150) apply specifically to temporary or permanent beginning or end of freeway (Class A1) or dual carriageway situations. Their use should only be considered when it is felt that warning signs TW116 (W116) to TW119 (W119), even in HIGH VISIBILITY form, are unlikely to be effective.
- 8 The indication of a dual message on this group of signs shall only be used if neither message requires a hazard related action from drivers. The message displays of GS151 and GS152 relate to the realignment of a single lane of traffic to left, often away from opposing traffic, AND to an increase in the number of lanes available. Neither of these messages relates to a condition which is inherently unsafe. The use of temporary versions of signs GS151 and GS152 is not normally recommended. Experience has indicated that when such circumstances are created during a roadworks operation that unstable flow tends to occur after the change of alignment and drivers attempt early overtaking manoeuvres. The provision of a stabilizing zone between the change of alignment and the addition of a lane, or lanes, is therefore recommended.
- 9 If there is more than one component to the message required at a specific site and one or more is hazard related, the message should be split into parts which drivers can reasonably manage to interpret and act upon safely. This will almost certainly require two or more sign sequences and may affect the actual roadway geometry.
- 10 A number of signs in this series are similar in their display. This may make selection of the most appropriate sign difficult. Each situation requiring signing should therefore be carefully considered before ordering signs. The following guidelines may be considered when making a selection:
 - (a) remember that an obstruction may be "perceived" rather than real, therefore sign TGS109 may be more appropriate than sign TGS107 if the obstruction to the right of traffic is not so much physical as "perceived" e.g. an un-surfaced shoulder or new construction behind DELINEATOR signs TW401 or TW402;
 - (b) is the display of opposing traffic really necessary when traffic is diverted away from it i.e. would sign TGS108 be satisfactory or is TGS127 necessary due to some complicating factor which makes the display of the presence of opposing traffic at this point advisable?;
 - (c) it is advisable when two way traffic passes through a restricted area or round an obstruction to show both traffic flows; thus sign TGS112 is preferable to sign TGS108 in such circumstances.
- 11 On multi-lane roadways it may be necessary to display GS100 series sign messages in an overhead position. The sign design is adapted for this purpose and should be provided as detailed in Subsection 4.12.18. Over-head signs of this type are appropriately numbered.

GS100 SERIES- TRAFFIC MOVEMENT AFFECTED BY OBSTRUCTION

COLOURS: PERMANENT
 Border & block: Red retroreflective
 Arrows: Black semi-matt Text
 Background: White retroreflective

TEMPORARY
 Border & arrows: Black semi-matt
 Block: Text: Red retroreflective
 Background: Black semi-matt
 Yellow retroreflective

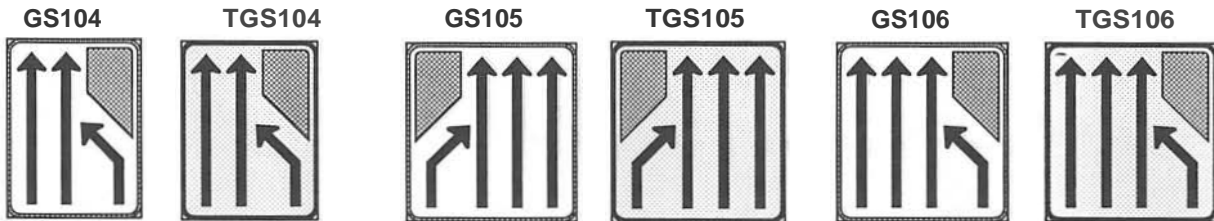
For dimensions:
 refer Vol4
 pages
 8.2.1
 to 8.2.8 **



Signs GS101 (TGS101) may be used to guide drivers by a diagrammatic display indicating that the left hand lane of a roadway comprising two lanes in one direction, ends.

Signs GS102 (TGS102) may be used to guide drivers by a diagrammatic display indicating that the right hand lane of a roadway comprising two lanes in one direction, ends.

Signs GS103 (TGS103) may be used to guide drivers by a diagrammatic display indicating that the left hand lane of a roadway comprising three lanes in one direction, ends.



Signs GS104 (TGS104) may be used to guide drivers by a diagrammatic display indicating that the right hand lane of a roadway comprising three lanes in one direction, ends.

Signs GS105 (TGS105) may be used to guide drivers by a diagrammatic display indicating that the left hand lane of a roadway comprising four lanes in one direction, ends.

Signs GS106 (TGS106) may be used to guide drivers by a diagrammatic display indicating that the right hand lane of a roadway comprising four lanes in one direction, ends.



Sign TGS107 may be used to guide drivers by a diagrammatic display that a single line of traffic is diverted to the right of an obstruction.

Sign TGS108 may be used to guide drivers by a diagrammatic display that a single line of traffic is diverted to the left of an obstruction.

Sign TGS109 may be used to guide drivers by a diagrammatic display that a single line of traffic is diverted to the right through an obstruction.



Sign TGS110 may be used to guide drivers by a diagrammatic display that a single line of traffic is diverted to the left through an obstruction.

Sign TGS111 may be used to guide drivers by a diagrammatic display that two-lane two-way traffic is diverted to the right of an obstruction.

Sign TGS112 may be used to guide drivers by a diagrammatic display that two-lane two-way traffic is diverted to the left of an obstruction.

GS100 SERIES - TRAFFIC MOVEMENT AFFECTED BY OBSTRUCTION (Cont.)

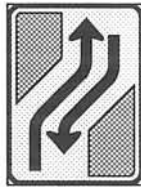
For dimensions:
refer Vo/ 4
pages
8.2.810
8.2.20

COLOURS:

PERMANENT
Border & block: Red retroreflective
Arrows: Black semi-matt Text: Black semi-matt
Background: White retroreflective

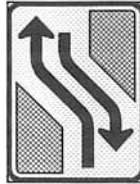
TEMPORARY
Border & arrows: Black semi-matt
Block: Red retroreflective
Text: Black semi-matt
Background: Yellow retroreflective

TGS113



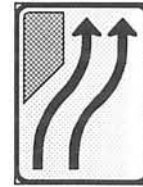
Sign TGS113 may be used to guide drivers by a diagrammatic display indicating that two-lane two-way traffic is diverted to the right through an obstruction.

TGS114



Sign TGS114 may be used to guide drivers by a diagrammatic display indicating that two-lane two-way traffic is diverted to the left through an obstruction.

TGS115



Sign TGS115 may be used to guide drivers by a diagrammatic display indicating that two lanes of traffic are diverted to the right of an obstruction.

TGS116



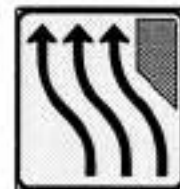
Sign TGS116 may be used to guide drivers by a diagrammatic display indicating that two lanes of traffic are diverted to the left of an obstruction.

TGS117



Sign TGS117 may be used to guide drivers by a diagrammatic display indicating that three lanes of traffic are diverted to the right of an obstruction.

TGS118



Sign TGS118 may be used to guide drivers by a diagrammatic display indicating that three lanes of traffic are diverted to the left of an obstruction.

TGS119



Sign TGS119 may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the right through an obstruction.

TGS120



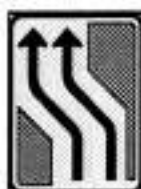
Sign TGS120 may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the left through an obstruction.

TGS121



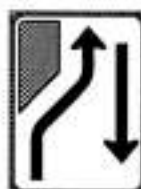
Sign TGS121 may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the right through an obstruction and that these lanes are separated from opposing traffic by a continuous barrier.

TGS122

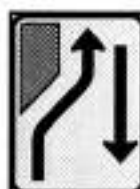


Sign TGS122 may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the left through an obstruction and that these lanes are separated from opposing traffic by a continuous barrier.

GS123



TGS123



Signs GS123 (TGS123) may be used to guide drivers by a diagrammatic display that one lane of traffic is diverted to the right towards opposing traffic by an obstruction.

GS124



TGS124



Signs GS124 (TGS124) may be used to guide drivers by a diagrammatic display that one lane of traffic is diverted to the left away from opposing traffic by an obstruction.

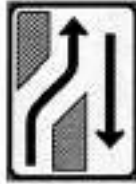
GS100 SERIES - TRAFFIC MOVEMENT AFFECTED BY OBSTRUCTION (Cont.)

COLOURS: PERMANENT
 Border & block: Red retroreflective
 Arrows: Black semi-matt
 Text: Black semi-matt
 Background: White retroreflective

TEMPORARY
 Border & arrows: Black semi-matt
 Block: Red retroreflective
 Text: Black semi-matt
 Background: Yellow retroreflective

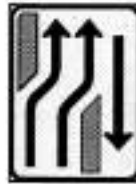
For dimensions:
 refer Vol 4
 pages
 8.2.21
 to 8.2.33

TGS125



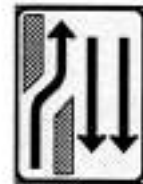
Sign TGS125 may be used to guide drivers by a diagrammatic display indicating that one lane of traffic is diverted to the right towards opposing traffic through an obstruction.

TGS126



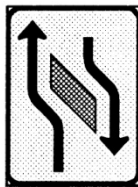
Sign TGS126 may be used to guide drivers by a diagrammatic display indicating that two lanes of traffic are diverted to the right towards opposing traffic through an obstruction.

TGS127



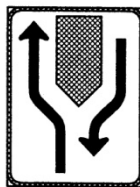
Sign TGS127 may be used to guide drivers by a diagrammatic display indicating that one lane of traffic is diverted to the right towards two lanes of opposing traffic through an obstruction. (This situation implies three-lane two-way operation of the following roadway.)

TGS128



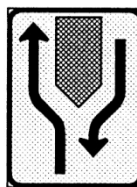
Sign TGS128 may be used to guide drivers by a diagrammatic display indicating that a two-lane two-way roadway changes alignment to the left and the opposing traffic flows are separated by an obstruction.

GS129

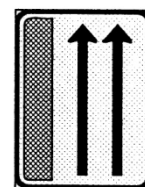


Signs GS129 (TGS129) may be used to guide drivers by a diagrammatic display indicating that one lane of traffic is diverted to the left away from opposing traffic and that opposing traffic flows are separated by an obstruction.

TGS129

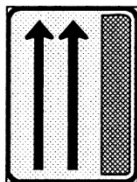


TGS130



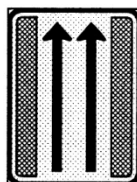
Sign TGS130 may be used to guide drivers by a diagrammatic display that the roadway width for two-lane traffic is restricted on the left side by an obstruction.

TGS131



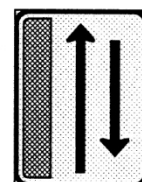
Sign TGS131 may be used to guide drivers by a diagrammatic display that the roadway width for two-lane traffic is restricted on the right side by an obstruction.

TGS132



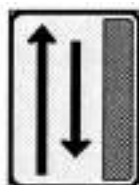
Sign TGS132 may be used to guide drivers by a diagrammatic display that the roadway width for two-lane one-way traffic is restricted on both sides by obstructions.

TGS133



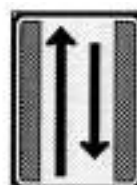
Sign TGS133 may be used to guide drivers by a diagrammatic display that the roadway width for two-lane two-way traffic is restricted on the left side by an obstruction.

TGS134



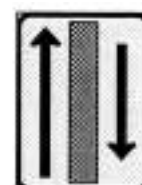
Sign TGS134 may be used to guide drivers by a diagrammatic display that the roadway width for two-lane two-way traffic is restricted on the right side by an obstruction.

TGS135



Sign TGS135 may be used to guide drivers by a diagrammatic display that the roadway width for two-lane two-way traffic is restricted on both sides by obstructions.

TGS136



Sign TGS136 may be used to guide drivers by a diagrammatic display that opposing single lanes of traffic are separated by an obstruction and that roadway width is restricted.

GS100 SERIES-TRAFFIC MOVEMENT AFFECTED BY OBSTRUCTION (Cont.)

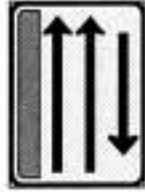
For dimensions:
refer Vol4
pages
8.2.34 to
8.2.44

COLOURS:

PERMANENT
Border & block: Red retroreflective
Arrows: Black semi-mat/ Text: Black semi-matt
Background: White retroreflective

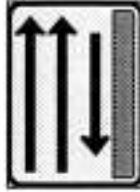
TEMPORARY
Border & arrows: Black semi-matt
Block: Red retroreflective
Text: Black semi-matt
Background: Yellow retroreflective

TGS137



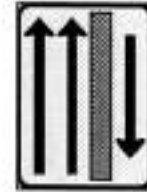
Sign TGS137 may be used to guide drivers by a diagrammatic display indicating that the roadway width for three-lane two-way traffic is restricted on the left by an obstruction.

TGS138



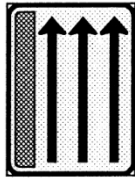
Sign TGS138 may be used to guide drivers by a diagrammatic display indicating that the roadway width for three-lane two-way traffic is restricted on the right by an obstruction.

TGS139



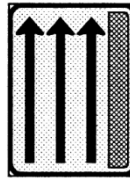
Sign TGS139 may be used to guide drivers by a diagrammatic display indicating that two lanes of traffic and a single opposing lane of traffic are separated by an obstruction and that roadway width is restricted.

TGS140



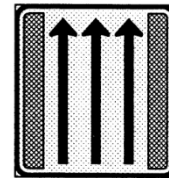
Sign TGS140 may be used to guide drivers by a diagrammatic display that the roadway width for three-lane traffic is restricted on the left side of an obstruction.

TGS141



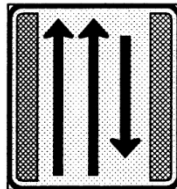
Sign TGS141 may be used to guide drivers by a diagrammatic display that the roadway width for three-lane traffic is restricted on the right side of an obstruction.

TGS142



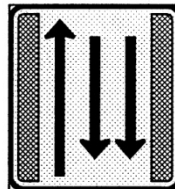
Sign TGS142 may be used to guide drivers by a diagrammatic display that the roadway width for three-lane traffic is restricted on both sides by obstructions.

TGS143



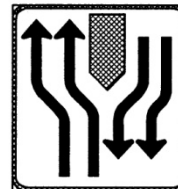
Sign TGS143 may be used to guide drivers by a diagrammatic display that the roadway width for three-lane two-way traffic with two lanes in the indicated direction, is restricted on both sides by obstructions.

TGS144



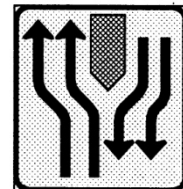
Sign TGS144 may be used to guide drivers by a diagrammatic display that the roadway width for three-lane two-way traffic with one lane in the indicated direction, is restricted on both sides by obstructions.

GS145

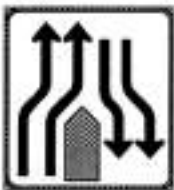


Sign GS145 (TGS145) may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the left away from opposing traffic at an obstruction.

TGS145

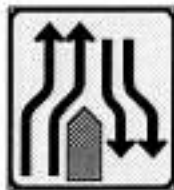


GS146

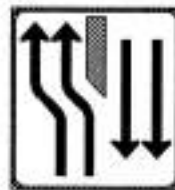


Sign GS146 (TGS146) may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the right towards opposing traffic at an obstruction.

TGS146

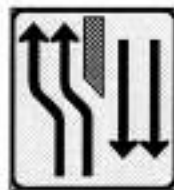


GS147

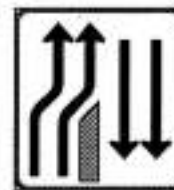


Sign GS147 (TGS147) may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the left away from opposing traffic at an obstruction. (The opposing traffic remains on a straight path.)

TGS147

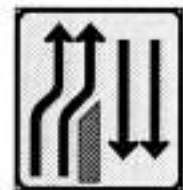


GS148



Signs GS148 (TGS148) may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the right towards opposing traffic at an obstruction. (The opposing traffic remains on a straight path.)

TGS148



GS100 SERIES - TRAFFIC MOVEMENT AFFECTED BY OBSTRUCTION (Cont.)

COLOURS:

PERMANENT

Border & block: Red retroreflective
 Arrows: Black semi-matt Text: Black semi-matt
 Background: White retroreflective

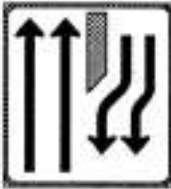
TEMPORARY

Border & arrows: Black semi-matt
 Block: Text: Red retroreflective
 Background: Black semi-matt
 Yellow retroreflective

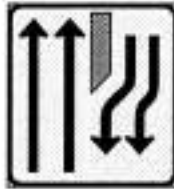
For dimensions:

refer Vo/4
 pages 8.2.45
 to 8.2.58

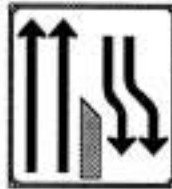
GS149



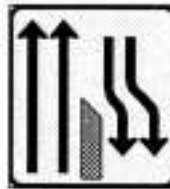
TGS149



GS150



TGS150



GS151

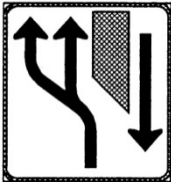


Sign GS149 (TGS149) may be used to guide drivers by a diagrammatic display indicating that two lanes of traffic become separated from opposing traffic by an obstruction.

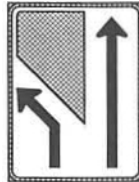
Sign GS150 (TGS150) may be used to guide drivers by a diagrammatic display indicating that a separating lane is diverted to the left of an obstruction between four-lane two-way traffic ends.

Sign GS151 may be used to guide drivers by a diagrammatic display that a single obstruction AND splits into two lanes at the same time. (Applications of this principle should be strictly limited - see Subsection 4.12.3.)

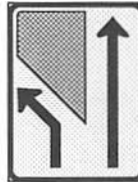
GS152



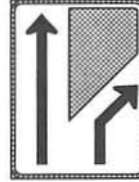
GS153



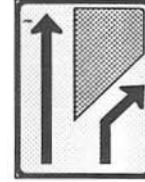
TGS153



GS154



TGS154

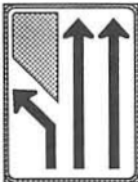


Sign GS152 may be used to guide drivers by a diagrammatic display indicating that a single lane is diverted to the left of an obstruction away from opposing traffic AND splits into two lanes at the same time. (Applications of this principle should be strictly limited - see Subsection 4.12.3.)

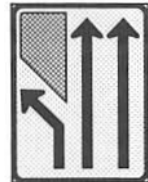
Sign GS153 (TGS153) may be used to guide drivers by a diagrammatic display that the left lane of a two-lane roadway does not continue beyond an obstruction and is diverted to the left of it.

Sign GS154 (TGS154) may be used to guide drivers by a diagrammatic display that the right lane of a two-lane roadway does not continue beyond an obstruction and is diverted to the right of it.

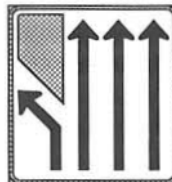
GS155



TGS155



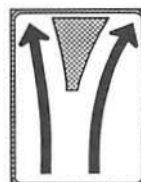
GS156



TGS156



GS157

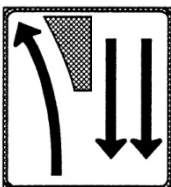


Sign GS155 (TGS155) may be used to guide drivers by a diagrammatic display that the left lane of a three-lane roadway does not continue beyond an obstruction and is diverted to the left of it.

Sign GS156 (TGS156) may be used to guide drivers by a diagrammatic display that the left lane of a four-lane roadway does not continue beyond an obstruction and is diverted to the left of it.

Sign GS157 may be used to guide drivers by a diagrammatic display that two lanes of traffic are diverted to the left and right of an obstruction and that the lanes curve.

GS158



Sign GS158 may be used to guide drivers by a diagrammatic display that the roadway curves to the left of an obstruction away from opposing traffic.

4.12.12 Additional Lane

- 1 DIAGRAMMATIC signs in the GS200 series, numbered from GS201 (TGS201) to GS299 (TGS299) (all numbers are not allocated at time of printing), may be used *to give guidance to drivers that the number of lanes available to traffic travelling in their direction will increase some distance ahead.* The signface message of signs in this series is less "hazard" related than other DIAGRAMMATIC sign series. The addition of a lane is rarely likely to result in hazardously unstable traffic flow conditions, although weaving and/or over-taking actions may commonly occur in the following road section.
- 2 It is recommended that the message display of GS201 to GS299 signs (and their temporary equivalents when, and if, required) adhere to the general principle of displaying only one road condition requiring driver action at one time.
- 3 Signs GS201 to GS299 may be used in PERMANENT or TEMPORARY applications. The sign message principles involved are more relevant to PERMANENT signing situations but this does not preclude their use in a TEMPORARY form at roadworks sites. The signs indicated on the following pages are thus PERMANENT sign examples. Space has been left for temporary versions to be added should these be required in future. Before deciding to use one of these signs in a TEMPORARY form consideration should be given as to whether there is a more appropriate sign in the TGS100 series.
- 4 The functional meaning of each individual sign type is given on the following pages below each sign.
- 5 The application of signs in this group tends to vary for different sub-groups. The signs may be used in advance with a SUPPLEMENTARY PLATE sign IN11.3 indicating the distance to the situation being signed, and/or at the point where the additional lane occurs without a supplementary plate sign (see paragraph 4.12.12.7).
- 6 If two or more signs of the same type are used on one approach they must be placed an adequate distance apart. The signs should normally be mounted on the left side of the roadway.
- 7 Signs GS201 to GS210 deal with the addition of a lane to the roadway without this addition being specifically related to a junction with another roadway. Such situations include the addition of a climbing lane or an additional lane provided to improve overtaking opportunity. The latter condition may commonly relate to alternating three-lane two-way cross-sections provided in rolling topography. In such a situation these sign types may therefore be required facing traffic travelling in both directions. Signs GS201 to GS210 should normally be placed 500 m to 1 km in advance of the start of the additional lane to reassure drivers that a crawling or overtaking opportunity is available a short distance ahead. A number of signs in this sub-group are very similar. The principle differences are the manner in which the extra lane is added and the indication or otherwise of opposing traffic. The additional lane should be indicated in a manner as closely related to its actual occurrence as possible. The availability of signs does not imply any preference for one type for one type of geometric treatment over another. An indication of opposing traffic by means of a downward pointing arrow need only be given if this constitutes some degree of hazard at the point where the addition of the lane occurs. If opposing traffic is indicated one arrow only need be displayed even for multi-lane conditions.
- 8 Signs GS211 to GS214 relate to the addition of a lane at a junction and are intended to reassure drivers that they do not need to merge or immediately change lane due to joining traffic. However, situations in which these signs may be used commonly involve subsequent weaving movements. Alternatively slow moving traffic may wish to move to the left beyond the addition of the new lane thereby creating potential for weaving movements. Sign GS211 to GS214 may be used instead of ADVANCE WARNING signs W111 to W114 when greater visual impact is required or where an indication of the number of lanes is considered necessary.
- 9 It has been a practice in the past to indicate on multi-lane signface displays, by means of a symbol, that heavy vehicles should travel in the left-hand lane. This form of display should be reserved for special situations such as mandatory truck stops (see Subsection 4.12.14 and Volume 2, Chapter 11).. If a design of this type is required it will need to be specially detailed for manufacturing purposes. Limited guidelines are given in Volume 4, Chapter 8.
- 10 On multi-lane roadways difficulties experienced in observing signs may warrant indicating additional lane messages on overhead signs (see Subsections 4.1.6 and 4.12.18).

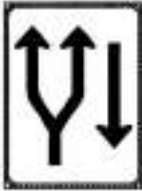
GS200 SERIES - ADDITIONAL LANE

COLOURS: PERMANENT
 Border & block: Red retroreflective
 Arrows: Black semi-matt Text: Black semi-matt
 Background: White retroreflective

TEMPORARY
 Border & arrows: Black semi-matt
 Block: Text: Red retroreflective
 Background: Black semi-matt Yellow retroreflective

For dimensions:
 refer Vo/4
 pages
 8.3.1
 to 8.3.8

GS201



Sign GS201 may be used to guide drivers by a diagrammatic display that the lane in which they are travelling splits to left and right into two lanes. (An opposing traffic flow is indicated.)

GS202



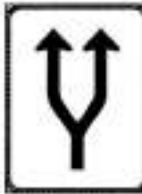
Sign GS202 may be used to guide drivers by a diagrammatic display that a lane is to be added to the left of the lane in which they are travelling. (An opposing traffic flow is indicated.)

GS203



Sign GS203 may be used to guide drivers by a diagrammatic display that a lane is to be added to the right of the lane in which they are travelling. (An opposing traffic flow is indicated.)

GS204



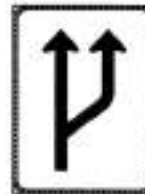
Sign GS204 may be used to guide drivers by a diagrammatic display that the lane in which they are travelling splits to left and right into two lanes.

GS205



Signs GS205 may be used to guide drivers by a diagrammatic display that a lane is to be added to the left of the lane in which they are travelling.

GS206



Sign GS206 may be used to guide drivers by a diagrammatic display that a lane is to be added to the right of the lane in which they are travelling.

GS207



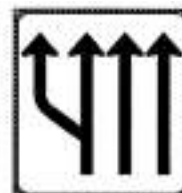
Sign GS207 may be used to guide drivers by a diagrammatic display that a lane is added to the left of a two-lane roadway.

GS208



Sign GS208 may be used to guide drivers by a diagrammatic display that a lane is added to the right of a two-lane roadway.

GS209



Sign GS209 may be used to guide drivers by a diagrammatic display that a lane is added the left of a three-lane roadway.

GS210



Sign GS210 may be used to guide drivers by a diagrammatic display that a lane is added to the right of a three-lane roadway.

GS211



Sign GS211 may be used to guide drivers by a diagrammatic display that a lane is added to the existing one-lane roadway from the left.

GS212



Sign GS212 may be used to guide drivers by a diagrammatic display that a lane is added to the existing two-lane roadway from the left.

GS200 SERIES - ADDITIONAL LANE (Cont.)

For dimensions:
refer Vol4
pages
8.3.910
8.3.11

COLOURS:

PERMANENT

Border & block: Red retroreflective
Arrows: Black semi-matt
Text: Black semi-matt
Background: White retroreflective

TEMPORARY

Border & arrows: Black semi-matt
Block: Red retroreflective
Text: Black semi-matt
Background: Yellow retroreflective

GS213



GS214



Sign GS213 may be used **to guide drivers by a diagrammatic display that the lane in which they are travelling changes direction to the left and is added to a roadway with one lane.**

Sign GS214 may be used **to guide drivers by a diagrammatic display that the lane in which they are travelling changes direction to the left and is added to a roadway with two lanes.**

4.12.13 Lane Use Control by Regulation

- 1 DIAGRAMMATIC signs in the GS300 series may be used **to give guidance to drivers as to the numbers of lanes available and whether one or more of them is subject to use control by regulations.** The signfaces of signs in this series incorporate one or more regulatory signs which shall have the same regulatory requirement of drivers as if the regulatory signs had been mounted separately. **Signs of this type shall only be used if the regulation displayed is to be enforced. A failure to enforce will tend to bring regulatory signs in general into disrepute.**
- 2 Signs in the GS300 series will normally only display one regulatory message. A need may arise from time to time for the display of two different regulatory messages on one of the arrows or on separate arrows on the signface representing the roadway lanes ahead. Such a sign should be considered as a unique design in terms of the provision of Subsection 4.12.10.
- 3 Lane use control by regulation is normally imposed in some form to the "fast" or right-hand lane of a multi-lane roadway. The selection of the most appropriate form of regulation has been the subject of limited trials.
- 4 Each application is likely to have unique features but if the primary objective is to regulate slower moving vehicles so that they shall not use the "fast" lane on two, or more, lane roadways it is recommended that this be achieved by regulating an appropriate minimum speed applicable to the relevant lane or lanes. Such a minimum speed shall not exceed 80 km/h and shall always be greater than any "general" minimum speed appropriate to, for instance, a freeway on which the GS300 sign is being displayed. This approach is based on the understanding that, for instance, not all heavy vehicles are necessarily "slow" whereas other classes of vehicle may be slower than some heavy vehicles e.g. buses or vehicles pulling caravans, etc. When the roadway cross-section consists of more than two lanes the display of lane use control by vehicle class may be more appropriate for the faster lanes provided at least two lanes remain available to permit overtaking opportunities for slower moving vehicles.
- 5 Signs in the GS300 series may be used in PERMANENT or TEMPORARY applications. The signs should be mounted on the left side of the roadway but may be repeated on the right side of one-way roadways to improve observance of the regulation. Signs in the GS300 series should not normally be displayed in advance of the section of road to which they apply. The signs should be repeated at regular intervals and may be displayed with a SUPPLEMENTARY PLATE signs IN11.2 (TIN11.2) indicating the distance for which the regulation is applicable. The maximum distance any such display should be applicable for without a repeat sign is 5 km.
- 6 Signs GS301 (TGS301) and GS303 (TGS303) may be used with any appropriate MANDATORY regulatory sign and signs GS302 (TGS302) and GS304 (TGS304) may be used with any appropriate PROHIBITION regulatory sign. The difference between the two signs is small and relates to the need for an extra border with the MANDATORY signs. Sign GS305 (TGS305) may be used if an indication of oncoming traffic is deemed necessary. Such an indication may be warranted when a three-lane two-way section of roadway is occasionally altered from two lanes to one lane in the one direction to allow overtaking opportunity in the opposite direction and *vice versa*.
- 7 Signs GS307 (TGS307) to GS309 (TGS309) may be used with appropriate RESERVATION regulatory signs. Such signs may be worthy of consideration for the regulatory control of public transport lanes on multi-lane roadways, including freeways. The term "public transport" should be understood to include bus lanes, minibus lanes, tram lanes and any combination of these classes of vehicle (see Volume 1, Chapter 2 for the range of RESERVATION signs available and Volume 2, Chapter 8 for examples of the application of this type of sign). The use of "distance for" and/or "distance to" SUPPLEMENTARY PLATE signs IN11.2 or IN11.3 may be appropriate with this sign type.
- 8 Signs GS310 (TGS310) and GS311 (TGS311) illustrate methods of signing control over two adjacent lanes of a roadway. Sign GS310 (TGS310) shows two levels of minimum speed (COMMAND) applied to a two lane roadway, whereas sign GS311 (TGS311) shows a PROHIBITION over two lanes of a three lane road-way using a larger prohibition sign to straddle the two relevant arrows.
- 9 Sign GS312 (TGS312) indicates the addition of a lane on the left which is subject to mandatory control. The mandatory control may be either a "command" or a "prohibition". The most common application of this type of diagrammatic sign is likely to be in one of the following situations:
 - (a) when an extra lane is created prior to a compulsory stop control for the specific class of vehicle which is to be subject to the compulsory stop (a "command" sign will therefore be included);
 - (b) in a similar situation when an extra lane is created for access to a compulsory mass measuring station;
 - (c) when an extra "crawler" lane is created on a steep and/or long downgrade for the specific class of vehicle indicated by a command regulatory sign.
- 10 On multi-lane roadways it is likely to be much more effective to display lane use control by regulation on overhead signs (see Subsection 4.12.18).

GS300 SERIES - LANE USE CONTROL BY REGULATION

For dimensions:
refer Vo/4
pages
8.4.110
8.4.11

COLOURS:

PERMANENT
Border & block: Red retroreflective
Arrows: Black semi-matt
Text: Black semi-matt
Background: White retroreflective

TEMPORARY
Border & arrows: Black semi-matt
Block: Red retroreflective
Text: Black semi-matt
Background: Yellow retroreflective

GS301



TGS301



Sign GS301 (TGS301) may be used to guide drivers by a diagrammatic display that the right hand lane of a two-lane roadway or portion of roadway is subject to the mandatory requirement of a "command" regulatory sign.

GS302

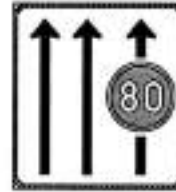


TGS302

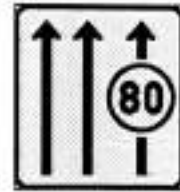


Sign GS302 (TGS302) may be used to guide drivers by a diagrammatic display that the right hand lane of a two-lane roadway or portion of roadway is subject to the mandatory requirement of a "prohibition" regulatory sign.

GS303



TGS303



Sign GS303 (GS303) may be used to guide drivers by a diagrammatic display that the right hand lane of a three-lane roadway or portion of roadway is subject to the mandatory requirement of a "command" regulatory sign.

GS304



TGS304



Sign GS304 (TGS304) may be used to guide drivers by a diagrammatic display that the right hand lane of a three-lane roadway or portion of roadway is subject to the mandatory requirement of a "prohibition" regulatory sign.

GS305



TGS305



Sign GS305 (TGS305) may be used to guide drivers by a diagrammatic display that the left hand lane of a two-lane portion of a three-lane two-way roadway or portion of roadway is subject to mandatory requirement of a "command" regulatory sign.

GS306

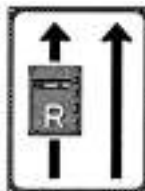


TGS306

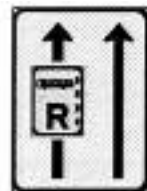


Sign GS306 (TGS306) may be used to guide drivers by a diagrammatic display that the right hand lane of a two-lane portion of a three-lane two-way roadway or portion of roadway is subject to the mandatory requirement of a "prohibition" regulatory sign.

GS307

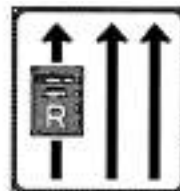


TGS307

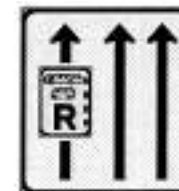


Sign GS307 (TGS307) may be used to guide drivers by a diagrammatic display that the left hand lane of a two-lane roadway or portion of roadway is subject to the conditional requirement of a "reservational" regulatory sign.

GS308

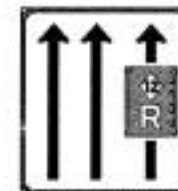


TGS308

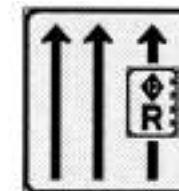


Sign GS308 (TGS308) may be used to guide drivers by a diagrammatic display that the left hand lane of a three-lane roadway or portion of roadway is subject to the conditional requirement of a "reservational" regulatory sign.

GS309

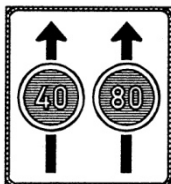


TGS309

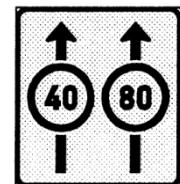


Sign GS309 (TGS309) may be used to guide drivers by a diagrammatic display that the right hand lane of a three-lane roadway or portion of roadway is subject to the conditional requirement of a "reservational" regulatory sign.

GS310



TGS310

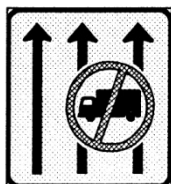


Sign GS310 (TGS310) may be used to guide drivers by a diagrammatic display that both lanes of a two-lane roadway or portion of roadway are subject to the different mandatory requirements of the displayed regulatory signs.

GS311

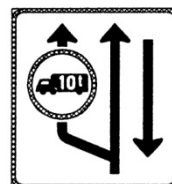


TGS311

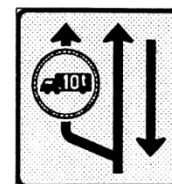


Sign GS311 (TGS311) may be used to guide drivers by a diagrammatic display that the two right side lanes of a three-lane roadway or portion of roadway are subject to the same mandatory requirement of the displayed regulatory sign.

GS312



TGS312



Sign GS312 may be used to guide drivers by a diagrammatic display that a lane is added to the left of the lane in which they are travelling and that the added lane is subject to the mandatory requirement of a "command" or "prohibition" regulatory sign. (An opposing traffic flow is indicated.)

4.10.14 Lane Merge

- 1 DIAGRAMMATIC signs in the GS400 series, numbered from GS401 (TGS401) to GS450 (TGS450) (all numbers are not allocated at the time of printing) may be used **to give guidance to drivers that a lane merge condition exists between two converging roadways with a resultant reduction in the total number of lanes by one.**
- 2 The message display of GS401 to GS450 signs (and all their temporary equivalents) shall adhere to the general principle of displaying one road condition which requires driver action at one time and shall not display on-coming traffic. Most applications will be required on multi-lane dual carriageway roadways.
- 3 The sign message principles are more relevant to PERMANENT signing situations but this does not preclude their use in a TEMPORARY form at roadworks sites. Temporary versions of signs GS401 to GS450 (TGS401 to TGS450) may be appropriate during rehabilitation work at sites where signs GS451 to GS499 are permanently displayed due to a temporary reduction in the number of lanes.
- 4 The functional meaning of each individual sign type is given on the following page below each sign. The general function of each sign is to indicate a merging of two lanes beyond a junction. The different signs simply indicate which pair of lanes is merging. The signs are similar in appearance to and should not be confused with LANE CONVERGE signs GS451 to GS499 (see Subsection 4.12.15). Signs GS401 to GS450 may be used in place of ADVANCE WARNING signs W111 to W114 when such signs, even when displayed on HIGH VISIBILITY backgrounds, are considered inadequate.
- 5 If two or more signs of the same type are used on one approach they must be placed an adequate distance apart. It is recommended that signs GS401 (TGS401) to GS450 (TGS450) be placed approximately at the point to which they apply. In some instances an advance sign displaying an appropriate SUPPLEMENTARY PLATE sign IN11.3 (TIN11.3) indicating the distance to the lane merge may be warranted in addition. The signs should normally be mounted on the left side of the roadway. However, in many instances, particularly on roads with several lanes on each approach to the merge, this type of sign is likely to be provided on both approaches to the same merge. It is recommended that, if possible, the signs be placed to be visible from both roadways, or on the side of each road closest to the merging lane i.e. to the right side of the left roadway and *vice versa*.
- 6 On multi-lane roadways sign obscuration may warrant indicating lane merge messages on overhead signs (see Subsection 4.12.18).

GS400 SERIES - LANE MERGE

For dimensions:
refer Vol4
pages
8.5.1 to
8.5.7

COLOURS:

PERMANENT

Border & block: Red retroreflective
Arrows: Black semi-matt Text:
Black semi-matt
Background: White retroreflective

TEMPORARY

Border & arrows: Black semi-matt
Block: Red retroreflective
Text: Black semi-matt Yellow
retroreflective
Background: Yellow retroreflective

GS401

TGS401



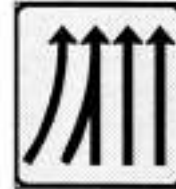
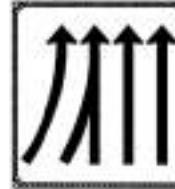
GS402

TGS402



GS403

TGS403



Sign GS401 (TGS401) may be used **to guide drivers by a diagrammatic display that a lane merges from the left with the lane of a single lane roadway.**

Sign GS402 (TGS402) may be used **to guide drivers by a diagrammatic display that a lane merges with the left-hand lane of a two-lane roadway.**

Sign GS403 (TGS403) may be used **to guide drivers by a diagrammatic display that a two-lane roadway joins a straight three-lane roadway from the left so that the right-hand lane of the two-lane roadway merges with the left-hand lane of the three-lane roadway.**

GS404

TGS404



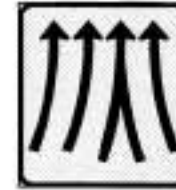
GS405

TGS405



GS406

TGS406



Sign GS404 (TGS404) may be used **to guide drivers by a diagrammatic display that two two-lane roadways join on a curve so that the right-hand lane of the one roadway merges with the left-hand lane of the other roadway.**

Sign GS405 (TGS405) may be used **to guide drivers by a diagrammatic display that two-lane and three-lane roadways join on a curve so that the right-hand lane of one merges with the left-hand lane of the other.**

Sign GS406 (TGS406) may be used **to guide drivers by a diagrammatic display that three-lane and two-lane roadways join on a curve so that the right-hand lane of one merges with the left-hand lane of the other.**

4.12.15 Lanes Converge

- 1 DIAGRAMMATIC signs in the GS400 series, numbered from GS451 to GS499 (all numbers are not allocated at the time of printing) may be used **to give guidance to drivers that a number of lanes on two roadways are converging but DO NOT MERGE so that there is no loss of lanes at the junction being signed.** The function of this sub-group of signs is therefore largely one of reassurance.
- 2 The message display of GS451 to GS499 signs (and all their temporary equivalents) shall adhere to the general principle of displaying one road condition which requires driver action at one time and shall not display on-coming traffic. Most applications will be required on multi-lane dual carriageway roadways.
- 3 Signs GS451 to GS499 may be used in PERMANENT or TEMPORARY applications. The sign message principles are more relevant to PERMANENT signing situations but this does not preclude their use in a TEMPORARY form at roadworks sites although such use is less likely. The signs indicated on the following page are thus PERMANENT sign examples. Space has been left for TEMPORARY versions to be added should these be required in future.
- 4 The functional meaning of each individual sign is given on the following page below each sign.
- 5 If two or more signs of the same type are used on one approach they must be placed an adequate distance apart. It is recommended that signs GS451 to GS499 be placed approximately at the point to which they apply. In some instances an advance sign displaying an appropriate SUPPLEMENTARY PLATE sign IN11.3 (TIN11.3) indicating the distance to the junction of the two converging roadways may be warranted in addition. The signs should normally be mounted on the left side of the roadway. However, in many instances, particularly on roads with several lanes on each approach to the merge, this type of sign is likely to be provided on both approaches to the same merge. It is recommended that, if possible, the signs be placed to be visible from both roadways, or on the side of each road closest to the merging lane i.e. to the right side of the left roadway and *vice versa*.
- 6 On multi-lane roadways sign obscuration may warrant indicating lane converge messages on overhead signs (see Subsection 4.12.18).

GS450 SERIES - LANES CONVERGE

For dimensions:
refer Vo/4
pages
8.6.110
8.6.3

COLOURS:

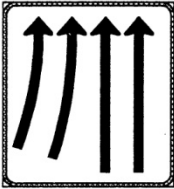
PERMANENT

Border & block: Red retroreflective
Arrows: Black semi-matt Text:
Black semi-matt
Background: White retroreflective

TEMPORARY

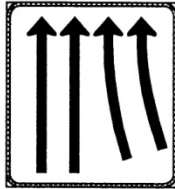
Border & arrows: Black semi-matt
Block: Red retroreflective Text:
Black semi-matt
Background: Yellow retroreflective

GS451



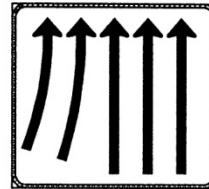
Sign GS451 may be used **to guide drivers by a diagrammatic display that a curved two-lane roadway converges on a straight two-lane roadway from the left without a reduction in the total number of lanes.**

GS452



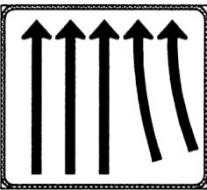
Sign GS452 may be used **to guide drivers by a diagrammatic display that a curved two-lane roadway converges on a straight two-lane roadway from the right without a reduction in the total number of lanes.**

GS453



Sign GS453 may be used **to guide drivers by a diagrammatic display that a curved two-lane roadway converges on a straight three-lane roadway from the left without a reduction in the number of lanes.**

GS454



Sign GS454 may be used **to guide drivers by a diagrammatic display that a curved two-lane roadway converges on a straight three-lane roadway from the right without a reduction in the number of lanes.**

4.12.16 Arrestor Bed

- 1 A range of DIAGRAMMATIC signs in the GS500 series may be used **to give guidance to drivers of heavy vehicles regarding the existence of an arrestor bed ahead and to indicate the position of the entrance to the arrestor bed.** This series may include other DIAGRAMMATIC signs suitable for the guidance of heavy vehicle drivers (see Subsection 4.12.17).
- 2 The signs in this series are intended for use in a similar manner to FREEWAY DIRECTION signs on the approach to an off-ramp and are normally located on the left side of the roadway. The following signs may be used for the purposes detailed:
 - (a) GS501 - PRE-ADVANCE ARRESTOR BED EXIT sign located 2 km to 3 km in advance of the entrance to an arrestor bed;
 - (b) GS502 - ADVANCE ARRESTOR BED EXIT sign located at either or both 1km and/or 500 m, or some other suitable distance in advance of the entrance to an arrestor bed;
 - (c) GS503 - ARRESTOR BED EXIT sign located at the exit point to the arrestor bed (the exit point is defined in Chapter 10, Glossary of Terms);
 - (d) GS504 - ARRESTOR BED GORE EXIT sign located in the gore area of the entrance to the arrestor bed.
- 3 The location and spacing principles for arrestor beds on long downhill sections of roadway are subject to on-going research and development. It is becoming common for long hills to be provided with two or more arrestor beds. In such a situation it is recommended that a sequence sign be provided to indicate the relative positions of the arrestor beds to each other. Since there are a great many variables in regard to such sites such a sequence sign should be designed to suit the specific site. It should utilize the Arrestor Bed GSS-1 symbol to ensure sign continuity.
- 4 The shoulder and gore area at the exit to an Arrestor Bed should be marked with ARRESTOR BED AHEAD warning marking WM10 (see Chapter 7).
- 5 Due to topographical conditions an arrestor bed may be located on the right side of a one way roadway. In such situations the signs should preferably be displayed on the right side on the roadway. Space limitations may dictate that arrestor bed signs be mounted overhead, particularly in the case of right side locations (see Subsection 4.12.18).

- mass measurement station for heavy vehicles;
- (f) recommended engaging of lower gear to limit risk of runaway.

- 2 The unique circumstances which commonly occur at such sites tend to result in the need for signs which are often site specific and these are therefore not illustrated here. In addition many of the controlling or regulatory signs, because of multiple lanes or adverse topography, may warrant being displayed overhead (see Subsection 4.12.18). If new signs are developed in the future for heavy vehicle control or guidance they should be allocated to the GS500 series. Such signs may be for either PERMANENT or TEMPORARY application. For examples of the application of diagrammatic signs to heavy vehicle guidance and control situations, including arrestor beds, see Volume 2, Chapter 11.
- 3 The ENGAGE LOWER GEAR sign GS505 (TGS505) may be used to guide heavy vehicle drivers regarding the advisability of engaging a lower gear to negotiate a steep descent. This sign has general applicability to any steep section of roadway which may have a history of heavy vehicle related incidents and should utilize ENGAGE LOWER GEAR symbol GSS2.

4.12.17 Heavy Vehicle Guidance and Control

- 1 Many of the DIAGRAMMATIC signs in this Section of Chapter 4 have resulted from a special need to regulate, warn or guide drivers of heavy vehicles in a range of difficult driving conditions. Such signs commonly deal with a variety of downhill circumstances which make heavy vehicle driving that much more hazardous than driving other vehicles. Typical factors and circumstances now, and in the future, may include:
 - (a) mandatory truck stops for inspection, to cool brakes etc. prior to a steep hill or tunnel section;
 - (b) heavy vehicle lane prohibitions to prevent obstruction of faster traffic;
 - (c) mandatory use of crawler lanes to limit runaway risk;
 - (d) arrestor beds for use in the event of runaways;
 - (e) mandatory mass measurement in a lane or at a

GS500 SERIES - ARRESTOR BED / HEAVY VEHICLE CONTROL

For dimensions:
refer Vol4
pages
8.7.110
8.7.4

COLOURS:

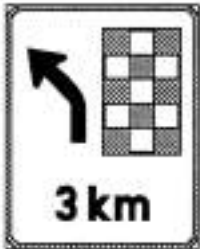
PERMANENT

Border: Red retroreflective
Symbol: Red retroreflective
or black semi-matt
Arrow: Black semi-matt
or red retroreflective
Black semi-matt White
retroreflective
Text:
Background:

TEMPORARY

Border: Black semi-matt
Symbol: Black semi-matt
Arrow: Red retroreflective
Background: Yellow retroreflective

GS501



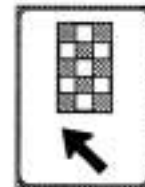
ARRESTOR BED
PRE ADVANCE EXIT SIGN

GS502



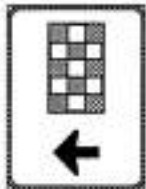
ARRESTOR BED
ADVANCE EXIT SIGN

GS503



ARRESTOR BED
EXIT SIGN

GS504



ARRESTOR BED
GORE EXIT SIGN

GS505



TGS505



Sign GS505 (TGS505) may be used to **guide drivers of heavy vehicles by a diagrammatic display by indicating that they should, in the interests of safety, engage a lower gear**

NOTES:

- (1) Although signs GS501, GS503 and GS504 are classed as DIAGRAMMATIC signs, their significance, function and application is the same as FREEWAY DIRECTION signs GA1, GA2, GA3 and GA4 respectively (see Section 4.9)
- (2) Arrestor Bed signs may also be mounted in an overhead position (See Subsection 4.12.18).
- (3) There is no provision for TEMPORARY Arrestor Bed signs.
- (4) The permanent colour statement includes colour range for arrestor bed and engage lower gear signs.

4.12.18 Overhead Diagrammatic

- 1 Almost any DIAGRAMMATIC sign may be displayed in an overhead position to improve the visibility of the sign, and thereby observance of the sign message, particularly when this is of a regulatory nature.
- 2 The signface design of most overhead DIAGRAMMATIC signs remains the same as the ground mounted PERMANENT or TEMPORARY equivalent signs. Dimensions vary in detail and these are covered in Volume 4, Chapter 8. Any distance or other supplementary message that is required on an overhead DIAGRAMMATIC sign is, however, contained within the main sign area and NOT in a supplementary plate below the sign (see examples).
- 3 Unique overhead DIAGRAMMATIC signs are numbered in the GS600 (TGS600) series. Signs which are overhead versions of numbered ground mounted signs are numbered in the 4-digit GS6000 (TGS6000) series in which the last three digits repeat the number allocated to the ground-mounted sign e.g. lane drop sign GS106 mounted overhead becomes GS6106 or lane merge sign GS403 mounted overhead becomes GS6403. When a distance is included on the signface, the number should be modified by the addition of the letter "D" e.g. GS6106D.
- 4 Overhead DIAGRAMMATIC signs GS601 and GS602 may be used in a similar manner to FREEWAY DIRECTION signs to give guidance to drivers of heavy vehicles regarding the existence of an arrestor bed ahead and to indicate the position of the entrance to the arrestor bed. Signs GS601 and GS602 may be used as follows:
 - (a) GS601 - overhead ADVANCE ARRESTOR BED EXIT sign located at either or both 1 km or 500 m, or some other suitable distance in advance of the entrance to an arrestor bed (the example illustrates the arrow position for a right side exit - for a more convention al left side exit the arrow shall belocated in the bottom LEFT corner of the sign).
 - (b) GS602 - overhead ARRESTOR BED EXIT sign located over the point of exit to the arrestor bed.
- 5 Overhead DIAGRAMMATIC signs GS603 (TGS603) to GS606 (TGS606) may be used to give guidance to drivers as to whether one or more of the lanes of a multi-lane roadway is subject to use control by regulation. The signfaces of these signs incorporate regulatory signs which shall have the same regulatory requirement of drivers as if they had been mounted separately, but they are applicable only to the lane or lanes over which they are displayed. Signs GS603 (TGS603) and GS604 (TGS604) apply to any appropriate permanent or temporary COMMAND and PROHIBITION signs respectively, and only differ in detail with respect to the extra border needed with the permanent COMMAND signs. Similarly signs GS605 (TGS605) and GS606 (TGS606) apply to any appropriate COMMAND and PROHIBITION signs respectively if some additional message such as "For 5 km" is required.
- 6 Signs GS607D to GS611 indicate a range of situations where a lane is either added or dropped AND one or more lane is subject to use control by means of the display of a mandatory "command" or "prohibition" sign. This combination of circumstances, particularly on sections of roadway with four or more lanes, is likely to warrant the use of an overhead diagrammatic sign of the type indicated.
- 7 Signs GS612 to GS614 show a range of overhead diagrammatic signs, for over-lane indication of lane use control, which include the display of a "reservation" regulatory sign. This type of sign is particularly relevant for the reservation of a lane of a multi-lane carriageway for buses, minibuses, high occupancy vehicles or generally for public transport vehicles.

GS600 SERIES - UNIQUE OVERHEAD SIGNS

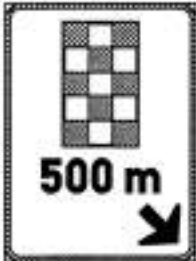
For dimensions:
refer Vol4
pages
8.8.1 to
8.8.7

COLOURS:

PERMANENT
Border: Red retroreflective
Symbol & block: Red retroreflective
Arrows & text: Black semi-matt
Background: White retroreflective
Regulatory sign: Standard colours

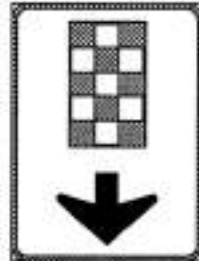
TEMPORARY
Border & arrows: Black semi-matt
Block: Red retroreflective
Arrows & text: Black semi-matt
Background: Yellow retroreflective
Regulatory sign: Standard colours

GS601



Sign GS601 may be used **to guide heavy vehicle drivers by a diagrammatic display that an exit to an arrestor-bed lies ahead.**

GS602



Sign GS602 may be used **to indicate to heavy vehicle drivers the position of the exit to an arrestor-bed.**

GS603



TGS603



Sign GS603 (TGS603) may be used **to guide drivers by a diagrammatic display that the lane below the sign is subject to a mandatory requirement indicated by a "command" regulatory sign.**

GS604



TGS604



Sign GS604 (TGS604) may be used **to guide drivers by a diagrammatic display that the lane below the sign is subject to a mandatory requirement indicated by a "prohibition" regulatory sign.**

GS605



TGS605



Sign GS605 (TGS605) may be used **to guide drivers by a diagrammatic display that the lane below the sign is subject to a mandatory requirement for the distance stated, indicated by a "command" regulatory sign.**

GS606



TGS606

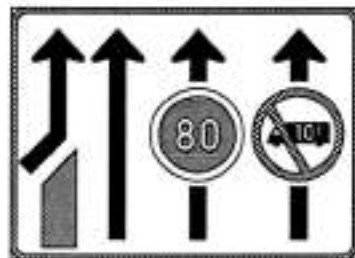


Sign GS606 (TGS606) may be used **to guide drivers by a diagrammatic display that the lane below the sign is subject to a mandatory requirement for the distance stated, indicated by a "prohibition" regulatory sign.**

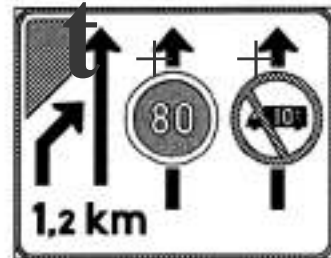
GS607D



GS608



GS609D



Sign GS607D may be used **to guide drivers by a diagrammatic display that a lane is added to the right of a two-lane roadway and that the outer two subsequent lanes are subject to control by regulatory signs.**

Sign GS608 may be used **to guide drivers by a diagrammatic display that a lane is added to the left of a three-lane roadway and that the outer two subsequent lanes are subject to control by regulatory sign.**

Sign GS609D may be used **to guide drivers by a diagrammatic display that the left hand lane of a roadway comprising four lanes in one direction ends at a distance indicated and that the outer two subsequent lanes are subject to control**

GS600 SERIES - UNIQUE OVERHEAD SIGNS (Cont.)

COLOURS:

PERMANENT

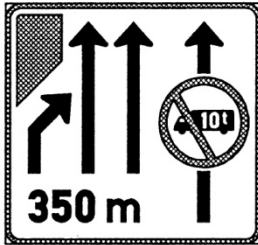
Border: Red retroreflective
 Symbol & block: Red retroreflective
 Arrows & text: Black semi-matt
 Background: White retroreflective
 Regulatory sign: Standard colours

TEMPORARY

Border & arrows: Black semi-matt
 Block: Red retroreflective
 Arrows & text: Black semi-matt
 Background: Yellow retroreflective
 Regulatory sign: Standard colours

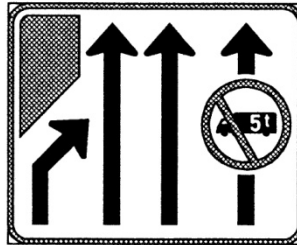
For dimensions:
 refer Vol4
 pages
 8.8.8
 to 8.8.9

GS610D



Sign GS610D may be used to guide drivers by a diagrammatic display that the left hand lane of a roadway comprising four lanes in one direction ends at the distance indicated and that the subsequent outer lane is subject to control by regulatory sign from the same location.

GS611



Sign GS611 may be used to guide drivers by a diagrammatic display that the left hand lane of a roadway below the sign comprising four lanes in one direction ends and that the subsequent outer lane is subject to control by regulatory sign from the same location.

GS612



SIGN GS612 may be used to guide drivers by a diagrammatic display that the lane below the sign is subject to a lane use reservation, for the distance stated, as indicated by a "reservation" regulatory sign.

GS613



Sign GS613 may be used to guide drivers by a diagrammatic display that the lane below the sign will become subject to a lane use reservation, in the distance stated, as indicated by a "reservation" regulatory sign.

GS614



Sign GS614 may be used to guide by a diagrammatic display that the lane below the sign is subject to a lane use reservation as indicated by a "reservation" regulatory sign.

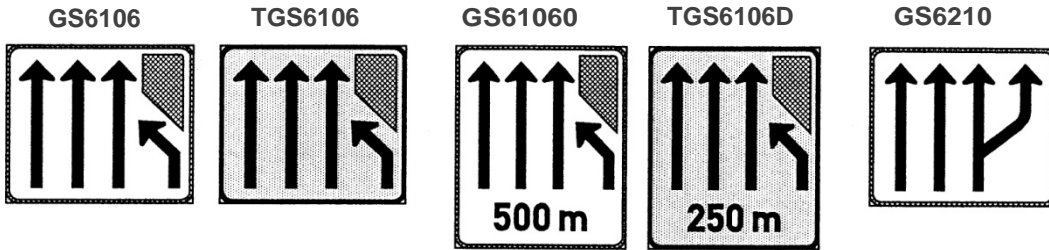
GS6000 SERIES - OVERHEAD SIGNS (Versions of Other Series)

For dimensions:
refer Vol4
pages
8.8.10to
8.8.16

COLOURS:

PERMANENT
Border: Red retroreflective
Symbol & block: Red retroreflective
Arrows & text: Black semi-matt
Background: White retroreflective
Regulatory sign: Standard colours

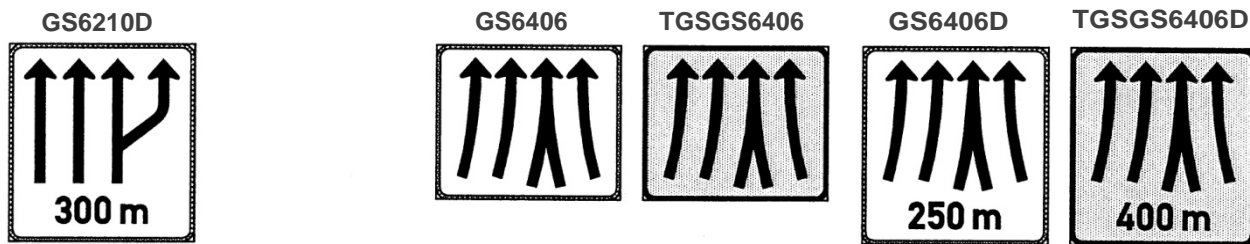
TEMPORARY
Border & arrows: Black semi-matt
Block: Red retroreflective
Arrows & text: Black semi-matt
Background: Yellow retroreflective
Regulatory sign: Standard colours



Sign GS6106 (TGS6106) may be used to guide drivers by a diagrammatic display indicating that the right hand lane of a roadway comprising four lanes in one direction ends.

Sign GS61060 (TGS61060) may be used to guide drivers by a diagrammatic display indicating that the right hand lane of a roadway comprising four lanes in one direction ends at the distance indicated.

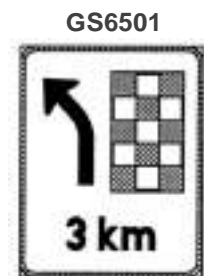
Sign GS6210 may be used to guide drivers by a diagrammatic display that a lane is added to the right of a three-lane roadway.



Sign GS62100 may be used to guide drivers by a diagrammatic display that a lane is added to the right of a three-lane roadway at the distance indicated.

Sign GS6406 (TGS6406) may be used to guide drivers by a diagrammatic display that three-lane and two-lane roadways join so that the right-hand lane of one roadway merges with the left-hand lane of the other roadway.

Sign GS64060 (TGS64060) may be used to guide drivers by a diagrammatic display that three-lane and two-lane roadways join so that the right-hand lane of one roadway merges with the left-hand lane of the other roadway at the distance indicated.



Sign GS6501 may be used to guide heavy vehicle drivers by a diagrammatic display that an exit to an arrestor-bed lies some distance ahead.

4.12.19 Public Transport

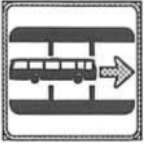
- 1 DIAGRAMMATIC signs in the GS700 series, numbered from GS701 to GS799 (all numbers are not allocated at the time of printing) may be used **to give guidance to road users (pedestrians and drivers) that the lane or roadway immediately ahead is used by public transport vehicles in the direction(s) indicated.** Temporary equivalents are unlikely to be required, although if they should be, they should be numbered in the series TGS701 to TGS799 to match the permanent sign number.
- 2 Signs in the GS700 series should normally be located close to the near-side kerb line of an intersecting cross street, to be visible to both pedestrians and drivers approaching the cross street in question, which is operating with a bus or public transport lane or as a dedicated public transport roadway.
- 3 This series of diagrammatic signs is primarily intended for the guidance of pedestrians for whom the presence and/or direction of movement, of buses and/or other public transport vehicles may not be obvious and may therefore be potentially hazardous. In particular use of the sign may be relevant when so called "contra-flow" bus lanes are operating (see Volume 2, Chapter 8 for detailed discussion on signing of public transport facilities and "contra-flow" situations in particular). Since the signs are primarily intended for pedestrian guidance they are normally located at the entry point to a marked pedestrian crossing.
- 4 When a roadway of the type described above is a divided roadway, consideration should be given to providing appropriate GS700 series signs on the median island as well as on the near side approaches.

GS700 SERIES - PUBLIC TRANSPORT

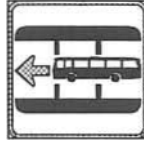
For dimensions:
refer Vo/4
pages
8.9.1 to
8.9.5

COLOURS: PERMANENT
Border: Red retroreflective
Arrow: Red retroreflective
Symbols: Black semi-matt
Background: White retroreflective

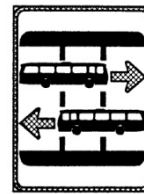
GS701



GS702



GS703



Sign GS701 may be used **to guide road users (pedestrians and drivers) by a diagrammatic display that the lane or roadway immediately in front of them is used by buses and/or public transport vehicles in a direction from left to right.**

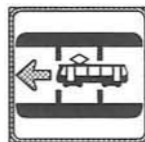
Sign GS702 may be used **to guide road users (pedestrians and drivers) by a diagrammatic display that the lane or roadway immediately in front of them is used by buses and/or public transport vehicles in a direction from right to left.**

Sign GS703 may be used **to guide road users (pedestrians and drivers) by a diagrammatic display that the roadway immediately in front of them is used by buses and/or public transport vehicles from both left and right sides.**

GS704



GS705



GS706



Sign GS704 may be used **to guide road users (pedestrians and drivers) by a diagrammatic display that the lane or roadway immediately in front of them is used by trams in a direction from left to right.**

Sign GS705 may be used **to guide road users (pedestrians and drivers) by a diagrammatic display that the lane or roadway immediately in front of them is used by trams in a direction from right to left.**

Sign GS706 may be used **to guide road users (pedestrians and drivers) by a diagrammatic display that the lane or roadway immediately in front of them is used by trams from both left and right sides.**

4.12.20 At-Grade Lane Layout

- 1 DIAGRAMMATIC signs in the GS800 series, numbered from GS801 to GS899 (all numbers are not allocated at the time of printing) may be used *to give guidance to drivers regarding the lane configuration at the next junction, including an indication of exclusive use lanes, shared lanes and through lanes*. Temporary equivalent signs may be used, but are not likely to be common. When used, a temporary sign should be numbered in the series TGS801 to TGS899 to match the equivalent permanent sign number.
- 2 Signs in the GS800 series shall display an arrow for each lane at the STOP line at the junction ahead (or the equivalent position if there is no STOP line). Use of these signs is appropriate to one way roadways or one way portions of roadways. In particular they are appropriate for roads which experience such continuously heavy traffic that mandatory road markings are rarely visible to drivers queuing in any of the approach lanes.
- 3 Since the function of signs in the GS800 series signs is to guide drivers in advance of a junction ahead, they should normally be located two thirds to three quarters of the preceding block length in advance of the STOP line (or equivalent position). A SUPPLEMENTARY PLATE information sign IN11.3 giving the distance to the STOP line may be placed below a sign in such an advance position.
- 4 When used in advance as described above signs in the GS800 series are recommended to be placed on both the left and right sides of the one way roadway.
- 5 GS800 signs may also be provided in close proximity to the STOP line (or equivalent) position, either as the only sign or following advance signs. GS800 signs may, in particularly adverse conditions, be mounted in an overhead position for maximum visibility and effectiveness.
- 6 Signs TGS861 to TGS863 are temporary lane layout diagrammatic signs which are appropriate for use at roadworks to indicate temporary lane configurations. Sign TGS861 may be used on a section of road which normally operates in one direction to show that the roadway is temporarily being used for two-way traffic. Signs TGS862 and TGS863 are similarly for use when a three lane carriageway normally used in one direction only is temporarily being used for two-way traffic. The two signs can be used to indicate changing lane configurations within a long section of roadworks, where alternating sections are provided, which alternately permit overtaking (two lanes), and do not (one lane). These signs may commonly be displayed with temporary "distance for" SUPPLEMENTARY PLATES TIN11.2. (For examples of the use of signs TGS861 to TGS863 refer to Volume 2, Chapter 13: *Roadworks Signing*.)

GS800 SERIES - AT-GRADE LANE LAYOUT

For dimensions:
refer Vo/4
pages
8.10.1 to
8.10.8

COLOURS:

PERMANENT

Border: Red retroreflective
Arrows: Black semi-matt
Background: White retroreflective

GS801



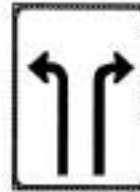
Sign GS801 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes two lanes, one of which is an exclusive left turn lane and the other a shared through and left turn lane.

GS802



Sign GS802 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes two lanes; one of which is an exclusive right turn lane and the other a shared through and right turn lane.

GS803



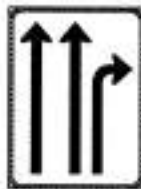
Sign GS803 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes two lanes, one of which is an exclusive left turn lane and the other an exclusive right turn lane.

GS804



Sign GS804 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes three lanes, one of which is an exclusive left turn lane.

GS805



Sign GS805 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes three lanes, one of which is an exclusive right turn lane.

GS806



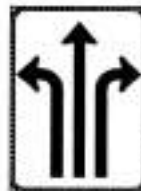
Sign GS806 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes three lanes, one of which is an exclusive left turn lane, a second a shared through and left turn lane, and the third a through lane.

GS807



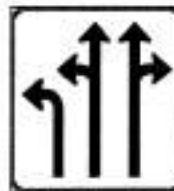
Sign GS807 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction which includes three lanes, one of which is an exclusive right turn lane, a second a shared through and right turn lane and the third a through lane.

GS808



Sign GS808 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction which includes three lanes, one of which is an exclusive left turn lane, the second a through lane and the third an exclusive right turn lane.

GS809



Sign GS809 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes three lanes, one of which is an exclusive left turn lane, the second a shared through and left turn lane, and the third a shared through and right turn lane.

GS810



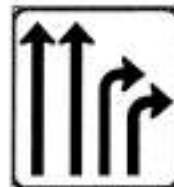
Sign GS810 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes three lanes, one of which is an exclusive right turn lane, the second a shared through and right turn lane, and the third a shared through and left turn lane.

GS811



Sign GS811 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the left two of which are exclusive left turn lanes and the other two through lanes.

GS812



Sign GS812 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the right two of which are exclusive right turn lanes and the other two through lanes.

GS800 SERIES - AT-GRADE LANE LAYOUT (Continued)

COLOURS: PERMANENT
 Border: Red retroreflective
 Arrows: Black semi-matt
 Background: White retroreflective

For dimensions:
 refer Vo/4
 pages
 8.10.9
 108.10.77

GS813



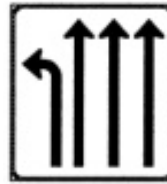
Sign GS813 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the left of which is an exclusive left turn lane, the second a shared left turn and through lane, and the other two lanes are through lanes.

GS814



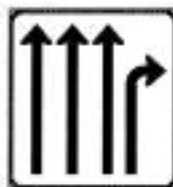
Sign GS814 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the right of which is an exclusive right turn lane, the second a shared right turn and through lane, and the other two lanes are through lanes.

GS815



Sign GS815 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the left of which is an exclusive left turn lane and the other three lanes are through lanes.

GS816



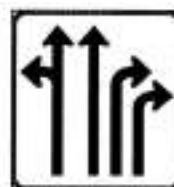
Sign GS816 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the right of which is an exclusive right turn lane and the other three lanes are through lanes.

GS817



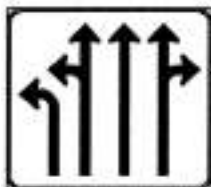
Sign GS817 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the left two of which are exclusive left turn lanes, the next a through lane and the fourth a through and shared right turn lane.

GS818



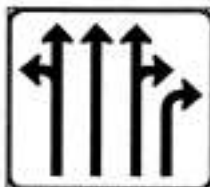
Sign GS818 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the right two of which are exclusive right turn lanes, the next a through lane and the fourth a through and shared left turn lane.

GS819



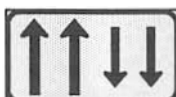
Sign GS819 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the left of which is an exclusive left turn lane, the next a shared left turn and through lane, the third a through lane and the fourth a through and shared right turn lane.

GS820



Sign GS820 may be used to guide drivers by a diagrammatic display of the lane configuration at the next junction, which includes four lanes, the right of which is an exclusive right turn lane, the next a shared right turn and through lane, the third a through lane and the fourth a through and shared left turn lane.

TGS861



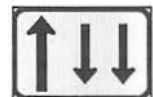
Sign TGS861 may be used to guide drivers by a diagrammatic display of the lane use configuration of the roadway ahead, which includes four lanes, two of which are for use in each direction.

TGS862



Sign TGS862 may be used to guide drivers by a diagrammatic display of the lane use configuration of the roadway ahead, which includes three lanes, two of which are for use in the direction in which they are travelling and one is for traffic travelling in the opposite direction.

TGS863



Sign TGS863 may be used to guide drivers by a diagrammatic display of the lane use configuration of the roadway ahead, which includes three lanes, only one of which is for use in the direction in which they are travelling and two are for traffic travelling in the opposite direction.

4.12.21 Junction with Warning

- 1 DIAGRAMMATIC signs in the GS900 series, numbered from GS901 (TGS901) to GS999 (TGS999) (all numbers are not allocated at the time of the printing) may be used ***to give guidance to drivers that an unsighted hazard exists immediately after a turn into the side road at the junction ahead.*** It should be noted that additional numbers in this sign series apply to differing diagrammatic representations of junction layouts and NOT to the different warning signs which may be specified for inclusion in the signs.
- 2 Any standard warning sign, either PERMANENT or TEMPORARY, may be specified for use in GS900 series signs, either PERMANENT or TEMPORARY.
- 3 Signs in the GS900 may be located close to the point of turn, normally on the left side of the roadway. They may be used in advance, in addition to a point of turn sign, in conjunction with a SUPPLEMENTARY PLATE information sign IN11.3 giving a distance **to** the point of turn.

GS900 SERIES - JUNCTION WITH WARNING

COLOURS:

PERMANENT

Border: Red retroreflective
 Arrow: Black semi-matt
 Background: White retroreflective

TEMPORARY

Border: Black semi-matt
 Arrow: Black semi-matt
 Background: Yellow retroreflective

N.B. Warning signs retain their standard permanent and temporary colours.

For dimensions:
 refer Vo/4
 page
 8.11.1

GS901

TGS901

GS902

TGS902



Sign GS901 (TGS901) may be used **to guide drivers by a diagrammatic display that an unsighted hazard exists immediately after the left turn at the junction ahead.** (Any appropriate warning sign may be used within sign GS901 (TGS901).)

Sign GS902 (TGS902) may be used **to guide drivers by a diagrammatic display that an unsighted hazard exists immediately after the right turn at the junction ahead.** (Any appropriate warning sign may be used within sign GS902 (TGS902).)

4.13 PEDESTRIAN

4.13.1 General

- 1 This class of guidance sign has been developed from signs used within pedestrian transport environs such as railway stations (and similar to airports). Demand has risen due to the growth of major transport interchange developments. These often include a number of different transport modes, distributed in such a way that pedestrians may need direction to guide them from one transport mode area to another. Such directional guidance can also include destination information and even departure times displayed by means of variable message signs integrated into the PEDESTRIAN signing system.
- 2 The majority of PEDESTRIAN GUIDANCE signs are square in shape. The signs have been designed on a modular basis to facilitate the combination of individual square modules into specific sign messages, with the potential for a wide variation in these messages. This method of application is similar to that used for TOURISM DIRECTION "Totem" signs GF10.
- 3 PEDESTRIAN GUIDANCE signs, because of their modular development, may be used in true guidance function as:
 - (a) LOCATION guidance signs, whereby individual signs may be used to identify (the location of) specific pedestrian facilities;
 - (b) DIRECTION guidance sign clusters whereby one or more signs may be combined in a cluster with an appropriate arrow module to indicate the direction to pedestrian facilities.
- 4 Figure 4.99 illustrates a selection of PEDESTRIAN GUIDANCE sign applications in the environment of an integrated railway station, minibus and bus transport terminal. The provision of commercial facilities such as shops, take-away food, and restaurants is becoming common at this type of terminal, in order to make the whole terminal financially viable. This, together with the various services also available, make the provision of signs of the type illustrated more and more necessary. Figure 4.99 includes a selection of PEDESTRIAN LOCATION signs, commonly wall mounted, and PEDESTRIAN DIRECTION signs which are normally located on conventional pole supports. Options can even be exercised to provide strategically located, multi-faced internally illuminated sign combinations.
- 5 PEDESTRIAN GUIDANCE signs may also be appropriate in other pedestrian environments such as sports facilities, streets converted to malls (which may also abut transport terminal facilities), entertainment areas generally, or show grounds (for more detail on PEDESTRIAN GUIDANCE signing see Volume 2, Chapter 14: *Signing for Pedestrian Environments*).
- 6 Portions of roadway normally set aside for pedestrian use are, in fact, commonly shared with cyclists and disabled persons. The proximity of these modes of movement, or their segregation from each other, will once again vary widely. There are a number of signs in other classes which are identified with pedestrian areas, either on-or-off-street. These signs include:
 - (a) YIELD TO PEDESTRIANS sign R2.1;
 - (b) PEDESTRIAN PRIORITY sign R5;
 - (c) PEDESTRIANS ONLY sign R110;
 - (d) CYCLISTS ONLY sign R111;
 - (e) CYCLISTS AND PEDESTRIANS ONLY (various combinations) signs R112 to R115;
 - (f) NO PEDESTRIANS sign R218;
 - (g) NO CYCLISTS sign R219;
 - (h) NO CYCLISTS AND PEDESTRIANS sign R220;
 - (i) NO HAWKERS sign R241;
 - (j) BICYCLE LANE sign R241;
 - (k) BICYCLE PARKING sign R304-P;
 - (l) RESERVED FOR DISABLED PERSONS sign R323;
 - (m) RESERVED PARKING FOR DISABLED PERSONS sign R323-P;
 - (n) BUS STOP, MINIBUS STOP, TRAM STOP signs R325, R326 and R341;
 - (o) WOONERF sign R403;
 - (p) SCHOLAR PATROL AHEAD sign TW305;
 - (q) PEDESTRIAN CROSSING sign W306;
 - (r) PEDESTRIANS sign W307;
 - (s) CHILDREN sign W308;
 - (t) CYCLISTS sign W309;
 - (u) ELECTRICAL SHOCK sign W361;
 - (v) PICK-UP POINT AHEAD sign IN16-NAM;
 - (w) TRAFFIC SIGNAL ASPECTS S11 and S20.
- 7 It should be noted that many of the signs listed above are directed at drivers and not specifically at pedestrians. They can often enhance the awareness of pedestrians to risks, and to facilities provided for them.
- 8 TEMPORARY versions of PEDESTRIAN DIRECTION signs may be required if pedestrians have to be redirected by a less than obvious route towards their intended destination. This approach can have important safety implications in preventing pedestrians from walking in the roadway in amongst traffic during road- works.

4.13.2 Signface Design Principles

- 1 PEDESTRIAN GUIDANCE signs are almost all fully symbolic and modular. As such they do not conform specifically to the general signface design rules and principles given in the earlier sections of this chapter.
- 2 Details of each individual sign are given in Volume 4, Chapter 14 to permit ease of manufacture. Typical examples of non-modular signs, giving a text rather than a symbolic message, are given by signs GP29 to GP31. Numerals are also available in the standard modular format. Text message signs retain the same vertical height as the modular signs and can therefore be mounted with them (see Detail 4.99.1). Text other than that illustrated on the signs GP29 to GP31 may be used but should be limited to single word messages. For maximum readability DIN"B" upper/lower case text is recommended although DIN"A" upper/lower case text may also be used. It should be noted that the legibility distance of DIN"A" text is approximately 40% less than that of DIN"B" text. Consideration should, therefore, be given, to increasing the height of "DIN"A" lettering when it is specified.

4.13.3 Symbols

- 1 The symbols developed for PEDESTRIAN GUIDANCE signs are common, in many cases, to other sign

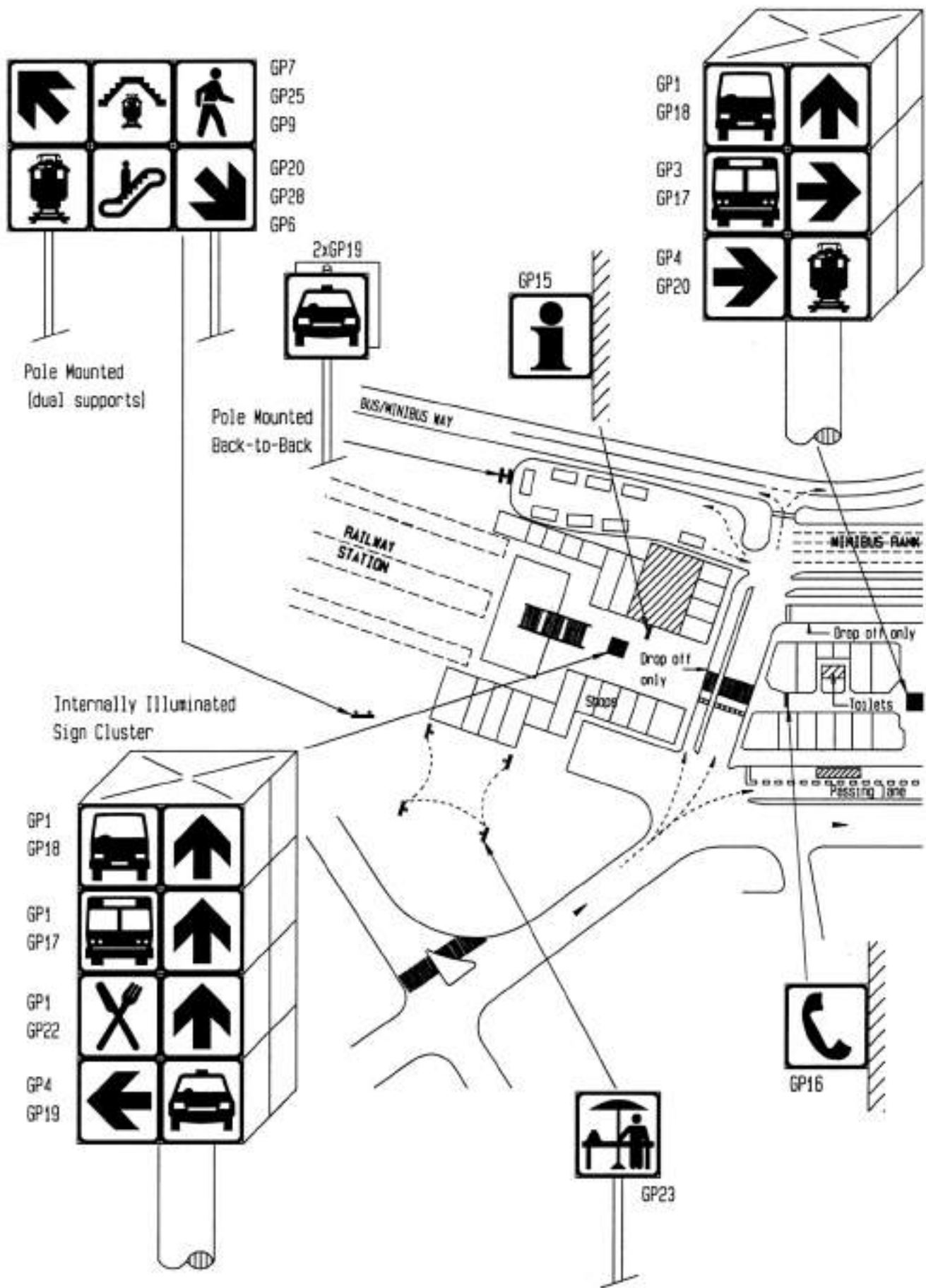


Fig 4.99 Typical Use of Pedestrian Guidance Signs

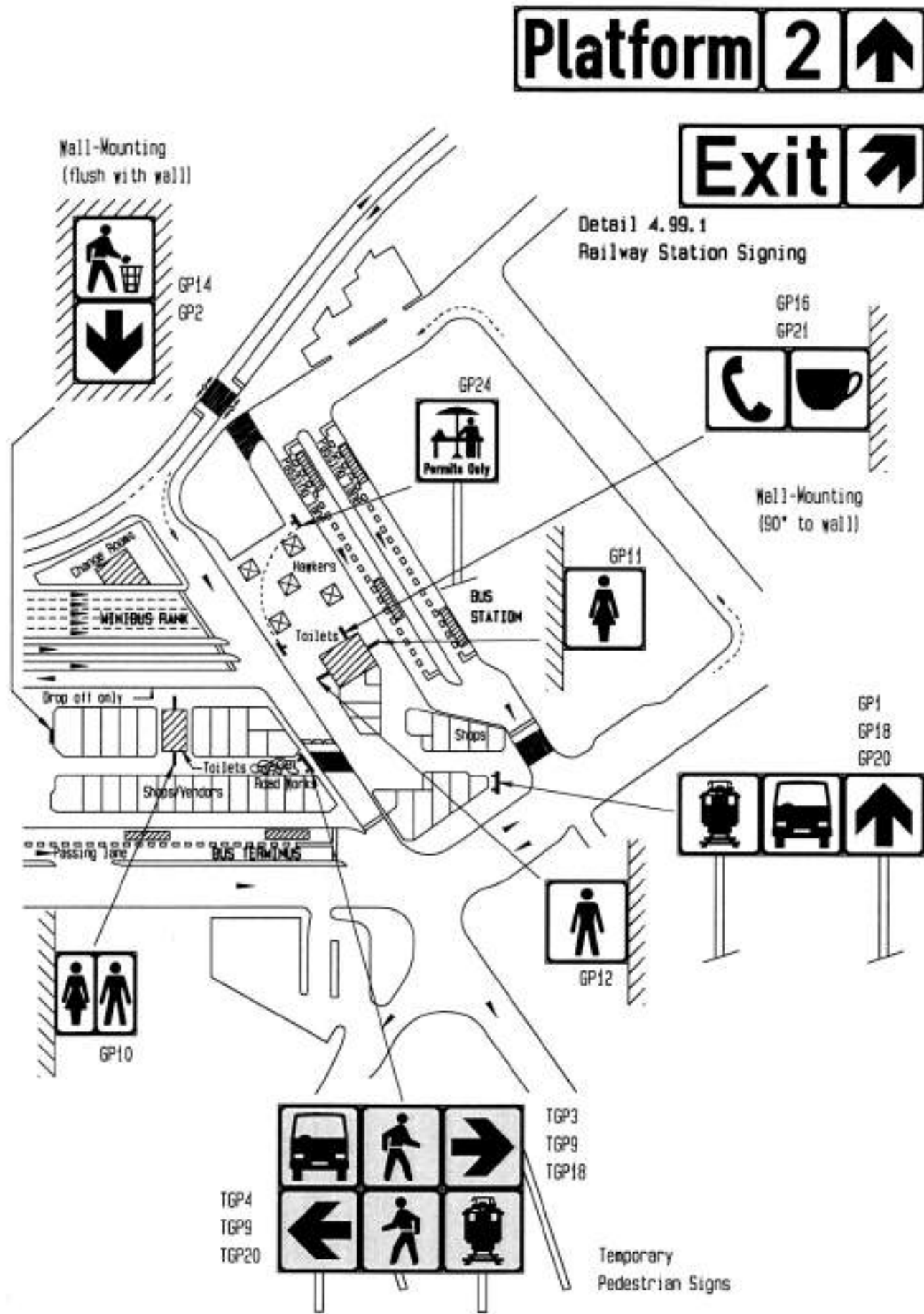


Fig 4.99

Typical Use of Pedestrian Guidance Signs

classes. Other exclusive symbols have been included from similar function signs, commonly used within transport terminals internationally for pedestrian guidance.

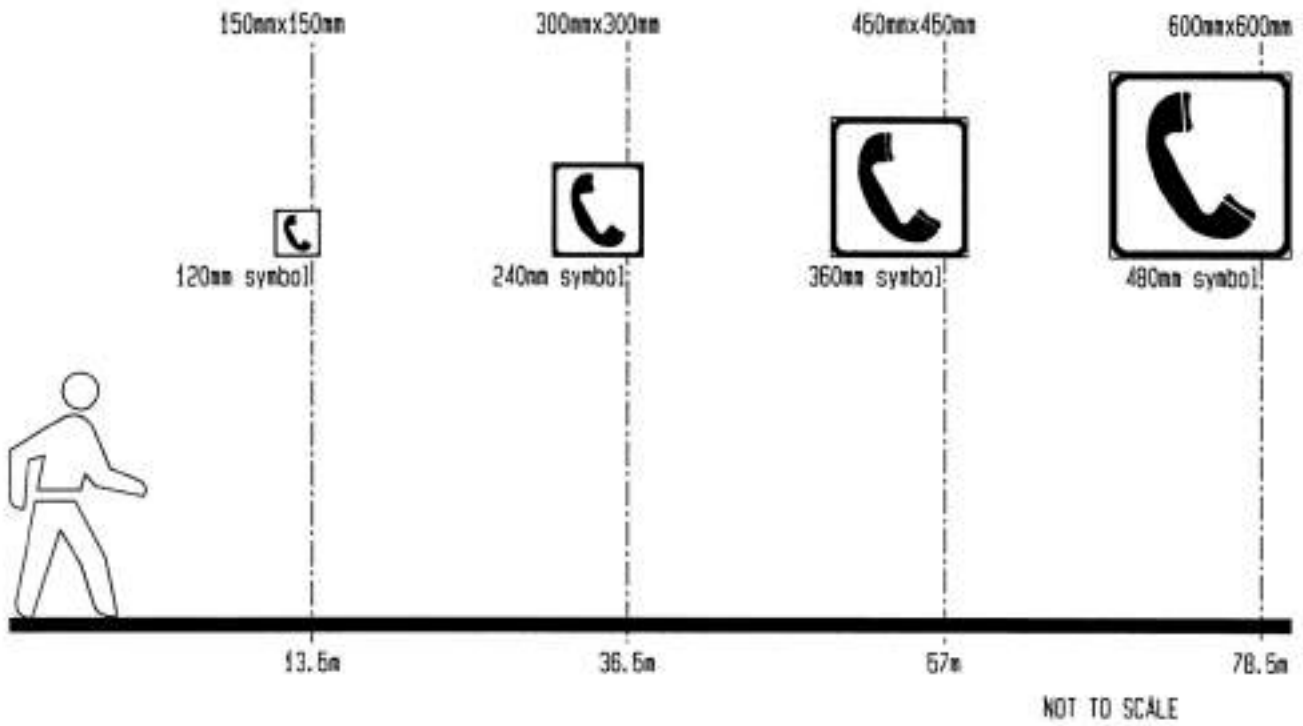
- 2 The symbols are presented for manufacture within the standard modular sign border/frame, all on a grid, as are all other road traffic sign symbols, in Volume 4.

4.13.4 Shape, Size and Colours

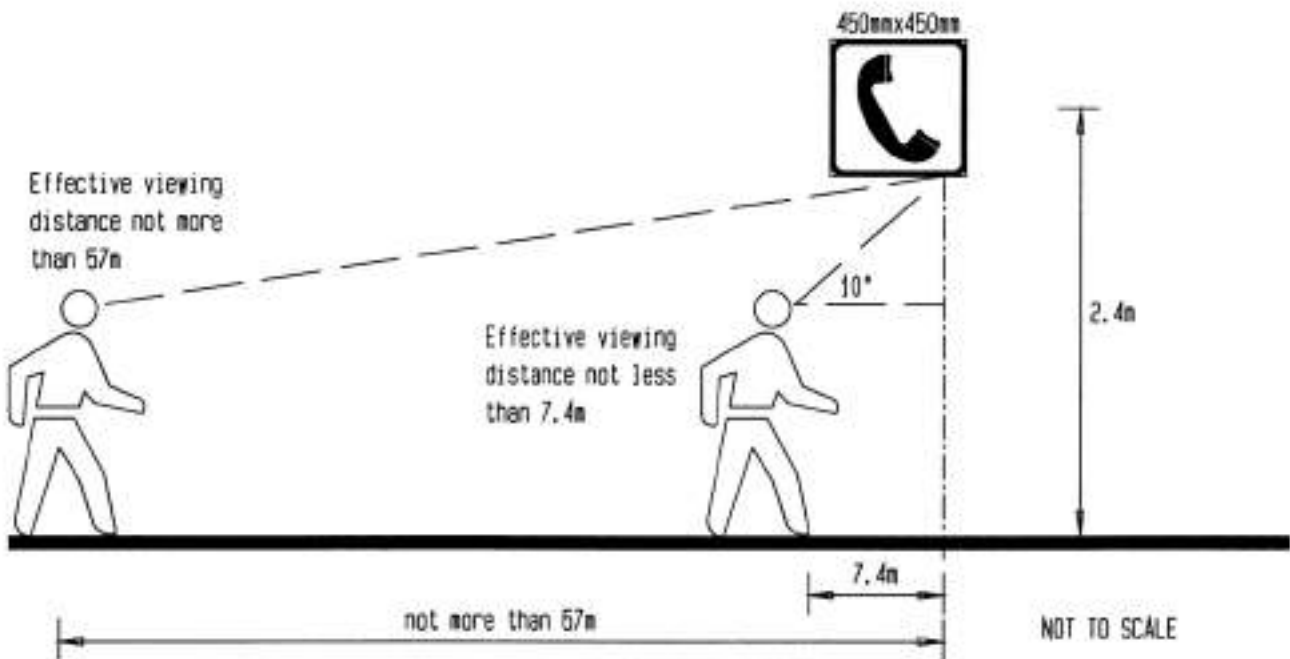
- 1 As has been noted, PEDESTRIAN GUIDANCE signs are square and modular in shape with a few exceptions. These non-modular signs do, however, have the same height but are rectangular.
- 2 Four standard square sizes are catered for in Volume 4, Chapter 14, namely:
 - (a) 150 mm x 150 mm;
 - (b) 300 mm x 300 mm;
 - (c) 450 mm x 450 mm;
 - (d) 600 mm x 600 mm.
- 3 The effective viewing distance, and the effects of mounting height, are illustrated in Figure 4.100. As a general rule a viewing angle of 10° should not be exceeded. A sign mounted higher than approximately 2,4 m may need to be increased in size to keep within the 10° parameter.
- 4 PERMANENT pedestrian sign colours are recommended to comprise a black symbol and border on a white background. TEMPORARY pedestrian signs conform to the standard temporary black-on-yellow colour code.

4.13.5 Visibility

- 1 In the environs in which PEDESTRIAN GUIDANCE signs are most commonly going to be used there is likely to be strong competition from commercial/advertising signs. These are also likely to be internally illuminated so that it will commonly be advisable for PEDESTRIAN GUIDANCE signs to be internally illuminated in order to be competitive and effective.
- 2 Retroreflective materials may be used, to improve night-time visibility in street areas where pedestrians alight from vehicles, but may not be very effective due to other ambient lighting. A painted or enamelled finish may be more effective in many instances.
- 3 TEMPORARY PEDESTRIAN GUIDANCE signs should be retroreflective because they are likely to commonly be used in road environments affected by excavation, building or other works, to assist pedestrians. Due to their modular construction they can be "mixed-and-matched" from stock, to compile a wide variety of messages in a wide variety of situations.



Detail 4.100.1 Legibility Distance by Standard Sign Size



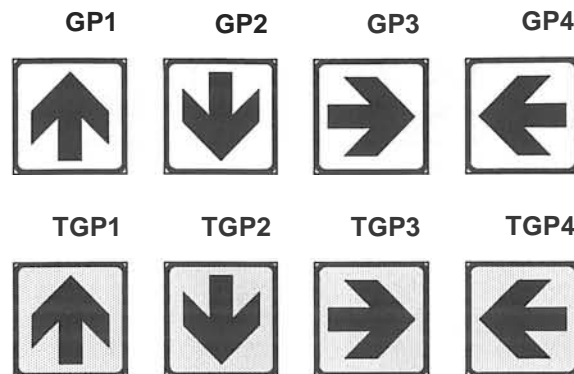
Detail 4.100.2 Vertical Positioning

Fig 4.100

Pedestrian Signs Legibility Criteria

ARROWS

For dimensions
ref. Vol 4
page
14.2.1



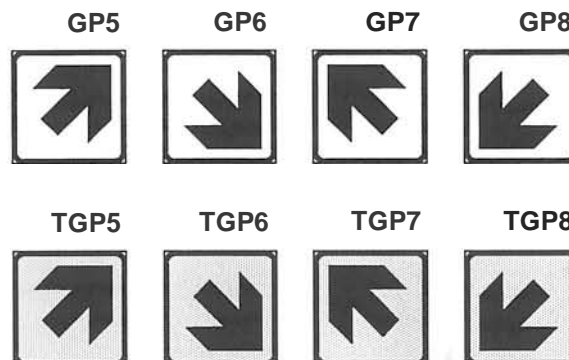
COLOURS:
PERMANENT
Border, arrow: Black
Background: White
TEMPORARY
Border, arrow: Black
Background: Yellow

4.13.6 Arrows

- 1 PEDESTRIAN DIRECTION arrow signs GP1 to GP4, and TGP1 to TGP4, may be used in combination with PEDESTRIAN SYMBOLIC and TEXT signs (see Subsection 4.13.8) **to guide pedestrians towards a range of facilities only approachable, within the area concerned, on foot.** These ARROW signs therefore shall not be used on their own.
- 2 Signs GP1 to GP4 (and TGP1 to TGP4) may be used to indicate directions straight forward (or up), back (or down) and to the right and left. Four other ANGLED ARROW signs are available to indicate directions upwards to right or left, and downwards to right or left (see Subsection 4.13.7).
- 3 GP1 to GP4 signs may be mounted in horizontal or vertical clusters with relevant modular symbolic or text signs. To permit maximum flexibility in the manner of display, and unlike any other type of guidance sign, more than one horizontal cluster of signs may be displayed pointing in the same direction. In other words if there are four facilities in one direction it is likely to be more practical to display these in two rows of two signs, each row with an appropriate arrow, rather than in one long row of five modules.
- 4 The vertical order of arrows displayed on a common support shall be the same as for normal stack-type direction signs.

ANGLED ARROWS

For dimensions
ref. Vol 4
page
14.2.2



COLOURS:
PERMANENT
Border, arrow: Black
Background: White
TEMPORARY
Border, arrow: Black
Background: Yellow

4.13.7 Angled Arrows

- 1 PEDESTRIAN DIRECTION angled arrow signs GP5 to GP8, and TGPS to TGP8, may be used in combination with PEDESTRIAN SYMBOLIC and TEXT signs (see Subsection 4.13.8) **to guide pedestrians upwards or downwards, and to the right or left, towards a range of facilities only approachable, within the area concerned, on foot.**
- 2 Signs GPS to GP8 (and TGPS to TGP8) may be used to indicate directions upwards to the right and left, and downwards to the right and left. Four other ARROW signs are available to indicate directions straight forward (or up), back (or down) and to right or left without change of level (see Subsection 4.13.6).
- 3 GP5 to GP8 signs may be used in the same manner as described in paragraphs 4.13.6.3 and 4.13.6.4 for signs GP1 to GP4.

4.13.8 Pedestrian Signs

- 1 PEDESTRIAN SYMBOLIC and TEXT signs GP9 to GP32 may be used in combination with one of the ARROW or ANGLED ARROW signs (see Subsections 4.13.6 and 4.13.7) **to guide pedestrians towards a range of facilities only approachable on foot.**
- 2 Signs GP9 to GP27 may be used on their own to identify the specific types of facility displayed on the sign. For this function the signs will commonly be mounted on wall of the facility, either flush with the wall or at 90° to the wall. Examples of this LOCATION type of application of PEDESTRIAN GUIDANCE signs are illustrated in Figure 4.99.
- 3 The mounting height of LOCATION application signs should be at least 2.1 m, and preferably 2.4 m, when placed at 90° to a wall or other surface. Figure 4.100 shows visibility criteria for this type of use for PEDESTRIAN GUIDANCE signs. In a large pedestrian area it may be more appropriate to use selected LOCATION signs of a suitable size for viewing from some distance, rather than DIRECTION sign clusters. Figure 4.100 gives guidelines on the sizing of signs in relation to viewing distance.
- 4 Signs GP9 to GP32 may be used in combination with ARROW or ANGLED ARROW signs GP1 to GP8 to direct pedestrians towards the various types of facility. The groups or clusters of PEDESTRIAN signs may be mounted in horizontal or vertical clusters. Horizontal clusters may be mounted one above the other in the same way as stack-type signs. When mounted as stacks, PEDESTRIAN signs shall follow the general rule applicable to stack-type signs, so that straight on signs are above right or left signs, and right signs are mounted over left signs.
- 5 Figure 4.99 shows a selection of typical applications of PEDESTRIAN DIRECTION sign clusters. In order to allow maximum flexibility in the combinations of individual signs, and unlike any other type of guidance sign, more than one horizontal cluster of signs may be displayed pointing in the same direction. In general it is recommended that this technique be used to avoid more than four modules in one line. When it is used, the order of stacks should be adhered to, which will mean that all stacks pointing in one direction are one above the other.
- 6 As a result of the nature of many areas in which PEDESTRIAN signs may be provided, the signs are likely to compete for attention with advertising signs. It is therefore advisable to consider using the same techniques as are used for advertising signs to achieve acceptable levels of conspicuity. Such techniques may include:
 - (a) internal illumination;
 - (b) variable messages;
 - (c) larger signs than the minimum required for legibility.
- 7 When new pedestrian environments are being planned local authorities should ensure that any PEDESTRIAN signs which are specified for the area are "protected" to the greatest possible extent from the intrusion of advertising signs. This will require that authorities are shown specific details of any competitive signing before the integrated signing plan is finalised.

SYMBOLIC SIGNS

For dimensions
ref. Vol 4
pages

14.2.3
to
14.2.18

COLOURS:
PERMANENT
Border, symbol:
Black semi-matt
Background:
White semi-matt
TEMPORARY
Border, symbol:
Black semi-matt
Background:
Yellow semi-matt
or retroreflective



Pedestrians



Toilets



Toilets (women)



Toilets (men)



Disabled



Keep Tidy



Information



Telephone



Buses



Minibuses



Taxis



Trains



Refreshments



Restaurant



Hawkers



Hawkers
(Permits Only)



SYMBOLIC SIGNS (continued)

GP25



Footbridge

GP26



Subway

GP27



Stairs

GP28



Escalators

TGP27



For dimensions
ref. Vol 4
pages

14.2.19
to
14.2.22

TEXT SIGNS

GP29



Entrance

GP30



Exit

For dimensions
ref. Vol 4
pages

14.2.23
to
14.2.25

GP31



Platforms

GP32



TGP32



Numbers

4.14 TOLL DIRECTION

4.14.1 General

- 1 Toll routes have unique features which place new and additional requirements on the road traffic signs provided for drivers. In particular, the display of **information** relating to the **payment of toll charges** and to **alternative routes**, places an additional load on drivers' attention levels (see Subsections 4.14.4 and 4.14.5).
- 2 The fundamental principle adopted for the guidance signing of toll routes is one of minimum variation to standard signs, but with a clear indication on the signs, that the route is a toll route. This is achieved by the addition of bold symbols to the standard signs. In most instances this is done with no effect on sign size. The greatest effect on specific sign types occurs with stack-type signs. These are used on the crossroad approaches to a toll route and the stack-type arrows may be modified to carry a symbol. As a result of this the arrows are larger than standard and this affects the area of the whole stack.
- 3 The signing of toll routes is achieved using both LOCATION and DIRECTION (mainly FREEWAY DIRECTION) guidance signs, and INFORMATION signs. Toll route LOCATION signs are considered in Section 4.6 and INFORMATION signs are dealt with in Chapter 5. This section provides details of the specific DIRECTION/ FREEWAY DIRECTION sign types most commonly used on toll routes. Since each of the sign types is already dealt with in another section of this chapter, the details given here are limited to aspects pertaining to their toll function. **Individual sign numbers are not modified in any way as a result of their toll function.** The majority of the sign examples used relate to a single interchange. This has been done to illustrate the message correlation between the different sign types. The signs use real place names and route numbers, but again for convenience of the clarity of the examples, they do not relate truly to a specific interchange. For more in-depth information on the application of toll signing see Volume 2, Chapter 6: *Toll Route Signing*. For dimensional details of arrows, symbols and signs refer to Volume 4, Chapter 15: *Toll Direction Signs*.
- 4 The policy and principles given in this Section represent basic details which should be borne in mind in the planning phase of a new toll route and adhered to whenever possible. These principles are subject to further development at a detail level with the objective of presenting the driving public with co-ordinated and uniform signing of toll routes. The signing of some sections of toll routes can become extremely complex as a result of such factors as:
 - (a) the intersecting of two toll routes under the control of different operators;
 - (b) the siting of toll plazas within interchanges where major, and/or complex, changes of direction occur.

This type of complexity will not be covered in this Section. Additional information is provided in Volume 2, Chapter 6.
- 5 The greatest lengths of toll route can be classed as rural, but increasing lengths are likely to occur in future in metropolitan or urban environs. The characteristics of trips undertaken in rural and urban systems differ in significant ways. Principle among these differences are the level of pre-trip planning likely to be undertaken, and the ease with which an alternative route may be indicated on signs. Rural trips are liable to be, and certainly should be, planned in some detail, whereas in an urban environment a far larger percentage of trips are likely to be unplanned. In addition, the indication of an alternative route to the toll route presents differing signing problems in rural and urban areas.
- 6 In rural situations, to date, an alternative route has commonly been available more or less parallel to the tolled route and the indication on road signs is relatively straight forward. In some case, however, such a route may not exist and the normal solution to this problem involves permitting motorists to use a section of the tolled route free of charge (*gratis* travel) until they are able to join the alternative route, although the free section of route is still maintained by the toll operator.
- 7 This form of toll operation in which a certain amount of free travel is possible is termed an "Open System" and is more appropriate when traffic volumes do not warrant a "Closed System". To date the system used on South African toll routes is the "Open System". The signing of an "Open System" presents the additional problem of having to indicate which sections of a route operated by a toll operator (and therefore by definition a "Toll Route") are subject to the mandatory payment of a fee, and which are not.
- 8 The problem of indicating alternative routes in metropolitan areas may be significantly more difficult than in a rural situation. In many cases more than one route may be available. Conversely if an alternative route is not available, it may be much more difficult to arrange a *gratis* section of toll route due to interchange positioning, or the potential loss of revenue such a section may generate. It is therefore important that this aspect be fully investigated at the concept planning stage of a new toll route (see Subsection 4.14.3).
- 9 It may also be quite difficult to accommodate the full range of additional signs in the often confined space available in metropolitan road reserves.
- 10 Guidance signs on toll routes shall achieve the same basic guidance requirements fulfilled by guidance signs anywhere else in the road network. The back-ground colour shall conform to the colour code appropriate to the class of road on which the signs appear. Toll routes may involve contiguous sections of Class A1 and Class A2 freeway.
- 11 In addition the guidance signs shall still provide adequate orientation and they shall conform to the basic principles of conspicuity, legibility, conformity, accuracy, uniformity, consistency and continuity (see Section 4.1).
- 12 **The limitations on information display in terms of road geometry, letter sizes and reading time available shall also be taken into account when designing guidance signs for toll routes** (see Section 4.4).

4.14.2 Terminology

- 1 The terms described in this Subsection are also given in Chapter 10: *Glossary of Terms*, along with many other more general terms. The terms given here tend to be unique to toll route signing principles.
- 2 The following terms are used in subsequent Subsections:
 - (a) **Alternative Route** - shall serve the same destinations as the toll route and shall be accessible to road users; it shall commence at or near the beginning and terminate at or near the end of the toll route;
 - (b) **Turn-off to Alternative Route (TTA)** - specifically chosen points signed with directions to the alternative route;
 - (c) **Gratis Section** – a section of toll route which can be travelled on without payment;
 - (d) **Point of Entry (POE)** - point at which a driver enters a toll route; this may be at one of the following:
 - (i) as a continuation of an un-tolled route;
 - (ii) *via* an intersection, access interchange or systems interchange and will involve a positive change of direction (when entering at a systems interchange the POE is taken to be the commencement of the turning roadway or freeway off-ramp nose);
 - (e) **Point of Commitment (POC)** - is the point on the roadway beyond which a driver shall have to pay toll; **the POC should always immediately follow a point at which a Turn-off to an Alternative Route (TTA) is available;**
 - (f) **Mainline Plaza** - is a plaza which straddles all lanes of the route and at which toll is paid by all drivers in one of a number of different ways;
 - (g) **Ramp Plaza** - is a plaza located only on the off-ramp and/or on-ramp at an interchange and at which toll is paid by drivers leaving or entering the toll route, in one of a number of different ways (a Plaza may comprise Mainline and Ramp components);
 - (h) **Automatic Toll** - the toll charge is collected by an automatic device which does not give change, therefore the correct change shall be tendered; Automatic Toll can be collected in a number of ways:
 - (i) by coin only;
 - (ii) by Credit card or Debit card;
 - (iii) in future an Automatic Toll charge may be collected by automatic debiting if vehicle identifiers are used - in this system the vehicle is recognised in motion and the owner invoiced automatically;
 - (i) **Pay Toll Sign** - is a regulatory sign R132 beyond which it becomes mandatory for drivers to pay the prescribed toll charge.
- 2 Before considering the signs themselves it is necessary to determine what guidance is required in addition to that normally given for a road of the class being tolled. A driver would ideally like to know the following:
 - (a) the tariff at each plaza on his route;
 - (b) the acceptable methods of payment;
 - (c) the distances by the toll route and the alternative route;
 - (d) directional guidance to the alternative route.

It is considered impractical to provide all this information at every approach to a point of entry, particularly in urban areas.
- 3 The information to be provided is therefore rationalised as follows:
 - (a) a driver entering a toll route can expect to pay toll at some point, and undertakes to do so;
 - (b) toll routes are along Primary routes, therefore the information given is directed primarily at long distance travellers (travelling to Primary or Secondary route familiar orientation points involving a trip in the region of 100 km or more - see Chapter 8);
 - (c) direction information shall take priority over toll payment information in terms of the overall limits applicable to a driver's ability to digest information.
- 4 The indication of a toll route is given by the placing of TOLL ROUTE symbol GDS-9 after the appropriate route number. As a contrast, when an alternative route has to be indicated, the ALTERNATIVE ROUTE symbol GDS-10 is also used on the same sign face. Symbol GDS-10 is similarly placed after the route number of the intersecting cross road.
- 5 Because a toll route may be divided into *gratis* and "pay" sections it becomes necessary for this to be evident from the basic signs rather than through additional worded messages. The Point of Commitment (POC) is therefore indicated by the incorporation of the PAY TOLL regulatory sign R132 into the arrow(s) of signs in the relevant positions.
- 6 The basic identification of the most important features of the toll route on the direction signs is thus achieved with a minimum increase in sign area, or none at all. The minimum recommended level of guidance signing for toll routes includes, in addition to the standard direction signs, a TARIFF BOARD information sign IN24 or IN25.
- 7 The MINIMUM additional information recommended to be added to the standard guidance signs on the approach to an exit on a toll route should therefore involve:
 - (a) the use of symbol GDS-9 at Points of Entry (POE);
 - (b) the use of PAY TOLL sign R132 at Points of Commitment (POC);
 - (c) identification of Turn-Offs to Alternative Routes (TTA's) using symbol GDS-10;
 - (d) TARIFFBOARD signs displaying either the maximum toll payable at a particular toll plaza for each class of vehicle, OR the maximum total toll payable at a sequence of toll plazas in order to reach a specific destination for each class of vehicle, in advance of any TTA and if possible ant POC (this will often be difficult

14.4.3 Basic Principles

- 1 The potential complexity of a toll route system is illustrated in Figure 4.101. This figure shows the different elements making up the system. The basic principles used in order to provide drivers with the information required, are derived from the need to identify these elements to drivers.

on crossroad approaches to a POC).

- 8 It is strongly recommended that in addition to this minimum level of toll information, a CONFIRMATION sign GA7 be provided which shows the distances to a common familiar destination *via* the toll route and *via* the alternative route.
- 9 In practice a significant number of additional signs covering a wide range of information are commonly found to be necessary. A selection of these is dealt with in Subsection 4.14.7.

4.14.4 Payment Information

- 1 Payment information is provided by a number of sign types to satisfy a number of different requirements as indicated in the following paragraphs.
- 2 **How much to pay?** - sign information indicates how much shall be paid by class of vehicle (this may be related to the number or mass of axles on the vehicle) - this amount may be different for Mainline and Ramp Plazas and may need to cover payment at more than one Plaza on a route (i.e. indicate the total for the route).
- 3 **Where to pay?** - traffic may be segregated by class or by intended route beyond a plaza, or for Automatic Toll collection.
- 4 **How to pay?** - in cash with a requirement to receive change, by Credit or Debit card, by correct cash in coins at an Automatic Toll Machine or by automatic vehicle identification and invoicing;
- 5 **What is being paid for?** - drivers often want to know what they are getting for the toll charge - this information may be given on a CONFIRMATION sign GA7 from which the difference in distance to a familiar destination *via* the toll route and the alternative route may be determined - signs may be used to identify the start and end of the section of a route controlled by the toll operator (different operators may control contiguous sections of a route).

4.14.5 Alternative Routes

- 1 The manner in which an exit to an Alternative Route should be signed on the freeway has been covered in paragraph 4.14.3.4.
- 2 There is an inherent obligation, however, that having signed an alternative route, drivers who take this route shall be able to navigate their way towards their intended destination. An Alternative Route may involve a number of changes in direction, particularly in urban areas. An indication of these changes may be given on direction signs by the incorporation of the ALTERNATIVE ROUTE symbol GDS-10. This may not always be possible, however, and the Alternative Route may be identified by using one or more of the ALTERNATIVE ROUTE MARKER signs GE16 to supplement the existing direction signs (see Subsection 4.6.14).
- 3 It is undesirable that the environment be cluttered unnecessarily by road signs. It is therefore recommended that the Alternative Route be identified only up to the point where the familiar destination, which would have been reached if the driver had stayed on the toll route, appears on existing direction signs on the Alternative Route.

4.14.6 Typical Signs and Sequences

- 1 Basic toll sign sequences are illustrated in Figures 4.102 and 4.103. Figure 4.102 shows the minimum sign display on the freeway approach to an access interchange. The alternative ADVANCE EXIT DIRECTION sign GA2 to be used if this exit is at a Point of Commitment is indicated. Such a sign sequence could be provided at any access interchange on a toll route. On the approach to the first interchange **after the start of a toll route** the minimum sign sequence should start approximately 2 km from the exit point and should include the following signs in addition to those indicated in Figure 4.102:

- (a) a PRE-ADVANCE EXIT DIRECTION sign GA1;
- (b) a CONFIRMATION sign GA7;
- (c) a TARIFF BOARD sign (or signs).

This extended sign sequence should also be provided in advance of a Turn-off to an Alternative Route or a Point of Commitment.

- 2 Figure 4.103 shows a typical minimum display on a crossroad approach to a Point of Entry to a freeway toll route which is also a Point of Commitment for one direction of entry to the toll route.
- 3 Similar sign sequences with additional optional signs will be required in a number of other typical situations on a toll route. The positions where such sequences are likely are indicated in Figure 4.101. Approaches to toll plazas and systems interchanges in particular will require a significant number of additional signs.
- 4 As has been indicated in Subsection 4.14.5 the ALTERNATIVE ROUTE symbol GDS-10 may be used outside the immediate environs of a toll route. In a similar way the Toll Route symbol GDS-9 can be incorporated into a TRAILBLAZER sign, or "insert" panel on a DIRECTION sign, used some distance from the toll route, to direct drivers towards the toll route. The application of the symbol is the same on a TRAILBLAZER display as on a FREEWAY DIRECTION or DIRECTION sign, in that the symbol shall be displayed after the route number.
- 5 The shape, size and colours of toll route guidance signs shall be as for standard appropriate sign types as used on a non-tolled route.
- 6 Due to the frequency of access common on non-freeway routes it is likely that toll charges will only be applied to limited access freeway routes for the foreseeable future. The toll route direction signs described from Subsection 4.14.8 are all ground-mounted freeway direction signs appropriate to access interchanges on freeways. The need to include specific toll route information on overhead direction signs, including those used at complex systems interchanges is very likely. A limited number of examples of signs of similar function are included for information, although their sign numbers are different from those being described in the Subsection.
- 7 It is recommended that all guidance signs on a toll route should be fully retroreflective.
- 8 Tourism facilities such as laybys or rest and service areas may be provided within tolled sections of a route. These should be signed in a conventional manner.

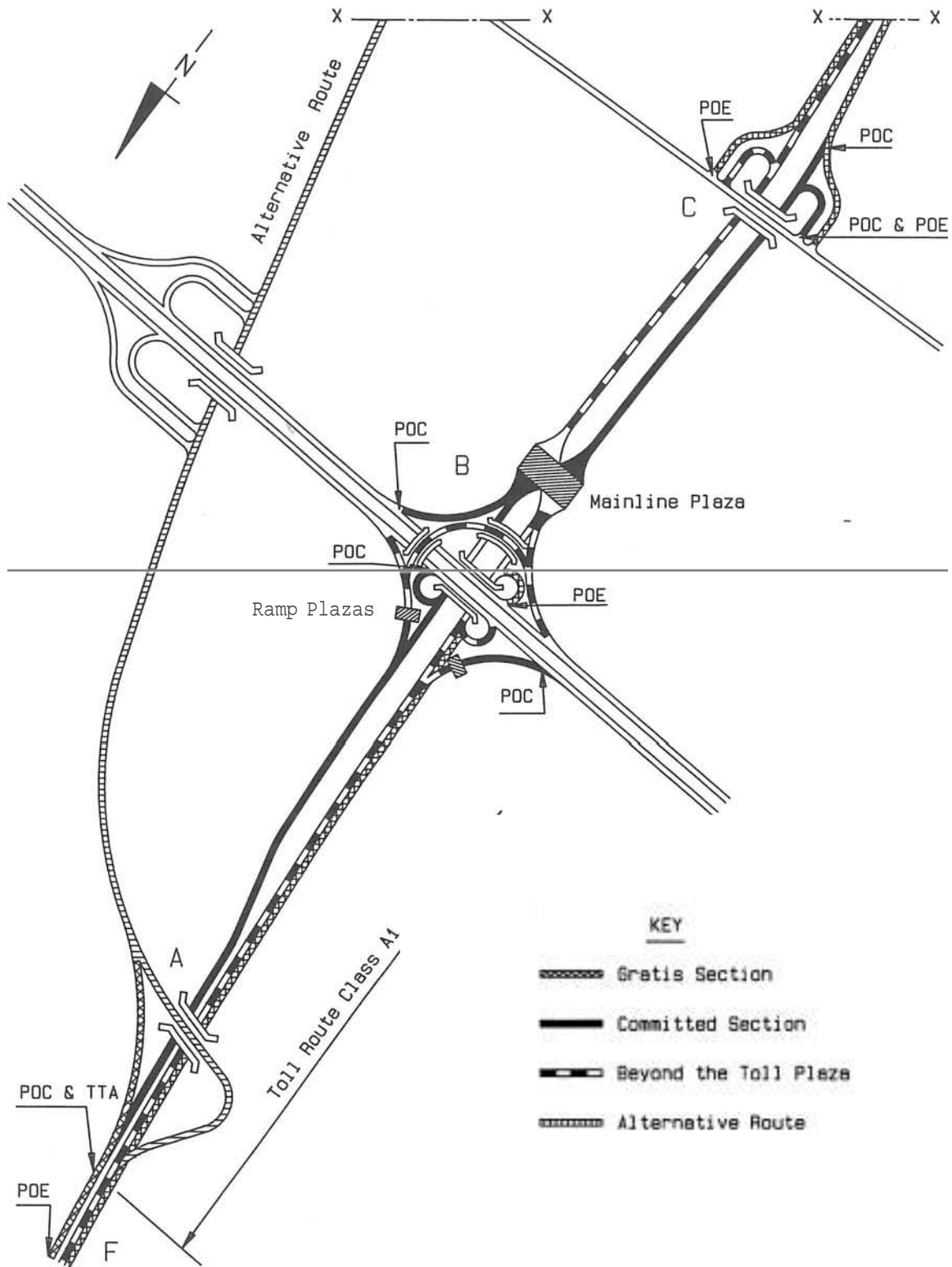
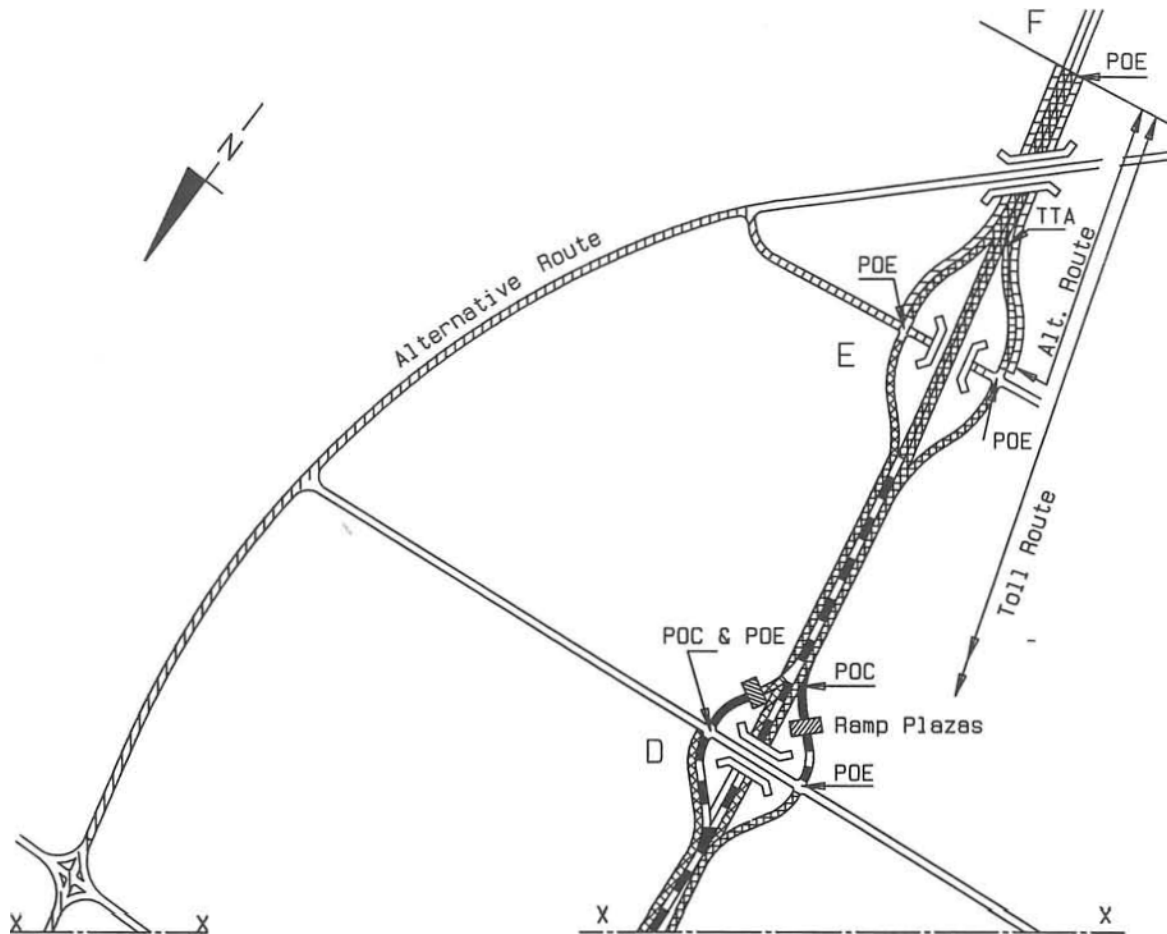


Fig. 4.101

Elements of a Toll Route

**NOTES:**

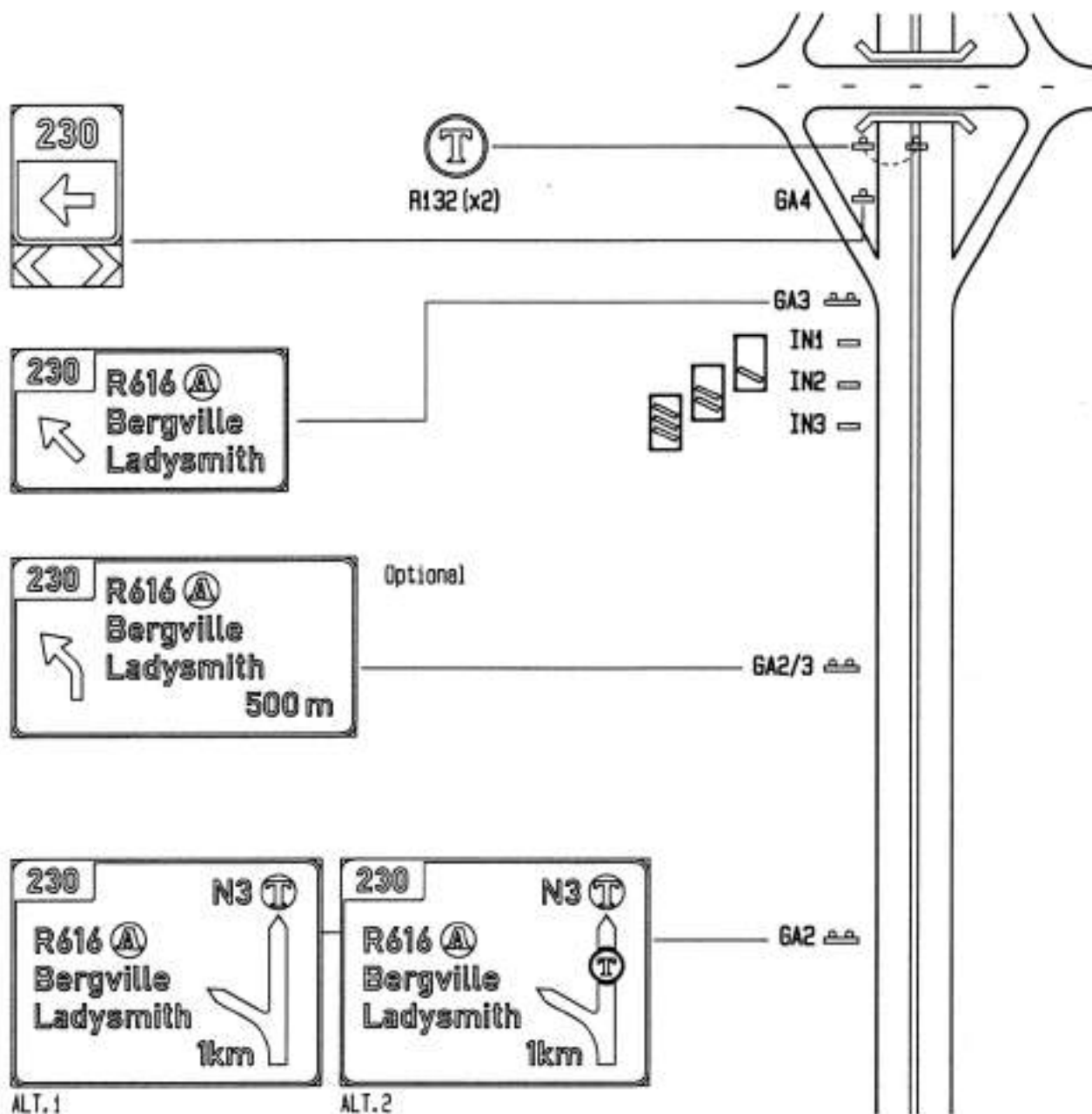
- (1) This figure illustrates a number of situations which may well occur in an "Open Section" toll system. The variety shown here is unlikely to occur within such a short length of toll route, but is certainly possible.
- (2) Points "F" indicate the start (Point of Entry - POE) and end of a toll route for which a toll operator is responsible.
- (3) Point "A" shows a Turn-off To an Alternative Route (TTA) and a Point of Commitment (POC) whereas Point "E" involves a TIA but not a POC.
- (4) All movements on the toll route at Point "B" and all but one of the entering movements are subject to toll. (The movement from east to north is not subject to toll).
- (5) Point "C" shows an interchange with no plazas but entering traffic travelling north will be subject to toll so it includes a POC on the main freeway and at the northbound on-ramp.
- (6) Point "D" shows a similar interchange with Ramp Toll Plazas. Note that sections of the toll route may still be free or *gratis* when the toll is levied only on the ramps.
- (7) Point "E" shows that Alternative Route re-joining the toll route with *gratis* travel available in both directions.
- (8) The term "Beyond the Toll Plaza" is used to refer to sections of toll route on which, in addition to the "Committed" sections, travel is paid for at a Toll Plaza. Such sections may also be *gratis* sections for traffic using the system for shorter distances.

Fig. 4.101

Elements of a Toll Route

4.14.7 Additional Toll Signs

- 1 For full details of further unique signs not covered in this section, which have been used on toll routes in addition to the basic signs illustrated in Figures 4.102 and 4.103, refer to Volume 2, Chapter 6: *Toll Route Signing*. The following sign types together with a wide selection of examples of sign types covered in following subsections are illustrated in Volume 2, Chapter 6:
 - (a) TOLL ROUTE NAME LOCATION sign GL7.2 (see Subsection 4.5.10);
 - (b) TARIFF BOARD information signs IN24 and IN25 showing the total toll required to be paid before reaching the indicated Primary familiar destination;
 - (c) AUTOMATIC TOLL information sign IN27 including a standard "Autotol" symbol (which may be amended by the omission of the motor car symbol when the automatic toll is applicable to all classes of vehicle);
 - (d) END OF TOLL ROUTE LOCATION sign GL7.3.
- 2 Regulatory PAY TOLL sign R132 is commonly displayed in combination with SPEED LIMIT signs R201 in a "countdown" manner on the approach to a toll plaza. Speed limit values of 100 km/h, 80 km/h and 60 km/h are recommended. The display of PAY TOLL sign R132 may be made on a HIGH VISIBILITY background to increase the conspicuity of these signs and a SUPPLEMENTARY PLATE sign IN11.3 indicating the distance to the plaza may also be displayed.



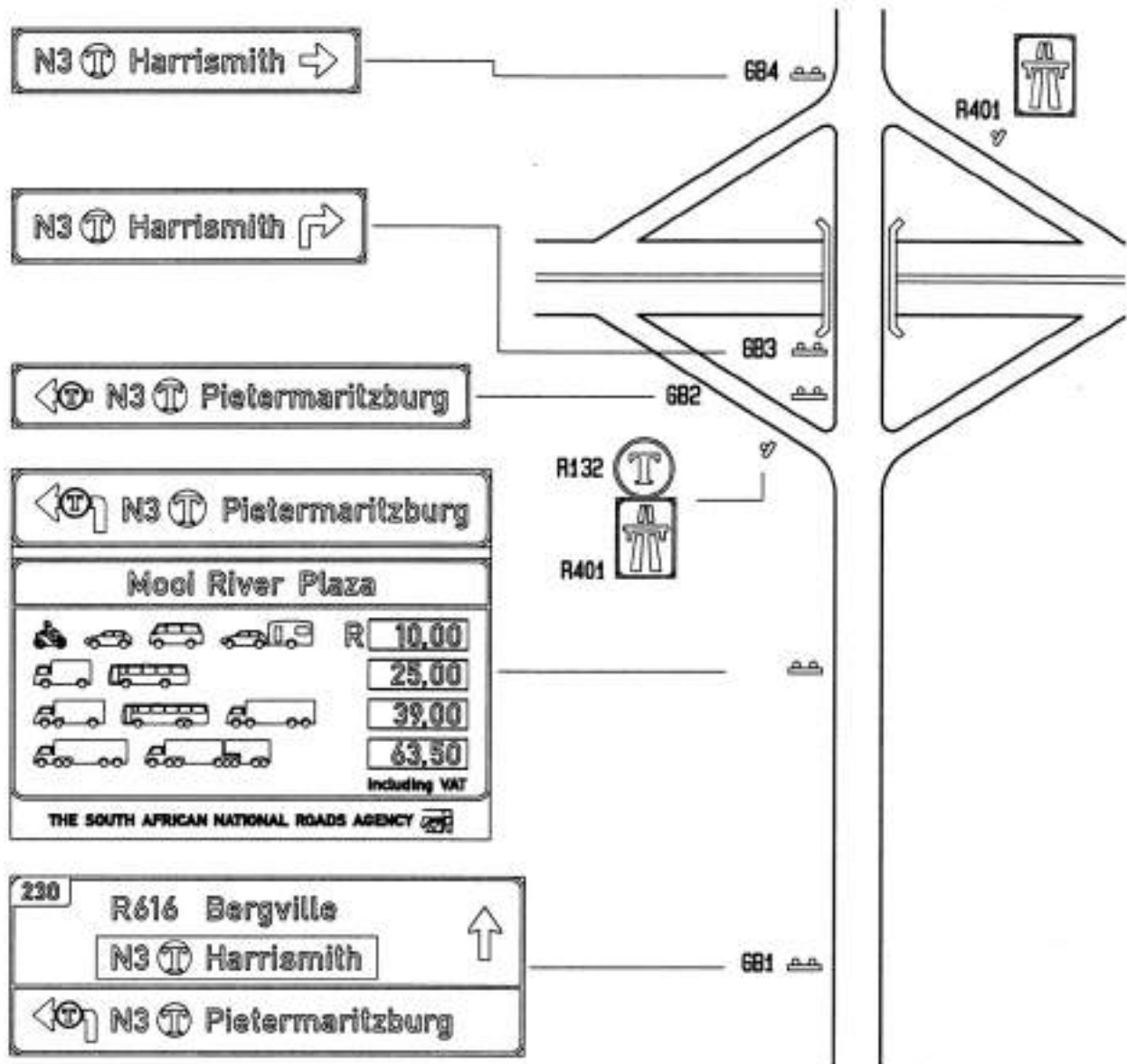
NOTES:

- (1) This sign sequence is the basic MINIMUM used on a Class A1 freeway exit on a toll route. ALTERNATIVE ROUTE symbol GDS-10 shall only be used if the exit serves the Alternative Route. TOLL ROUTE symbol GDS-9 shall appear on all GA1 or GA2 signs on a toll route in conjunction with the route number of the toll route.
- (2) ALT1 refers if the exit is NOT also a Point of Commit-

ment (POC) whereas ALT2 includes a regulatory PAY TOLL sign R132 over the MAP-TYPE arrow to indicate that the junction is a POC. (At a systems interchange this indication could often be required on the exit arm of the arrow).

- (3) In advance of a POC this sequence should be preceded by additional signs (see Subsection 4.14.6).

Fig. 4.102 Typical Sign Sequence on a Class A1 Freeway Exit Toll Route



NOTES:

- (1) This sign sequence represents a cross road approach to a freeway interchange where a turn to the left is at a Point of Commitment (POC) and a turn to the right, which, although onto a toll route, will not incur a toll charge (without an option to exit to an Alternative Route).
- (2) Different toll operators may levy toll charges according to different principles. The TARIFFBOARD signs shall

reflect these differences accurately so that drivers act in the required manner at each toll plaza. The example shown is of the type used by the South African Department of Transport.

- (3) Sign GB1 should be located further from the near side on-ramp than indicated in Figure 4.58 to allow sufficient reading and reaction time for all signs.

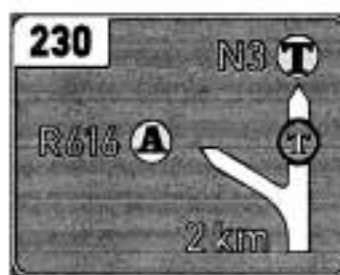
Fig. 4.103 Typical Sign Sequence on a Cross Road Approach –Toll Route

TOLL PRE-ADVANCE EXIT DIRECTION

COLOURS:
 PERMANENT
 Border & arrow: White retroreflective
 Legend: White retroreflective
 Route Number: Yellow retroreflective
 Symbol: Black on yellow
 R132: White on blue
 Background: Blue or green retroreflective
 Interchange (EXIT) number: Black semi-matt

GA1 or GC1

For dimensions refer Vol. 4 page 15.2.1



4.14.8 Toll Pre-Advance Exit Direction

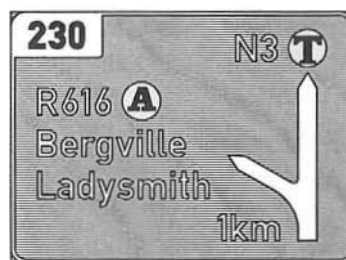
- 1 TOLL PRE-ADVANCE EXIT DIRECTION signs are specific applications of sign types GA1 and GC1 which may be used **to give early guidance of a high speed exit at an access interchange or at an interchange between two freeway systems ahead when one or both routes ahead are toll routes.** Sign GA1 is a ground-mounted sign and GC1 an overhead sign. Both signs utilize the same signface layout. A GA1/GC1 sign is recommended in advance of a systems interchange but is optional in advance of an access interchange.
- 2 TOLL PRE-ADVANCE EXIT DIRECTION signs shall be designed and used in the same manner as described for PRE-ADVANCE EXIT DIRECTION signs GA1/GC1 in Subsection 4.9.10.
- 3 Subject to the criteria for the provision of GA1/GC1 signs given above, and in Subsection 4.9.10, the sign type is also recommended as an additional sign in advance of the exit to an ALTERNATIVE ROUTE to the TOLL ROUTE.
- 4 TOLL ROUTE symbol GDS-9 should be displayed in the straight on route number group above the MAP-TYPE arrow. ALTERNATIVE ROUTE symbol GDS-10 should be displayed with the route number of the crossroad at the exit ahead, when this is the exit to the alternative route. If the junction ahead is a systems interchange the same rules are applicable although the "exit" is to another freeway system.

TOLL ADVANCE EXIT DIRECTION

COLOURS:
 PERMANENT
 Border & arrow: White retroreflective
 Legend: White retroreflective
 Route Number: Yellow retroreflective
 Symbol: Black on yellow
 R132: White on blue
 Background: Blue on green retroreflective
 Interchange (EXIT) number: Black semi-matt

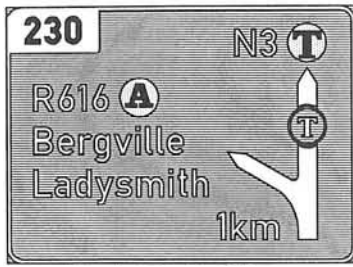
GA2

For dimensions refer Vol. 4 page 15.2.2



4.14.9 Toll Advance Exit Direction

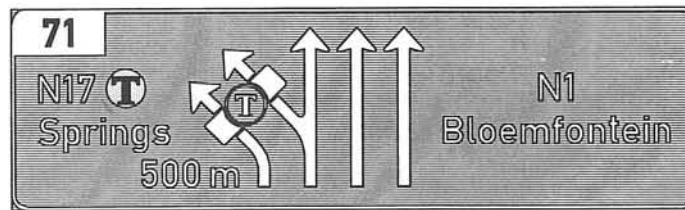
- 1 TOLL ADVANCE EXIT DIRECTION signs are specific applications of sign type GA2 which may be used **to give advance guidance of a high speed exit at a Class A1 or Class A2 freeway access interchange when one or both routes ahead are toll routes.** Toll sign GA2 is the first sign in a standard toll freeway direction sign sequence as shown in Figure 4.102.
- 2 TOLL ADVANCE EXIT DIRECTION sign shall be designed and used in the same manner as described for ADVANCE EXIT DIRECTION sign GA2 in Subsection 4.9.11. Any of the example variations of sign GA2 in Subsection 4.9.11 may be used in a toll application.
- 3 TOLL ROUTE symbol GDS-9 should be displayed in the straight on route number group above the MAP-TYPE arrow. ALTERNATIVE ROUTE symbol GDS-10 should be displayed with the route number of the crossroad at the exit ahead, when this is the exit to the alternative route.
- 4 Figure 4.104 shows three other representative examples of toll advance exit signs. Detail 4.104.1 shows the inclusion of mandatory PAY TOLL sign R132 in the MAP-TYPE arrow to indicate a Point of Commitment ahead. Detail 4.104.2 gives an urban example with Points of Commitment in both the straight on and exit directions (such a situation should be preceded by an exit to an alternative route). Detail 4.104.3 shows a typical overhead SUPPLEMENTARY ADVANCE EXIT DIRECTION sign GC4U used as a toll route sign. This example shows that a toll plaza is positioned on the exit roadway before the N17 freeway is reached.



Detail 4.104.1 GA2



Detail 4.104.2 GA2 - urban

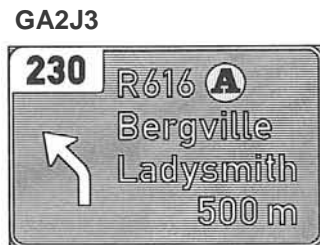


Detail 4.104.3 Overhead GC3U Sign

Fig. 4.104 Examples of Toll Advance Exit Direction Signs

TOLL SUPPLEMENTARY EXIT DIRECTION

For dimensions refer Vol. 4 page 15.2.3



COLOURS:
 PERMANENT
 Border & arrow: White retroreflective
 Legend: White retroreflective
 Route Number: Yellow retroreflective
 Symbol: Black on yellow
 Background: Blue on green retroreflective
 Interchange (EX11J number): Black semi-matt

4.14.10 Toll Supplementary Exit Direction

- 1 TOLL SUPPLEMENTARY EXIT DIRECTION sign is a specific application of sign type GA2/3 which may be used **to offer additional advance guidance of a high speed exit at a Class A1 or Class A2 freeway access interchange when one or both routes ahead are toll routes.**
- 2 TOLL SUPPLEMENTARY EXIT DIRECTION sign, is an optional sign, which shall be designed and used in the same manner as described for SUPPLEMENTARY EXIT DIRECTION sign GA2/3 in Subsection 4.9.12.
- 3 ALTERNATIVE ROUTE symbol GDS-10 should be displayed with the route number of the crossroad at the exit ahead when this is the exit to the alternative route (see Figure 4.102).

COLOURS:
PERMANENT

Border & arrow:	White retroreflective
Legend:	White retroreflective
Route Number:	Yellow retroreflective
Symbol:	Black on yellow
Background:	Blue on green retroreflective
Interchange (EXIT) number:	Black semi-matt

For dimensions refer Vol. 4 page 15.2.4



4.14.11 Toll Exit Direction

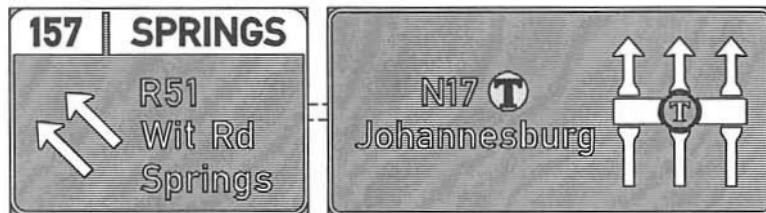
- 1 TOLL EXIT DIRECTION sign is a specific application of sign type GA3 which may be used **to indicate the start of the off-ramp exit taper at a Class A1 or Class A2 freeway access interchange to guide drivers who wish to exit the toll route**. A GA3 is the second sign in a standard toll freeway direction sign sequence as shown in Figure 4.102.
- 2 TOLL EXIT DIRECTION sign shall be designed and used in the same manner as described for EXIT DIRECTION sign GA3 in Subsection 4.9.13.
- 3 ALTERNATIVE ROUTE symbol GDS-10 should be displayed with the route number of the crossroad at the

exit ahead when this is the exit to the alternative route (see Figure 4.102).

- 4 Figure 4.105 shows two other representative examples of toll exit direction signs. Detail 4.105.1 gives an illustration of the inclusion of mandatory PAY TOLL sign R132 in STACK-TYPE 2 arrow on sign GA3. This application is appropriate when the off-ramp concerned is provided with a ramp toll plaza. Detail 4.105.2 shows a typical overhead sign treatment on a major freeway. Sign GC4U indicates the exit information whilst sign GC6U shows a Point of Commitment leading to a main line toll plaza.



Detail 4.105.1 GA2



Detail 4.105.2 GC4U + GC6U Overhead

Fig.4.105

Examples of Toll Exit Direction Signs

TOLL ADVANCE OFF-RAMP TERMINAL

For dimensions
refer Vol. 4
page
15.2.5



COLOURS:
PERMANENT
Border & arrow: White retroreflective
Legend: White retroreflective
Route Number: Yellow retroreflective
Symbol: Black on yellow
Background: Green retroreflective
Chevron: Red on white retroreflective

4.14.12 Toll Advance Off-Ramp Terminal Direction

1 TOLL ADVANCE OFF-RAMP TERMINAL DIRECTION sign is a specific application of sign type GA5 which may be used **to give advance orientations/guidance to drivers on Class A1 and A2 freeway access interchanges off-ramps related to their lane selection in order to turn towards destinations displayed at the ramp terminal (one of which in**

the example is an alternative route to the toll route).

2 TOLL ADVANCE OFF-RAMP TERMINAL DIRECTION sign shall be designed and used in the same manner as described for ADVANCE OFF-RAMP TERMINAL DIRECTION sign GA5 in Subsection 4.9.15.

TOLL OFF - RAMP TERMINAL

For dimensions
refer Vol. 4
page
15.2.6



COLOURS:
PERMANENT
Border & arrow: White retroreflective
Legend: White retroreflective
Route Number: Yellow retroreflective
Symbol: Black on yellow
Background: Green retroreflective
Chevron: Red on white retroreflective

4.14.13 Toll Off-Ramp Terminal Direction

1 TOLL OFF-RAMP TERMINAL DIRECTION sign is a specific application of sign type GA6 which may be used **to give orientational guidance to drivers at ramp terminals of Class A1 and Class A2 freeway access interchanges.** The use of ALTERNATIVE ROUTE symbol GDS-10 with the crossroad route number in the

lower stack orients drivers towards the ALTERNATIVE ROUTE.

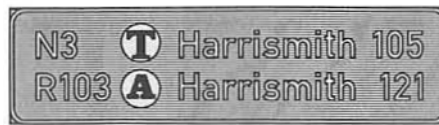
2 TOLL OFF-RAMP TERMINAL DIRECTION sign shall be designed and used in the same manner as described for OFF-RAMP TERMINAL DIRECTION sign GA6 in Subsection 4.9.16.

TOLL CONFIRMATION

COLOURS:
 PERMANENT
 Border & Legend: White retroreflective
 Route Numbers: Yellow retroreflective
 Symbol: Black on yellow
 Background: Blue or green retroreflective

GA7A

For dimensions refer Vol. 4 page 15.2.7 to 15.2.9



GA7P



GA7R



4.14.14 Toll Confirmation

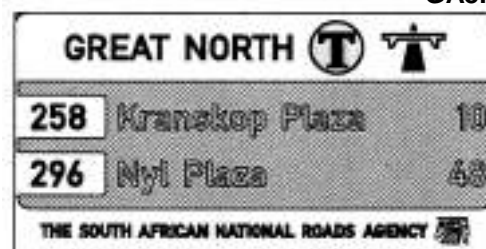
- 1 TOLL CONFIRMATION signs are specific applications of sign type GA7 which may be used **to give reassurance or confirmations/ guidance to drivers that they are travelling on the numbered Class A1 or Class A2 freeway towards the destinations indicated.**
- 2 Three types of TOLL CONFIRMATION signs are commonly used on toll routes. Their specific descriptions and functions are as follows:
 - (a) ALTERNATIVE ROUTE CONFIRMATION sign GA7A indicates the distance to the next Primary route familiar destination by the toll route AND by an alternative route;
 - (b) TOLL ROUTE AHEAD CONFIRMATION sign GA7R -indicates the distance to the start of a toll route;
 - (c) TOLL PLAZA AHEAD CONFIRMATION sign GA7P - indicates the distance to the named toll plaza ahead.
- 3 Sign GA7A is displayed ahead of an alternative route exit from the toll route to assist drivers in their decision making regarding which route they want to take. The sign should be located on the same section of route as a TOLL TARIFF information sign IN24 or IN25 so that the two items of information may be used jointly.
- 4 Conventional CONFIRMATION signs GA7 may be used in the normal manner within a toll route to give normal progress information towards the named familiar destination.

TOLL PLAZA SEQUENCE

COLOURS:
 PERMANENT
 Border & Legend: White retroreflective
 Symbols: Black and Black on Yellow
 Background: Green or Blue retroreflective
 Route Name/

GA8P

For dimensions refer Vol. 4 page 15.2.10



Plaza Numbers: Black semi-matt

4.14.15 Toll Plaza Sequence

- 1 TOLL PLAZA SEQUENCE sign GASP is a specific variation of sign type GAS which may be used **to provide guidance to drivers, well in advance, of the positions of the next two toll plazas on the toll route ahead.**
- 2 TOLL PLAZA SEQUENCE sign GASP, is an optional sign, which shall be designed in a similar manner to EXIT SEQUENCE sign GAS, as described in Subsection 4.9.18.
- 3 Sign GASP should display the name of the toll route in the top panel in a similar way to the display of the place name on a standard GAS sign. The TOLL ROUTE symbol GDS-9 and LOCATION symbol FREEWAY NAME (Class A1) GLS-4 or (Class A2) GLS-5 may be displayed in the top panel with the route name. The next two plazas are identified by name and are allocated the equivalent of an INTERCHANGE NUMBER in addition to the distance to the plaza. The allocation of a number allows drivers to locate the plazas in relation to numbered interchanges.

TOLL CROSSROAD ADVANCE DIRECTION

For dimensions
refer Vol. 4
page
15.2.11

GB1



COLOURS:

PERMANENT

Border & arrows:

Legend:

Route Numbers:

Symbol:

R132:

Background:

White retroreflective

White retroreflective

Yellow retroreflective

Black on yellow

White on blue

Green or green

and blue

retroreflective

4.14.16 Toll Crossroad Advance Direction

- 1 TOLL CROSS-ROAD ADVANCE DIRECTION sign is a specific application of sign type GB1 which may be used **to give advance guidance to drivers that an intersecting freeway lies ahead and to indicate that it is a toll route.** In addition if a turn in one or other direction is a Point of Commitment this is identified by the display of mandatory PAY TOLL sign R132 in the STACK-TYPE arrow for a left turn. If the right turn is a Point of Commitment the R132 sign should be located in line with and after the destination name and NOT in the straight-on STACK-TYPE arrow, since it also gives direction towards a destination on the crossroad beyond the freeway.
- 2 TOLL CROSS-ROAD ADVANCE DIRECTION sign shall be designed and used in a similar manner as is described for CROSS-ROAD ADVANCE DIRECTION sign GB1 in Subsection 4.9.22.
- 3 Toll sign GB1 may need to be located further from the on-ramp turn point than a standard GB1 sign to allow space for a toll tariff board prior to entry to the on-ramp.
- 4 If the crossroad is at an interchange within the toll route symbol GDS-9 will appear in both right and left direction stacks on sign GB1. However, if the sign is at an interchange at the beginning of the toll route the symbol will only appear in the one stack.

TOLL NEAR-SIDE ON-RAMP DIRECTION

For dimensions
refer Vol. 4
page
15.2.12

GB2



COLOURS:

PERMANENT

Border & arrow:

Legend:

Route Number:

Symbol:

R132:

Background:

White retroreflective

White retroreflective

Yellow retroreflective

Black on yellow

White on blue

Blue or green

retroreflective

4.14.17 Toll Near-Side On-Ramp Terminal Direction

- 1 TOLL NEAR-SIDE ON-RAMP DIRECTION sign is a specific application of sign type GB2 which may be used **to indicate to drivers the position of the near-side on-ramp at a freeway ACCESS INTERCHANGE and to indicate that it is a toll route.** In addition if the turn is a Point of Commitment this is identified by the display of mandatory PAY TOLL sign R132 in the STACK-TYPE arrow.
- 2 TOLL NEAR-SIDE ON-RAMP DIRECTION sign shall be designed and used in the same manner as described for NEAR-SIDE ON-RAMP DIRECTION sign GB2 in Subsection 4.9.23.

TOLL NEAR / FAR SIDE ON-RAMP ADVANCE DIRECTION / TARIFF

COLOURS:

PERMANENT

Border and arrow:

White retroreflective

Legend:

White retroreflective

Route Number:

Yellow retroreflective

Symbol:

Black on yellow

R132:

White on blue

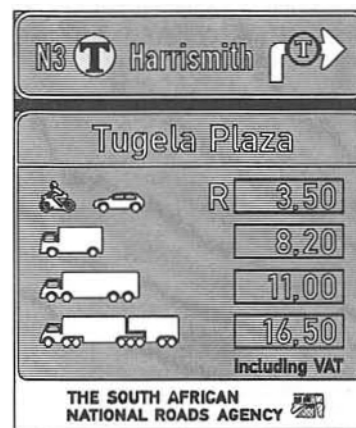
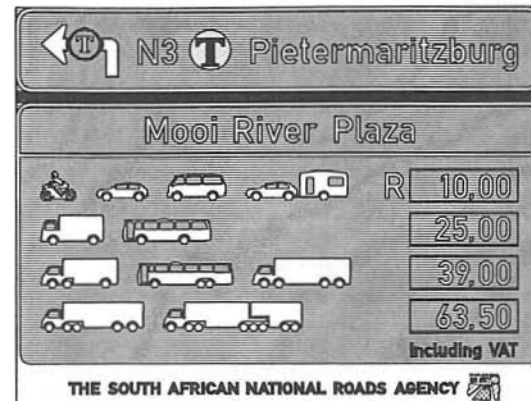
Background:

Blue or green

IN24/IN25:

Black semi-matt
(See Chapter 9)

GB3+IN24/IN25

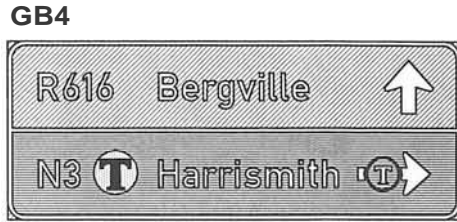
For dimensions
refer Vol. 4
page
15.2.13
and
9.2.22
9.2.23

4.1.18 Toll Near /Far Side On- Ramp Advance Direction/Tariff

- 1 TOLL NEAR/FAR SIDE ADVANCE DIRECTION sign GB3 combined with TOLL TARIFF sign IN24 or IN25 may be used **to give additional advance guidance to drivers that an Intersecting freeway lies ahead and to indicate that it is a toll route, and that the Point of Entry is also a Point of Commitment to pay the indicated tariffs at the next toll plaza.** The use of sign GB3 in this way is a specific application of standard sign type GB3. The standard sign GB3 is normally only used in advance of the far-side on-ramp, but in this instance, because its use is associated with an indication of toll tariffs, it may be used in advance of both on-ramps. It is very likely that the actual tariffs will be different in each direction.
- 2 TOLL NEAR/FAR SIDE ADVANCE DIRECTION sign shall be designed in a similar manner as is described for FAR SIDE ON-RAMP ADVANCE DIRECTION sign GB3 in Subsection 4.9.24. It shall be used with signs IN24 or IN25 as appropriate.
- 3 The GB3 + IN24 sign combination should be located at approximately two thirds of the distance from the near-side on-ramp that sign GB1 is located (the GB1 sign having been moved a greater distance from the on-ramp than standard to accommodate the GB1 + IN24 sign - see Subsection 4.14.16). Due to space limitations the GB3 sign combination for the far-side on-ramp may need to be with the reduced size IN25 sign (see Volume 4, Chapter 9 for size details).
- 4 Since the combination with a TOLL TARIFF sign IN24 or IN25 means that the turn is a Point of Commitment the GB3, sign should include both symbol GDS-9 and sign R132. The latter is incorporated into the STACK-TYPE arrow.

TOLL FAR-SIDE ON-RAMP /STRAIGHT ON DIRECTION

For dimensions
refer Vol. 4
page
15.2.14



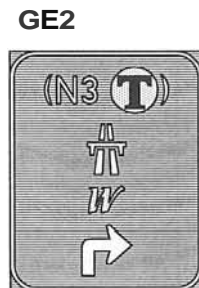
COLOURS:
PERMANENT
Border & arrows: White retroreflective
Legend: White retroreflective
Route Number: Yellow retroreflective
Symbol: Black on yellow
R132: White on blue
Background: Blue on/or green retroreflective

4.14.19 Toll Far-Side On Ramp/Straight On Direction

- 1 TOLL FAR-SIDE ON-RAMP/STRAIGHT ON DIRECTION sign is a specific application of sign type GB4 which may be used **to indicate to drivers the position of the far-side on-ramp at a freeway ACCESS INTERCHANGE and to indicate that it is a toll route.** In addition if the turn is a Point of Commitment this is identified by the display of mandatory PAY TOLL sign R132 in the STACK-TYPE arrow.
- 2 TOLL FAR-SIDE ON-RAMP/STRAIGHT ON DIRECTION sign shall be designed and used in the same manner as described for FAR-SIDE ON RAMP/STRAIGHT-ON DIRECTION sign GB4 in Subsection 4.9.25. The sign may be a single stack sign or it may include a stack for a straight on direction on the crossroad.

TOLL ROUTE ADVANCE TRAILBLAZER

For dimensions
refer Vol. 4
page
4.3.2



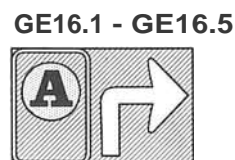
COLOURS:
PERMANENT
Border & arrow: White retroreflective
Route Number: Yellow retroreflective
Toll Symbol: Black on yellow
Symbol: White retroreflective
Cardinal Direction: Yellow retroreflective
Background: Blue or green retroreflective

4.14.20 Toll Route Advance Trailblazer

- 1 TOLL ROUTE ADVANCE TRAILBLAZER sign is a specific application of sign type GE2 which may be used in advance of a junction **to indicate to drivers the direction to a toll route freeway of Class A1 or Class A2.** The display of a cardinal direction is optional based on whether the interchange in question gives access to the freeway in one direction only or not.
- 2 TOLL ROUTE ADVANCE TRAILBLAZER sign shall be designed and used in the same manner as described for ADVANCE TRAILBLAZER sign GE2 in Subsection 4.7.5.

ALTERNATIVE ROUTE MARKER

For dimensions
refer Vol. 4
page
4.3.30
to
4.3.32



COLOURS:
PERMANENT
Border & arrow: White retroreflective
Symbol: Black on yellow
Route number: White retroreflective
Background: Green retroreflective

4.14.21 Alternative Route Marker

- 1 ALTERNATIVE ROUTE MARKER sign GE16 to GE16.5 may be used **to indicate to drivers in the form of advance direction, direction and/or confirmation messages the existence of an alternative route to a toll route.** The term "alternative route" is applicable only to a route or routes which offer an alternative to the payment of toll on a toll route. The signs may display the number of the route for which the route being signed is an alternative.
- 2 For further information refer to Subsection 4.7.14

4.15 NATIONAL VARIANTS

4.15.1 General

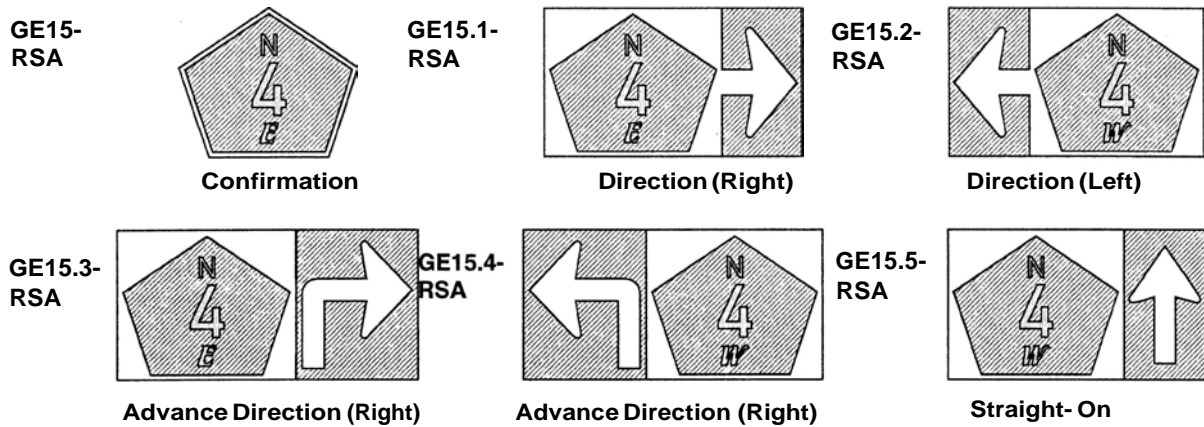
- 1 Whilst the objective of the SADC Road Traffic Sign System is to achieve the highest possible degree of harmonization of the system throughout the region it is likely that there will be a number of details which will remain unique to individual member countries.
- 2 For the purposes of identification any such guidance signs are considered as NATIONAL VARIANTS specific to one or more of the SADC member countries. Variants can occur in one of three ways, namely:
 - (a) as an ADDITIONAL variant using a modified or different symbol for a guidance sign function used in most member countries; or
 - (b) as a UNIQUE variant where the guidance sign is used in only one country; or
 - (c) as an ADDITIONAL variant to accommodate the language of a SADC member country which does not have English as an official language (at the time of publishing such variations apply to the use of Portuguese in Angola and Mozambique, although every effort has been made to minimise this need by the use of symbolic messages).
- 3 All guidance signs are listed once in colour in the Contents section and are provided with text describing their meaning and function. Any additional National variants involving a modified or different symbol will be identified pictorially in the National Variants section. Any National Variants which are unique to one country will appear in the National Variants section complete with appropriate text.
- 4 All guidance signs are allocated numbers. An additional variant is allocated a three letter suffix identifying the country to which it belongs. In the case of a unique variant such a guidance sign will be allocated a unique number which includes the appropriate National three letter suffix. If the guidance sign becomes more widely used the use of the suffix will be discontinued. The letter codes allocated for each member country are as follows:

(a) Angola	-	Ang;
(b) Botswana	-	Bot;
(c) Democratic Republic of Congo	-	DRC;
(d) Lesotho	-	Les;
(e) Malawi	-	Mal;
(f) Mauritius	-	Mau;
(g) Mozambique -	-	Moz;
(h) Namibia	-	Nam;
(i) Seychelles	-	Sey;
(j) South Africa -	-	RSA;
(k) Swaziland	-	Swa;
(l) Tanzania	-	Tan;
(m) Zambia	-	Zam;
(n) Zimbabwe	-	Zim.

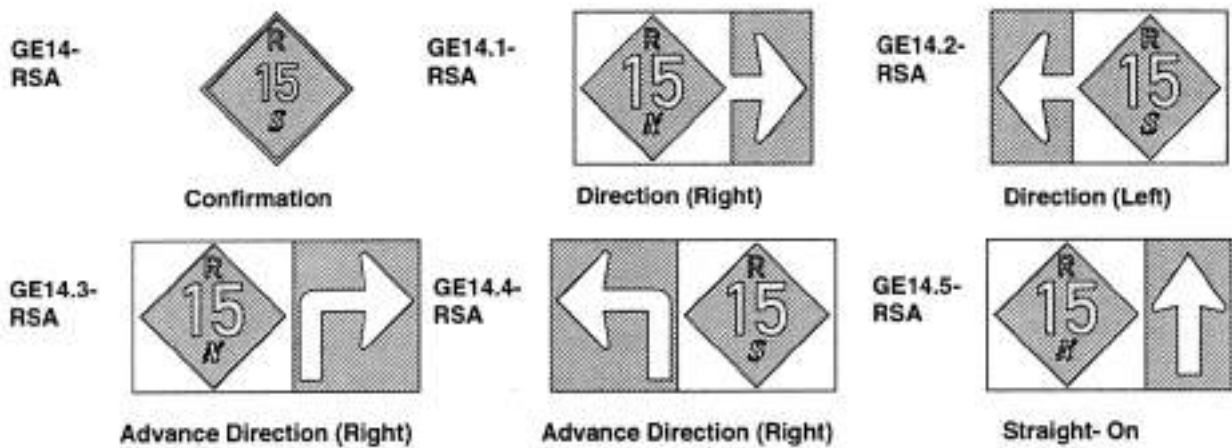
- 5 When National Variants occur they will be covered in Subsections of this Section, bearing the name of the country. All National Variants are identified in the Contents by a black dot thus ● The purpose in identifying variants is to assist education on road traffic signs within the region for travellers beyond National borders, and to assist sign manufacturers and road authorities.
- 6 The content of Chapter 4 on guidance signs includes many sign examples relevant to countries throughout the SADC region, including examples with Portuguese place names appropriate to Angola and Mozambique. There is therefore only limited need for National Variants.

4.15.2 South Africa

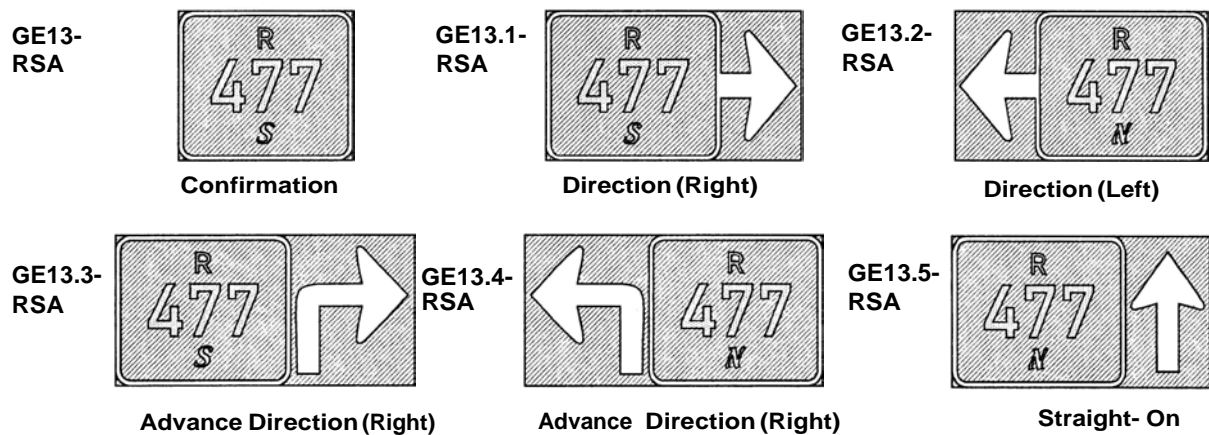
- 1 The descriptions of ROUTE MARKER signs in Section 4.7 have been given in a generic form which member countries may choose to use. The text and figures refer to a hierarchy of numbered routes as follows:
 - (a) Primary routes - with identifying letter "A";
 - (b) Secondary routes - with identifying letter "B";
 - (c) Tertiary routes - with identifying letter "C".
- 2 The South African road network has a highly developed hierarchy of numbered routes, including significant lengths of freeway. The following terminology and identifying letters are used in South Africa for these three levels of route:
 - (a) National routes - with identifying letter "N";
 - (b) Provincial routes - with identifying letter "R";
 - (c) Regional routes - with identifying letter "R".
- 3 Examples of typical South African ROUTE MARKER signs are illustrated in Figure 4.106.
- 4 It should be noted that metropolitan numbered routes have been allocated the identifying letter "M" which can be used universally throughout the region. Metropolitan numbered routes supplement any Primary, Secondary or Tertiary routes which may happen to pass through metropolitan areas.
- 5 A network of SADC numbered routes is superimposed on existing numbered routes within individual member countries. These SADC routes cross national boundaries and to avoid any risks of confusion SADC numbered routes are not allocated an identifying letter.



Detail 4.106.1 South African National Route Marker Signs



Detail 4.106.2 South African Provincial Route Marker Signs



Detail 4.106.3 South African Regional Route Marker Signs

Fig 4.106 Route Marker Signs - SOUTH AFRICA

EMERGENCY SERVICES

COLOURS:

PERMANENT Border
and text: Symbols:

White retroreflective
White or coloured retroreflective
(See Section 4.0)

Background:

Brown semimatt or
retroreflective

GF18-RSA

*For dimensions
ref. Vo/4
page
7.2.63*



4.15.3 Emergency Services

- 1 An EMERGENCY SERVICES sign of the type GF18 may be used to provide guidance to road users as to the emergency services available and the appropriate contact numbers by cell phone or telephone.
- 2 Use of the sign should generally be reserved for areas or sections of road covered by a centralised emergency service monitoring system. The phone numbers indicated on the sign must be appropriate to the area.
- 3 When such a system is in place along a route sign GF18 may be provided at regular intervals. The minimum provision should be after major junction where significant Volumes of traffic join the route in question. Additional signs may be provided in closed proximity to public telephones adjacent to the route, to which GF1 and/or GF2 signs have been provided.
- 4 Sign GF18 may also be provided in high density tourist areas and other areas frequently used by strangers. In a high density tourist area the signs may be located at gateways to the area, adjacent to public telephones or adjacent to information centres. When INFORMATION BOARDS are provided, the contact information may alternatively be incorporated within the INFORMATION BOARD.
- 5 It should not be necessary to provide sign GF18 on routes which have a functioning roadside emergency service system complete with appropriate signs GF11 to GF14.



SOUTHERN
AFRICAN
DEVELOPMENT
COMMUNITY

INFORMATION SIGNS

SECTIONS

- 5.0 Contents
- 5.1 Introduction
- 5.2 Signs
- 5.3 National Variants

MAY 2012



SADC RTSM - VOL1

CHAPTER

5

CHAPTER 5: INFORMATION SIGNS
















5.0 CONTENTS

This contents listing illustrates each officially approved sign in the information sign class with the sign number and name. A page number is given within this chapter where details of the use of each sign can be found and a cross reference given to Volume 4 where signs and symbols are detailed.

The information sign class is a loosely structured group of signs covering a wide range of applications. The most dominant feature of information signs is that they do not display any directional arrow. Information signs may commonly be used in combination with other classes of road traffic sign.

● = See Section 5.3 for variations appropriate to individual countries.

<p>IN1 IN2 IN3</p> <p>Freeway (Class A1)</p>	<p>IN1 IN2 IN3</p> <p>Freeway (Class A2) and High Speed At Grade</p>	<p>IN1 IN2 IN3</p> <p>Tourism</p>
<p>TIN1 TIN2 TIN3</p> <p>Refer V1 5.2.1 V4 9.2.1</p> <p>Countdown</p>		
<p>IN4 IN5 IN6</p> <p>TIN4 TIN5 TIN6</p> <p>See also IN26 to IN29 Refer V1 5.2.2 V4 9.2.2/3.</p> <p>Cul-de-Sac</p>	<p>IN7</p> <p>Refer V1 5.2.3 V4 9.2.6</p> <p>Right of Way</p>	<p>IN8 Number not allocated</p>
<p>IN9</p> <p>Refer V1 5.2.3 V4 9.2.7</p> <p>Park and Ride - Bus</p>		<p>IN10</p> <p>Refer V1 5.2.3 V4 9.2.7</p> <p>Park and Ride - Train</p>

<p>IN11.1 TIN11.1</p> <p>80km/h 60km/h</p> <p>References V1 5.2.4 V4 9.2.8 - 9.2.13</p> <p>Supplementary Plates - Advisory Speed</p>	<p>IN11.2 TIN11.2</p> <p>For 12km For 5km</p> <p>References V1 5.2.4 V4 9.2.8 - 9.2.13</p> <p>Supplementary Plates - Distance "For" ●</p>			
<p>IN11.3 TIN11.3</p> <p>200 m 1km</p> <p>References V1 5.2.4 V4 9.2.8 - 9.2.13</p> <p>Supplementary Plates - Distance "To"</p>	<p>IN11.4 TIN11.4</p> <p>Blind People Accident</p> <p>References V1 5.2.4 V4 9.2.8 - 9.2.13</p> <p>Supplementary Plates - Text Message ●</p>			
<p>IN11.5** TIN11.5**</p> <p> </p> <p>References V1 5.2.4 V4 9.2.8 - 9.2.13 and 9.3.20 to 9.3.31</p> <p>Supplementary Plates - Symbolic Message</p>	<p>IN11.5</p> <p>THE SOUTH AFRICAN NATIONAL ROADS AGENCY </p> <p>TIN11.6</p> <p> TOWN COUNCIL OF BENONI</p> <p>References V1 5.2.4 V4 9.2.11</p> <p>Supplementary Plates - Road or Local Authority ●</p>			
<p>IN12</p> <p></p> <p>Refer V1 5.2.6 V4 9.2.14</p> <p>Information Centre</p>	<p>IN13</p> <p>ROAD EXPERIMENT</p> <p>Refer V1 5.2.6 V4 9.2.16</p> <p>Road Experiment ●</p>	<p>IN14</p> <p></p> <p>Refer V1 5.2.7 V4 9.2.17</p> <p>Co-ordinated Traffic Signals</p>	<p>IN15</p> <p>3 PHASE</p> <p>Refer V1 5.2.7 V4 9.2.18</p> <p>Multi - Phase Traffic Signals ●</p>	
<p>IN16</p> <p></p> <p>Refer V1 5.2.8 V4 9.2.19</p> <p>Bus Stop Ahead</p>	<p>IN16 - Nam</p> <p></p> <p>Refer V1 5.2.8/5.3.2 V4 9.2.20</p> <p>Pick - Up Point Ahead ●</p>	<p>IN17</p> <p></p> <p>Refer V1 5.2.8 V4 9.2.21</p> <p>Modal Transfer Car - Train</p>	<p>IN18</p> <p></p> <p>Refer V1 5.2.8 V4 9.2.21</p> <p>Modal Transfer Car, Minibus, Train</p>	
<p>IN19</p> <p></p> <p>Refer V1 5.2.8 V4 9.2.21</p> <p>Modal Transfer All Modes</p>	<p>TIN20 TIN21 TIN22 TIN23</p> <p>   </p> <p>Refer V1 5.2.2 V4 9.2.4/9.2.5</p> <p>Temporary Culs - de - Sac</p>			

IN24

The image shows a blue rectangular sign for Huguenot Tunnel Plaza. It lists toll rates for different vehicle types: a motorcycle (R 10.00), a car (R 25.00), a car with a trailer (R 39.00), and a truck (R 63.50). The text 'Including VAT' is at the bottom right.

Refer V1 5.2.9 V4 9.2.22

Toll Tariff Board
Standard Size

IN25

The image shows a smaller blue rectangular sign for Mvoti Plaza. It lists toll rates for different vehicle types: a motorcycle (R 10.00), a car (R 25.00), a car with a trailer (R 39.00), and a truck (R 63.50). The text 'Including VAT' is at the bottom right.

Refer V1 5.2.9 V4 9.2.23

Toll Tariff Board
Reduced Size

IN26

The image shows two traffic signs side-by-side. The left one is blue with white text: 'Keep Left Pass Right'. The right one is yellow with black text: 'Local Traffic Only'.

Refer V1 5.2.10 V4 9.2.24

Text Message

IN27

The image shows a sign for AUTOTOL. It features a car icon with 'AUTOTOL' written across it. Below the icon, it says 'Etc. Coins/Cards No Change Given'.

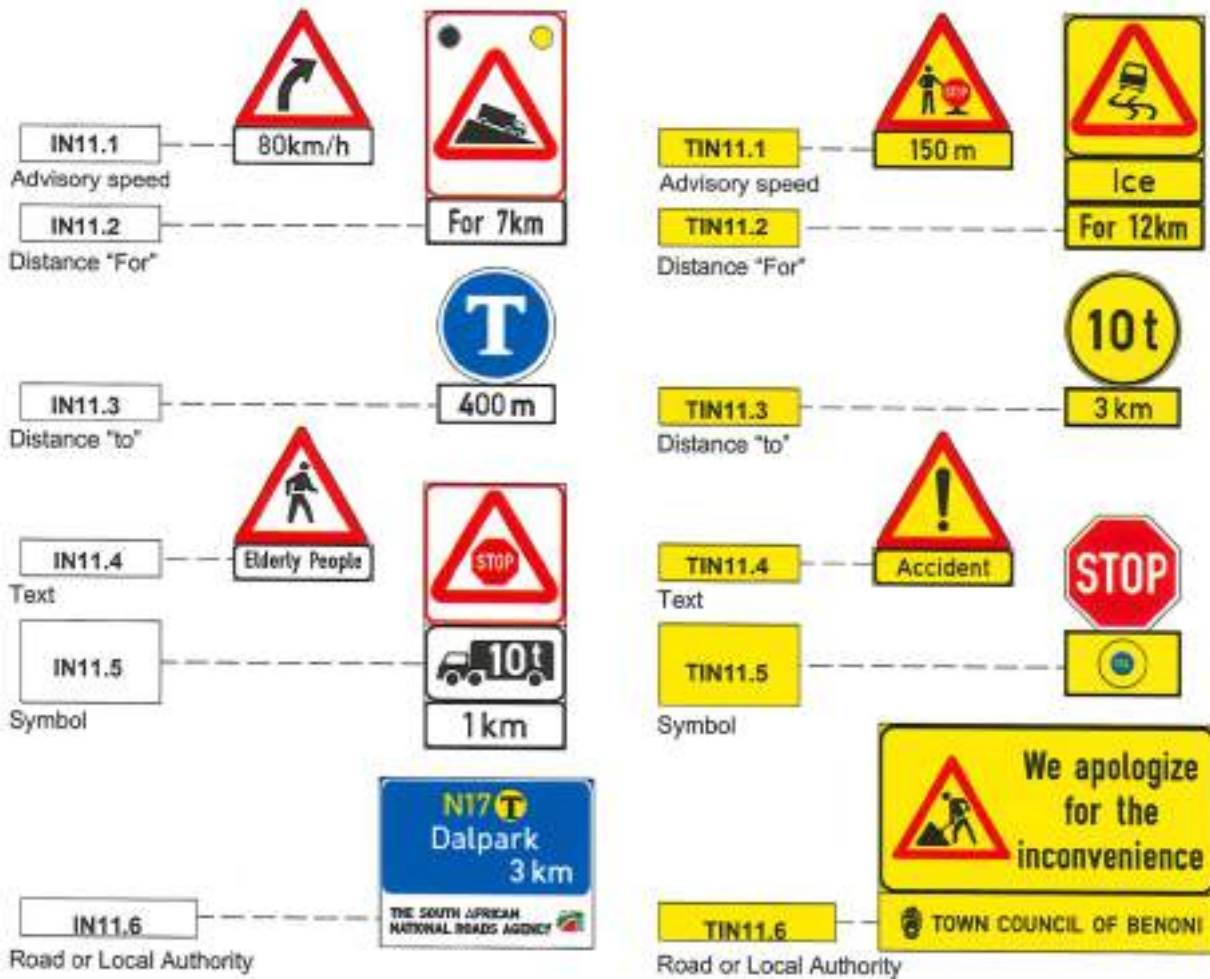
Refer V1 5.2.10 V4 9.2.25/9.2.28

AUTOTOL

Supplementary Plate Information Signs IN11

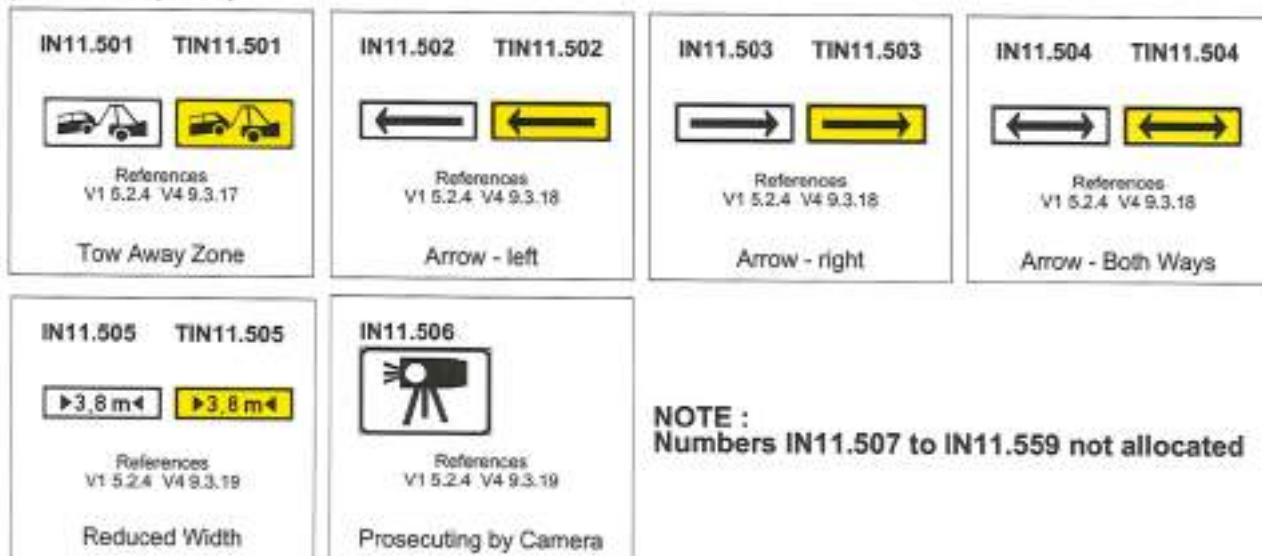
There are six sub-categories of SUPPLEMENTARY PLATE signs IN11 (and TIN11) as indicated on page 5.0.2. The details given below shows how each of these may be used with other regulatory, warning and guidance signs. The permanent and temporary colour codes remain constant

irrespective of the class of sign with which the supplementary plate is used. SUPPLEMENTARY PLATES in the IN11.500 series provide symbol based messages. The full range of approved symbols is detailed below.



Symbolic Supplementary Plates IN11.500 Series

(continued on p 5.0.5)



Symbolic Supplementary Plates IN11.500 Series

(continued from p 5.0.4)

NOTE : All Symbols may "face" left or right. • See Section 5.3 for variations appropriate to individual countries.

<p>IN11.560 TIN11.560</p>  <p>References V1 5.2.4 V4 9.3.20</p> <p>Bus</p>	<p>IN11.561 TIN11.561</p>  <p>References V1 5.2.4 V4 9.3.20</p> <p>Bicycle</p>	<p>IN11.562 TIN11.562</p>  <p>References V1 5.2.4 V4 9.3.21</p> <p>Motor Cycle</p>	<p>IN11.563 TIN11.563</p>  <p>References V1 5.2.4 V4 9.3.21</p> <p>Motor Car</p>
<p>IN11.564 TIN11.564</p>  <p>References V1 5.2.4 V4 9.3.22</p> <p>Taxi •</p>	<p>IN11.565 TIN11.565</p>  <p>References V1 5.2.4 V4 9.3.22</p> <p>Minibus</p>	<p>IN11.566 TIN11.566</p>  <p>References V1 5.2.4 V4 9.3.23</p> <p>Mid-bus</p>	<p>IN11.567 TIN11.567</p>  <p>References V1 5.2.4 V4 9.3.23</p> <p>Delivery Vehicle</p>
<p>IN11.568 TIN11.568</p>  <p>References V1 5.2.4 V4 9.3.24</p> <p>Goods Vehicle</p>	<p>IN11.569 TIN11.569</p>  <p>References V1 5.2.4 V4 9.3.24</p> <p>Goods Vehicle over Indicated GVM</p>	<p>IN11.570 TIN11.570</p>  <p>References V1 5.2.4 V4 9.3.25</p> <p>Construction Vehicle</p>	<p>IN11.571 TIN11.571</p>  <p>References V1 5.2.4 V4 9.3.25</p> <p>Vehicle Conveying Dangerous Goods</p>
<p>IN11.572 TIN11.572</p>  <p>References V1 5.2.4 V4 9.3.26</p> <p>Abnormal Vehicle •</p>	<p>IN11.573 TIN11.573</p>  <p>References V1 5.2.4 V4 9.3.26</p> <p>Rickshaw</p>	<p>IN11.574 TIN11.574</p>  <p>References V1 5.2.4 V4 9.3.27</p> <p>Tour Bus •</p>	<p>IN11.575 TIN11.575</p>  <p>References V1 5.2.4 V4 9.3.27</p> <p>High Occupancy Vehicle</p>
<p>IN11.576 TIN11.576</p>  <p>References V1 5.2.4 V4 9.3.28</p> <p>Emergency Vehicle</p>	<p>IN11.577 TIN11.577</p>  <p>References V1 5.2.4 V4 9.3.28</p> <p>Police Vehicle •</p>	<p>IN11.578 TIN11.578</p>  <p>References V1 5.2.4 V4 9.3.29</p> <p>Disabled Persons Vehicle</p>	<p>IN11.579 TIN11.579</p>  <p>References V1 5.2.4 V4 9.3.29</p> <p>Authorised Vehicle</p>
<p>IN11.580 TIN11.580</p>  <p>References V1 5.2.4 V4 9.3.30</p> <p>Agricultural Vehicle</p>	<p>IN11.581 TIN11.581</p>  <p>References V1 5.2.4 V4 9.3.30</p> <p>Animal - Drawn Vehicle</p>	<p>IN11.582 TIN11.582</p>  <p>References V1 5.2.4 V4 9.3.31</p> <p>Towed Vehicle</p>	<p>IN11.583 TIN11.583</p>  <p>References V1 5.2.4 V4 9.3.31</p> <p>Tram</p>

CHAPTER 5 - INFORMATION SIGNS

5.1 INTRODUCTION

5.1.1 General

- 1 The signs covered by this Chapter impart to road users information of a very general nature. The information message should be non-directional i.e. arrows should not be used. The inclusion of an arrow classifies a sign as a direction sign. In a similar way the inclusion of a destination name should normally classify a sign as a location sign or a direction sign (see Sections 4.5 and 4.7 respectively).
- 2 There is considerable scope for the design of information signs not currently covered by this Chapter. When designing such a sign every effort should be made to incorporate a symbolic message rather than a text message. This will reduce the need for sign repetition to cater for the many languages used in the region.
- 3 Signs giving regional information or indicating an office, kiosk or other area where regional information is available are covered by this Chapter. However, if the information is of a motorist service or tourist nature the sign design should conform to those of the tourism sign sub-class of guidance sign and the background colour should be brown (see Subsection 5.1.5 and Section 4.9).
- 4 Information signs may be PERMANENT or TEMPORARY. When a temporary information sign is required the sign should be numbered as for a permanent sign, but with the letter "T" preceding the number.

5.1.2 Shape, Size and Colours

- 1 The choice of shape for information signs is reasonably open. However, they shall not be circular or triangular in shape. The recommended shape is rectangular with preferred ratios of width (W) to height (H) of 4 to 3 for horizontally formatted signs, and of width (W) to height (H) of 3 to 4 for vertically formatted signs.
- 2 With the exception of SUPPLEMENTARY PLATE signs IN11 the permanent colours used generally for information signs are green for the background and white for the border, symbol, or text. All information signs should have a border. If a temporary version of an information sign is required the background should be yellow and the border, symbol, or text black.
- 3 There are some other detailed exceptions to this colour code. These are noted in the individual sign Subsections. When designing a new information sign the colours shall be green and white, unless the sign is a variation of one of the listed signs in which case the colours of the principle sign should be used.

5.1.3 Retroreflectivity

- 1 If an information sign is required to have significance during the hours of dawn, dusk or night time at least the white portion of the sign shall be manufactured in retroreflective material, OR the sign shall be illuminated or located so as to be visible under street lighting.

5.1.4 Supplementary Plates

- 1 Supplementary plates are classified under the information sign category but they shall only be used in combination with another sign type such as:

- (a) regulatory;
- (b) warning;
- (c) guidance;
- (d) diagrammatic;
- (e) high visibility.

Supplementary plates shall not be used on their own.

- 2 This Chapter gives examples of the different types of supplementary plate together with their numbering system. Examples in combination with other sign types are given in Sections 2.0, 2.8, 3.0, 3.6 and 4.10.
- 3 Supplementary plates will commonly be specified in permanent and temporary colours (see Subsection 5.2.5).

5.1.5 Other Information Signs

- 1 Other forms of information or non-directional signs are provided for within the overall signing system. Such signs are covered in other Chapters or Sections because there is some factor in their specification which links them to the particular group or sub-group of sign covered in the relevant Chapter or Section.
- 2 The majority of these non-directional signs are covered in Chapter 4, Guidance Signs.
- 3 LOCATION signs give geographical information but are dealt with separately because they have a specific function in the navigational process.
- 4 CONFIRMATION ROUTE MARKER signs do not include an arrow but are functionally closely associated with other ROUTE MARKER signs which do include an arrow. CONFIRMATION ROUTE MARKER signs are therefore covered in the route marker group for accessibility and convenience.
- 5 In a similar way there is an occasional need for a non-directional sign to be covered in the DIRECTION or FREEWAY DIRECTION sign groups. Typical examples are:
 - (a) CONFIRMATION signs GD3 and GA7;
 - (b) EXIT SEQUENCE sign GA8.
- 6 As toll routes have developed the need for a wide variety of information signs relating to the operation of the toll routes has also developed. Although some of these signs are classified as information signs and are covered in this Chapter, several others are dealt with under the LOCATION sign, ROUTE MARKER sign, and DIRECTION/FREEWAY DIRECTION sign sections of Chapter 4. Typical examples of such signs are:
 - (a) TOLL ROUTE NAME sign GL7.2 (Section 4.5);
 - (b) END OF TOLL ROUTE sign GL7.3 (Section 4.5);
 - (c) ALTERNATIVE ROUTE MARKER signs GE16 (Section 4.6);
 - (d) ALTERNATIVE ROUTE CONFIRMATION sign GA7 (Section 4.8);

- (e) TOLL ROUTE AHEAD sign GA7 (freeway) or GD3 (non-freeway);
 - (f) TOLL PLAZA AHEAD sign GA7 (freeway) or GD3 (non-freeway);
 - (g) TOLL PLAZA SEQUENCE sign GA8.
- 7 The TOURISM sign group, which covers the signing of tourist attractions **and** motorist services, includes the widest range of information signs outside the information signs group on the basis that the information displayed has a specific tourism or service function.

Examples of such signs are:

- (a) CONFIRMATION sign GF7;
- (b) SERVICE EXIT SEQUENCE sign GF8;
- (c) REST AND SERVICE SEQUENCE sign GF9;
- (d) ROADSIDE EMERGENCY SERVICE signs GF11, GF12, and GF14;
- (e) PARKING sign GF15 (parking which is free of restriction);
- (f) (tourist) INFORMATION sign GF16.

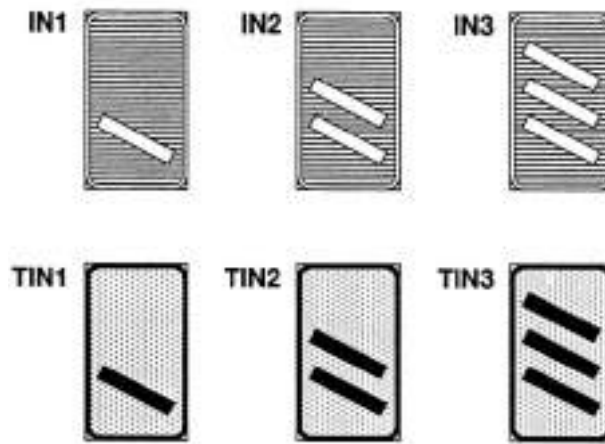
COUNTDOWN SIGNS

COLOURS:
PERMANENT

Border: White retroreflective
Symbol: White retroreflective
Background: Blue, green or brown retroreflective

TEMPORARY

Border: Black semi-matt
Symbol: Black semi-matt
Background: Yellow retroreflective



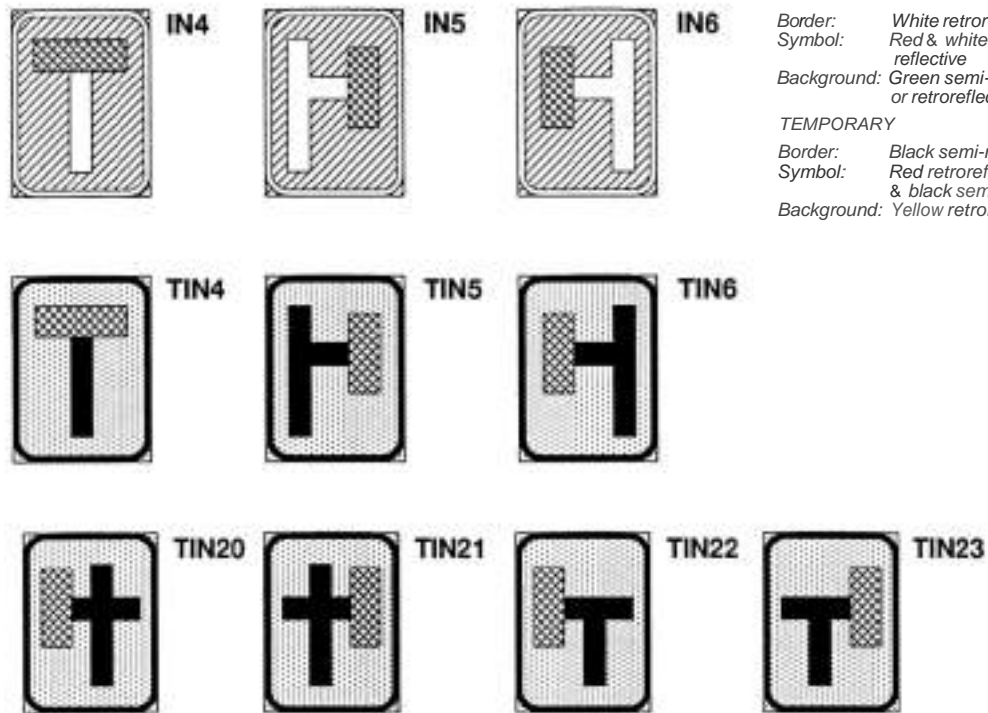
For dimensions
For dimensions
ref. Vol 7
page
9.2.1

5.2.1 Countdown Signs

- 1 COUNTDOWN signs IN1, IN2 and IN3 may be used **to inform drivers that a high speed exit is approximately 100m, 200m and 300m ahead respectively.** The signs shall normally be used in sets of three with IN3 furthest from the exit point. When two exit points are close together, and the conditions indicated in paragraph 5.2.1.3 occur, two signs only, IN1 and IN2, may be used for the second exit. The "bar" symbols shall always slope down to the right.
- 2 Signs IN1, IN2 and IN3 shall be located on the left side of the roadway and be accurately positioned in relation to the exit point (see Chapter 10 for the specification of "exit point").
- 3 Signs IN1, IN2 and IN3 should be reserved for the approaches to high speed exit roadways from Class 8 and Class A roads when the actual point of exit is concealed or when sight distance is limited. Such situations include one or more of the following:
 - (a) a left-hand curve on the approach to the exit;
 - (b) a crest curve on the approach to the exit;
 - (c) high traffic volumes;
 - (d) significant numbers of slow and/or heavy vehicles.
- 4 Signs IN1, IN2 and IN3 shall have a fixed size with a height of 1200 mm and a width of 700 mm.
- 5 Signs installed on Class A1 freeways shall have a blue background and on other roadways a green background. In the event that a direct access rest and service area warrants the use of COUNTDOWN signs IN1, IN2 and IN3 the background colour of the signs shall be brown.
- 6 TEMPORARY versions of COUNTDOWN signs may be specified at roadworks sites. These should be numbered TIN1, TIN2 and TIN3. They are particularly recommended when freeway off-ramps are temporarily relocated during rehabilitation, and especially when traffic is operating in a contra-flow condition on one carriageway of a freeway. Signs TIN1, TIN2 and TIN3 used in this way should be relocated each time an off-ramp position is moved.

CUL-DE-SAC

For dimensions
ref. Vol. 4
pages
9.2.2
9.2.3
and
9.2.3
9.2.4



COLOURS:

PERMANENT

Border: White retroreflective

Symbol: Red & white retroreflective

Background: Green semi-matt or retroreflective

TEMPORARY

Border: Black semi-matt

Symbol: Red retroreflective & black semi-matt

Background: Yellow retroreflective

5.2.2 Cul-de-Sac

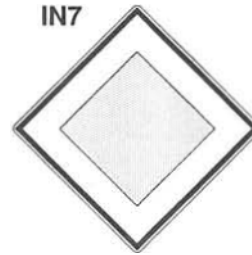
- 1 The CUL-DE-SAC signs IN4, IN5 and IN6 should be used **to inform drivers that the roadway beyond the sign in the case of sign IN4 or to the left or right of the sign in the case of signs IN5 and IN6 is not a through road.**
- 2 Sign IN4 should be located on the left side of the roadway which is a cul-de-sac and may be angled to be more visible to drivers on the intersecting roadway who may wish to turn into the cul-de-sac. A second sign may be placed on the right side of the roadway for additional emphasis.
- 3 Signs IN5 and IN6 should be located on the left side of a roadway, immediately before an intersecting side road which is a cul-de-sac, to indicate to traffic in the roadway that the road ahead on the left or right is a cul-de-sac. Where appropriate, for instance when signing a cul-de-sac intersecting a one-way roadway, the sign may be located on the right side of the roadway.
- 4 Signs IN4, IN5 and IN6 should normally have a height of 600 mm and a width of 450 mm. A sign size of 900 mm x 675 mm may be used in exceptional circumstances.
- 5 Temporary information signs, TIN4, TIN5, TIN6 and TIN 20 to TIN 23, may be used to indicate a temporary cul-de-sac condition due to such circumstances as road maintenance or a bridge wash-away. Signs TIN4, TIN5, TIN6 and TIN20 to TIN23 are not recommended for use at the principle point of temporary road closure. However, being compact signs, they may be useful if located on side roads or entrances which intersect a temporarily closed roadway, when such side roads are located between the area where work is in progress and where the main road closure barricade is located.
- 6 Signs TIN20 to TIN23 are particularly relevant to temporary conditions which render cross roads or T-junctions no longer truly represented by such descriptions due to temporary closures of one of the legs of the junction (see Volume 2, Chapter 13).
- 7 The temporary CUL-DE-SAC signs may be incorporated into a high visibility background, often with explanatory text, when temporary road closures are very remote from the sign position (see Volume 2, Chapter 13).
- 8 In certain circumstances, where suburban roads are permanently closed to prevent through traffic using an area, a special version of signs IN4, IN5 and IN6 indicating two intersecting roadways which are cul-de-sac may be used.

RIGHT OF WAY

COLOURS:

PERMANENT

Border: Black semi-matt
 Symbol: Yellow retroreflective
 Background: White retroreflective



For dimensions
 ref. Vol. 4
 page
 9.2.4

5.2.3 Right of Way

- 1 The RIGHT OF WAY sign IN7 may be used **to inform drivers that traffic on the roadway on which they are travelling has right of way at the junction ahead.**
- 2 The sign should be located at a distance from a junction of approximately two thirds of the distance given in Table 3.1 or Figure 3.1 for the location of warning signs (see Section 3.1).
- 3 RIGHT OF WAY sign IN7 should only be used on the approach to a junction when, for some reason, drivers become confused as to the type of junction control in operation. This confusion on the part of drivers may manifest itself in undue slowing down and therefore

unexpectedly high levels of congestion for a roadway with the right of way. There will normally be some other contributing factor resulting in poor visibility of the junction. Every effort shall be made to eliminate the reasons for such confusion.

- 4 The use of an IN? sign on an approach to a traffic circle is not recommended on the basis that the preferred traffic control system for traffic circles is that entering traffic shall yield to traffic within the circle.
- 5 Sign IN7 shall have a length of side of 600 mm or 900 mm according to the approach speed of traffic and/or the need for increased visibility of the sign.

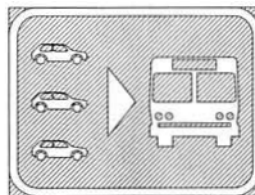
PARK AND RIDE

COLOURS:

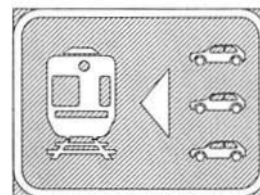
PERMANENT

Border: White retroreflective
 Symbol: White retroreflective
 Background: Green semi-matt or retroreflective

IN9



IN10



For dimensions
 ref. Vol. 4
 pages

9.2.6
 9.3.1
 and
 9.3.2

5.2.4 Park and Ride

- 1 PARK AND RIDE signs IN9 or IN10 may be used **to inform drivers of the existence of a park and ride terminus.**
- 2 The sign may be located in a suitable position adjacent to the entrance to a parking area serving a BUS SERVICE (sign IN9), or a RAIL SERVICE (sign IN10).
- 3 Signs IN9 and IN10 should normally have a height of 675 mm and a width of 900 mm. If particular emphasis

is required the size may be increased to 900 mm x 1200 mm.

- 4 If it is necessary to direct drivers towards a PARK AND RIDE terminus the symbol may be incorporated into a DIRECTION sign GD2, or a FINGERBOARD sign GD4 (see Section 4.7).

SUPPLEMENTARY PLATES

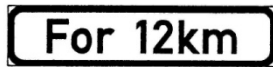
For dimensions
ref. Vol. 4
pages
9.2.7
9.2.8
9.2.9
9.2.10
9.2.11
and
9.2.12
9.2.18
to
9.3.33



IN11.1



TIN11.1



IN11.2



TIN11.2



IN11.3



TIN11.3



IN11.4



TIN11.4



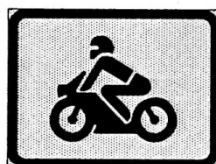
IN11.501



TIN11.501



IN11.562



TIN11.562

IN11.6

THE SOUTH AFRICAN NATIONAL ROADS AGENCY 

TIN11.6

 TOWN COUNCIL OF BENONI

COLOURS:
PERMANENT
Border, text Black
or symbol: semi-matt
Legend: DIN 1451
Styles "A" or "B"

Background: White
retroreflective

TEMPORARY

Border, text Black
or symbol: semi-matt
Legend: DIN 1451
Styles "A" or "B"

Background: Yellow retroreflective

5.2.5 Supplementary Plates

- 1 SUPPLEMENTARY PLATE sign IN11 may be used **to give supplementary information related to the principal message of a regulatory, warning or diagrammatic guidance sign.**
- 2 The supplementary plate shall always be located immediately below the principal sign and may be manufactured as an integral part of such a sign. This applies particularly to signs IN11.6 and TIN11.6. A supplementary plate shall not be displayed on its own.
- 3 Supplementary plates may be used in one of six basic types, as:
 - (a) an advisory speed numbered IN11.1;
 - (b) a distance "for" numbered IN11.2;
 - (c) a distance "to" numbered IN11.3;
 - (d) a text message numbered IN11.4;
 - (e) a symbolic message numbered IN11.5;
 - (f) the name of a road authority numbered IN11.6.

Supplementary plates to be used with TEMPORARY

signs should be numbered with a prefix letter "T".

It is recommended that when ordering a supplementary plate the actual message be given after the type number, e.g.:

IN11.1 (80 km/h) or TIN11.2 (For 2 km).

- 4 When ordering a symbolic message supplementary plate the number allocated to the symbol as indicated in Section 5.0 should be quoted after the plate number, e.g.:

IN11.501 (Tow-away zone), or
IN11.577 (Police).

Refer to Volume 4, Chapter 9 for the range of available symbols. New symbols may be added from time to time.

- 5 **The secondary message which comprises part of a regulatory SELECTIVE RESTRICTION sign does not constitute a supplementary plate.** An additional supplementary plate may in certain circumstances be used with regulatory SELECTIVE RESTRICTION signs (see Section 2.7).

- 6 When specifying the use of supplementary plates care shall be exercised to avoid a situation whereby, if the supplementary plate becomes detached from the principal sign, the function of that sign will be significantly altered. If such a situation could arise it is strongly recommended that the principal sign and the supplementary plate be manufactured from one piece of material.
- 7 Supplementary plates may contain a text message repeated in two languages appropriate to the region. Such message should be kept very brief. If more than one sign of a particular type is used at a site, for example on a dual carriageway road or at roadworks, then a preferred option is to give the message in English on one sign and in another appropriate language on the other sign. When an appropriate symbol is available this should be used in preference to text.
- 8 Wherever possible a supplementary plate should be dimensioned to match the width of the sign which it supplements. DIN 1451 Style "A" or Style "B" letters may be used.
- 9 SUPPLEMENTARY PLATE signs IN11.6 and TIN11.6 are intended for use only with large GUIDANCE or INFORMATION signs. Their function is to inform drivers of the responsible road authority in the area in which the sign is located. This message is most appropriate to convey a public relations theme or the image of a competent road authority.
- 10 Supplementary plates shall not be used with overhead signs and specifically overhead diagrammatic signs.
- 11 Further details on the applications of supplementary plates are given in Sections 2.0, 2.8, 3.0, 3.6 and 4.10.

REGULATORY APPLICATIONS



WARNING APPLICATIONS



TRAFFIC SIGNAL APPLICATION

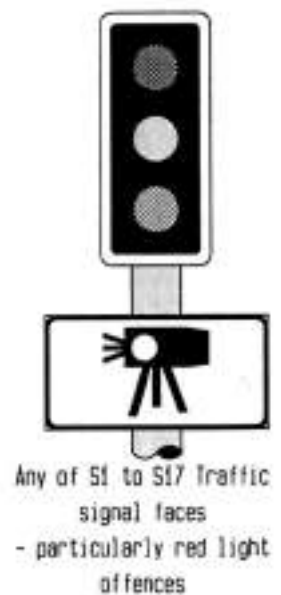
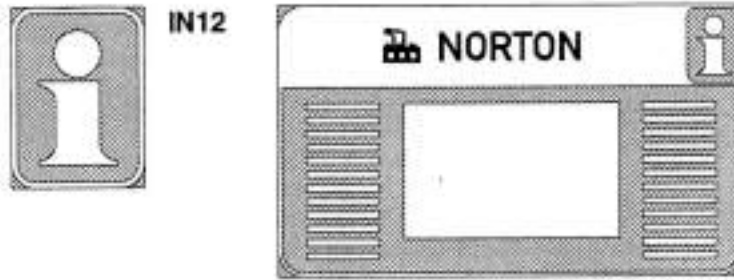


Fig. 5.1 Options for the use of Sign IN11.506

INFORMATION CENTRE

For dimensions
ref. Vol. 4
pages
9.2.13
9.2.14
and
9.3.4



COLOURS:
PERMANENT

Border: White retroreflective
Symbol: White retroreflective
Background: Green semi-matt
or retroreflective

5.2.6 Information Centre

- 1 An INFORMATION CENTRE sign IN12 may be used **to inform drivers of the existence of an information office, kiosk or notice board.**
- 2 The sign may be located in a suitable position adjacent to the access to a parking area serving an information centre. In the case of a notice board the symbol may be incorporated into the top right or left corner of the notice board.
- 3 Sign IN12 or the symbol, on a green background, shall only be used to indicate information centres other than those catering for tourist services or attractions. A typical such application would be a notice board at the access to an industrial area as illustrated above.
- 4 Sign IN12 should have a height of 600 mm and a width of 450 mm on lower speed roads and a height of 900 mm and width of 675 mm on higher speed roads.
- 5 Sign IN12 may be modified to include a distance such as "400 m" or "1 km" to indicate that an information centre is some distance ahead. The sign should have the general form of BUS STOP AHEAD sign IN16. Such a sign should not include an ARROW. If it is required to give directional guidance to an INFORMATION CENTRE the symbol, and distance if required, should be used in a FINGERBOARD sign GD4 (see Section 4.7).

ROAD EXPERIMENT

For dimensions
ref. Vol. 4
Page



COLOURS:
TEMPORARY
Border: Black semi-matt
Legend: Black semi-matt DIN
1451 Style "A"
Background: Yellow
retroreflective

5.2.7 Road Experiment

- 1 A temporary ROAD EXPERIMENT sign TIN13 may be used **to inform drivers that a temporary experiment or research activity is underway on the section of road on which they are travelling.**
- 2 The sign should be located on the left side of the roadway in such a position that it is obvious to which activity it refers yet not in such a manner that it in any way obscures the site of the experiment or another road traffic sign. An additional sign may be located on the right side of one way roadways.
- 3 The general wording "ROAD EXPERIMENT" may be varied to give more specific information regarding the experiment or research. The number of words used should not exceed three. This sign should only be used when it is considered that a lack of knowledge of the road circumstances on the part of drivers is likely to be detrimental to general road safety.
- 4 Typical examples of word messages which may be used on sign TIN13 are ROAD EXPERIMENT, ROBOT EXPERIMENT, ROAD PAINT EXPERIMENT, TRAFFIC EXPERIMENT, COMPACTION TESTS, TRIAL SURFACE, ROADSIDE SURVEY, SURVEYORS AT WORK, EXPERIMENTAL SIGNS, TRAFFIC CONES.
- 5 If it is considered necessary the message given in English on sign TIN13 may be repeated in another language important in the region. In such an instance separate signs should be provided for each language. These may be erected on the left and right sides of a one-way roadway or one after the other, with suitable spacing in between, on any type of roadway.
- 6 The use of uppercase DIN 1451 compressed letter style "A" is recommended. The minimum letter height which should be used in urban areas is 112 mm and in rural areas is 140 mm. Overall sign heights of 400 mm and 600 mm are appropriate to these letter sizes respectively.

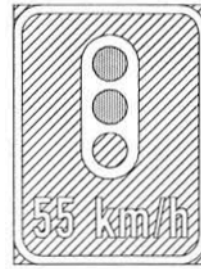
CO-ORDINATED TRAFFIC SIGNALS

COLOURS:

PERMANENT

Border: White retroreflective
 Symbol: White & green retroreflective & grey semi-matt
 Legend: DIN 1451 Style "A"
 Background: Green semi-matt or retroreflective

IN14



For dimensions
 ref. Vol.4
 page
 9.2.16

5.2.8 Co-ordinated Traffic Signals

- 1 A CO-ORDINATED TRAFFIC SIGNALS sign IN14 may be used **to inform drivers that the timings of the traffic signals on the route on which they are travelling are co-ordinated so that the green indications at successive junctions are inter-linked to permit an average traffic speed as indicated.** The sign should only be used if it is desirable to make drivers aware of the co-ordination. The speed indicated is an advisory speed NOT a speed limit and may be any value equal to or less than the speed limit for the section of road in question.
- 2 The sign should be located on the left side of the roadway between 50 m and 100 m beyond a signalised

junction. The signs should be sited so as to be easily seen from the preceding STOP LINE marking RTM1, and by traffic entering the road in question from intersecting side roads. On wide, dual carriageway, arterial roadways the sign may be repeated on the right side on the median island.

- 3 Sign IN14 should have a height of 900 mm and a width of 675 mm. If particular emphasis is required the size may be increased to 1200 mm x 900 mm.
- 4 If a speed limit is required to be indicated it shall be indicated by the use of SPEED LIMIT regulatory sign, R201 or TR201.

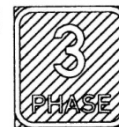
MULTI-PHASE TRAFFIC SIGNALS

COLOURS:

PERMANENT

Border: White retroreflective
 Legend: White retroreflective
 DIN 1451 Style "B"
 Background: Green semi-matt or retroreflective

IN15



For dimensions
 ref. Vol. 4
 page
 9.2.17

5.2.9 Multi-Phase Traffic Signals

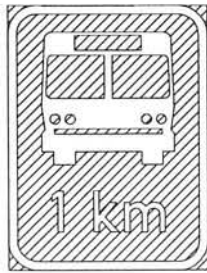
- 1 A MULTI-PHASE TRAFFIC SIGNALS sign IN15 should be used **to inform drivers that the signal control at the junction they are entering is operating with more than two phases and that they shall pay particular attention to the signal indications.**
- 2 Sign IN15 may be considered for use when drivers, for whatever reason, have difficulty in interpreting the sequence of phases at a junction controlled by multi-phase (3 or more) traffic signal operation. The sign

should be used with discretion, particularly if the phasing arrangement at a junction is changed for different times of day.

- 3 The sign should be located on the relevant traffic signal poles, below the signal head, to be clearly visible to traffic facing the signal in question.
- 4 Sign IN15 should have a minimum side length of 300 mm.

BUS STOP/PICK-UP POINT AHEAD

For dimensions
ref. Vol. 4
pages
9.2.18
9.3.1



IN16

COLOURS:

PERMANENT

Border: White retroreflective
Symbol: White retroreflective
Legend: DIN 1451 Style "B"
Background: Green semi-matt
or retroreflective

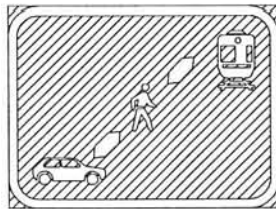
5.2.10 Bus Stop/Pick-Up Point Ahead

- 1 A BUS STOP/PICK-UP POINT AHEAD sign IN16 may be used **to inform bus drivers and public that a bus stop or pick-up point is provided ahead at the distance indicated on the sign.**
- 2 The sign should be located on the left side of the roadway.
- 3 Sign IN16 may be used on rural roads when a bus stop or pick-up point has been relocated by a short distance, or when passengers tend to congregate at a point which is unsuitable or hazardous for buses to stop. If a hazardous condition is likely to occur the sign should be displayed in conjunction with a NO STOPPING regulatory sign R217 (see Subsection 2.4.14).
- 4 Sign IN16 should have a height of 900 mm and a width of 675 mm.
- 5 This format of sign may be used to indicate that some other road-user related service, such as an information centre or a railway station, lies up ahead on the road on which it is displayed. The display should preferably be limited to a symbol representing the service available and a distance. An arrow should not be incorporated into the sign. If a direction sign is required a symbol may be incorporated into a DIRECTION sign GD2, or a FINGERBOARD sign GD4 (see Section 4.7).

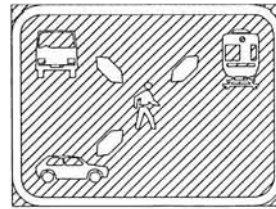
MODAL TRANSFER

For dimensions
ref. Vol. 4
pages

9.2.19
9.3.1
9.3.2
and
9.3.3



IN17

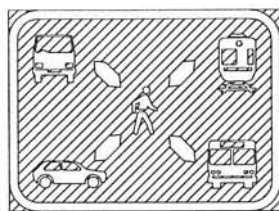


IN18

COLOURS:

PERMANENT

Border: White retroreflective
Symbol: White retroreflective
Background: Green semi-matt
or retroreflective



IN19

5.2.11 Modal Transfer

- 1 MODAL TRANSFER signs IN17, IN18 and IN19 may be used **to inform commuters that there is a transport interchange point or terminal close by at which they may change their mode of transport.** The symbols used on the sign should represent as closely as possible the modes of transport involved. Symbols may be combined to represent transfer between informal and formal transport modes or between two modes of the same category. No attempt should be made to try to represent all possible classes of vehicle. In the general sense a motorcar or minibus symbol represents informal transport, and a bus or train symbol formal transport.
- 2 The sign should be located on the left side of the roadway where adequate space is available for vehicles to stop to discharge or take on passengers.
- 3 Signs IN17, IN18 and IN19 should have a height of 675 mm and a width of 900 mm. If particular emphasis is required the size may be increased to 900 mm x 1200 mm.
- 4 Care should be taken when siting STOPS for the relevant transport modes that safe and adequate pedestrian passage is possible between the stops used by the different transport modes. The siting of such stops within the general area of a freeway access interchange may even be feasible if treated carefully.

TOLL TARIFF BOARD

COLOURS:

PERMANENT

Border and

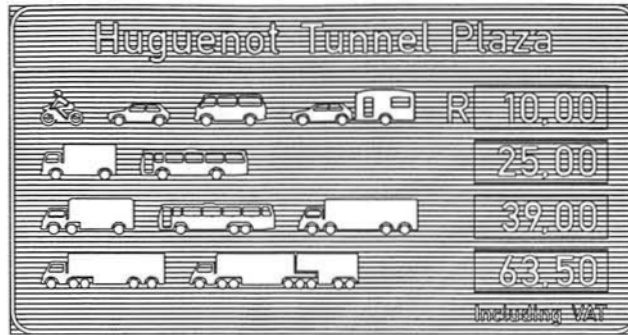
symbols: White retroreflective

Legend: White retroreflective

DIN 1451 Style •A•

Background: Blue or green
retroreflective

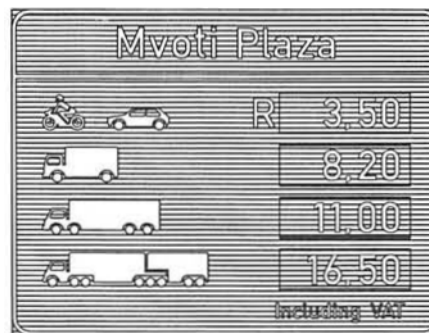
IN24

For dimensions
ref. Vol. 4
page

9.2.22

9.2.23

IN25

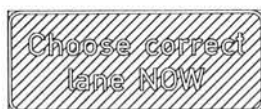


5.2.12 Toll Tariff Board

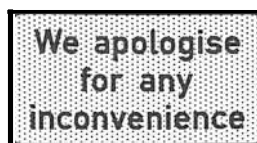
- 1 TOLL TARIFF BOARD signs IN24 or IN25 shall be used **to Inform drivers of different classes of vehicle what toll is required to be paid at the toll plaza named on the sign**. Signs IN24 or IN25 shall be provided at all points of entry to a toll road system for directions of travel which lead immediately, or eventually, to a toll plaza. Sign IN24 is the standard size sign which should be used wherever the size of sign can be accommodated. When space is severely limited, or the need exists to place the sign in steep cut or fill, IN25, which displays a reduced number of symbols, may be specified.
- 2 Signs IN24 or IN25 will commonly be required to be displayed on crossroad approaches to a toll route freeway. In such circumstances the signs should be displayed in conjunction with an appropriate ON- RAMP ADVANCE DIRECTION sign GB3 so that the toll tariff messages are associated with the correct direction of travel only. As a result of this requirement separate TOLL TARIFF BOARD signs will be required for each left and right turn onto the toll route freeway, provided that there is a toll plaza in each direction of turn.
- 3 Sign IN24 shall also be provided at the beginning of any non-continuous section of toll route. Such a sign shall be located adjacent to the main through carriage-way.
- 4 Signs IN24 or IN25 should normally be located 0:1 the left side of the roadway. When used on a crossroad intersecting a freeway toll route the signs should be located in the position normally occupied by the ADVANCE DIRECTION signs. When provided on a main through carriage-way the signs should be located approximately 1,5 km in advance of a "Point of Commitment" to the use of the toll route (see Volume 2, Chapter 6). Signs IN24 or IN25 will normally be one sign in an extensive sequence of toll route signs. Care must be taken to ensure that signs IN24 or IN25, and any other associated signs, are adequately spaced apart to permit effective reading.
- 5 TOLL TARIFF BOARD signs IN24 and IN25 are designed to facilitate the occasional changing of toll tariffs. Each tariff category is indicated on a removable plate which slides into fixed guides on the signface. Signs IN24 and IN25 are otherwise designed in accordance with direction sign principles. Several of the vehicle class symbols are unique to these signs (see Volume 4, Chapter 9).
- 6 In keeping with the practice generally on toll routes as part of measures to create driver awareness and to promote good public relations, signs IN24 and IN25 may be supplemented by SUPPLEMENTARY PLATE signs IN11.6 indicating the name of the road authority responsible for the management of the toll route.

TEXT MESSAGE

For dimensions
ref. Vol. 4
pages
9.2.24



IN26



TIN26

COLOURS:

PERMANENT

Border: White retroreflective
Legend: White retroreflective
DIN 1451 Style "B"
Background: Blue retroreflective
or green semi-matt
or retroreflective

TEMPORARY

Border: Black semi-matt
Legend: Black semi-matt
DIN 1451 Style "B"
Background: Yellow retroreflective

5.2.13 Text Message

- 1 A TEXT MESSAGE sign IN26 may be used **to give a general message to drivers which cannot practically be given in a symbolic form**. Sign IN26 shall be designed and manufactured according to standards appropriate to guidance signs. In particular internal word spacing rules should conform to the details of Figure 4.16 and letter sizes should be determined according to Section 4.4. The letter style used should normally be DIN 1451 Style "B" in upper/lower case form. Upper case only letters may be used for occasional emphasis within a message but are not recommended for full messages due to reduced readability.
- 2 The message on a TEXT MESSAGE sign IN26 should always be kept as short as possible to ensure adequate readability. It is recommended that messages be kept to six words or less. A temporary version of sign IN26, numbered TIN26, may be used. If side space is limited for sign TIN26 then consideration may be given to the use of DIN 1451 Style "A" lettering, but it is recommended that the letter height be increased by one or two standard sizes to compensate for a loss of legibility.
- 3 The sign should be located on the left side of the roadway. On multi-lane carriageways with an adequately wide median island the sign may be repeated on the right side of the carriageway.
- 4 Sign IN26 should have a blue background when used on Class A1 freeways and a green background when used on any other class of road. The temporary version TIN26 shall be manufactured with a yellow background and black border and text.
- 5 Signs IN26 and TIN26 shall not be used as supplementary attachments to other signs. This is the function of SUPPLEMENTARY PLATE signs IN11 and TIN11.

AUTOTOL

For dimensions
ref. Vol. 4
pages
9.2.25



IN27



COLOURS:

PERMANENT

Border: White retroreflective
Symbol: Black semi-matt on
white retroreflective
Legend: White retroreflective
DIN 1451 Style "B"
AUTOTOL: DIN B MOD"
Background: Blue or green
retroreflective

5.2.14 AUTOTOL

- 1 An AUTOTOL sign IN27 may be used **to inform drivers of circumstances relating to the use of an automatic toll lane at a toll plaza**. The sign may incorporate a number of the following messages:
 - (a) one of the AUTOTOL symbols INS - 27 (all vehicles) or INS - 28 (cars only);
 - (b) the charge levied as an automatic toll;
 - (c) the method of payment, namely cash or card, or both;
 - (d) the need for correct cash;
 - (e) the fact that change will not be given.
- 2 Any text used on sign IN27 shall be designed in accordance with standards appropriate to guidance signs. The use of upper/lowercase lettering in DIN 1451 Style "B" is recommended.
- 3 The sign should normally be located on the left side of the roadway when in advance of the plaza. It is not uncommon to need to also display the sign in an overhead position over the automatic toll lane.
- 4 Sign IN26 should have a blue background when used on Class A1 freeways and a green background on Class A2 freeway or other road. When used in an overhead position at an automatic toll lane the sign may be provided on the face of a low level flexible drape to inhibit use by vehicles other than cars. This screen may include the display of relevant regulatory signs such as HEIGHT LIMIT sign R204 and/or NO GOODS VEHICLES sign R229.

5.3 NATIONAL VARIANTS

5.3.1 General

- 1 Whilst the objective of the SADC Road Traffic Sign System is to achieve the highest possible degree of harmonization of the system throughout the region it is likely that there will be a number of details which will remain unique to individual member countries.
- 2 For the purposes of identification any such signs are considered as NATIONAL VARIANTS specific to one or more of the SADC member countries. Variants can occur in one of three ways, namely:
 - (a) as an ADDITIONAL variant using a modified or different symbol for a sign function used in most member countries; or
 - (b) as a UNIQUE variant where the sign is used in only one country; or
 - (c) as an ADDITIONAL variant to accommodate the language of a SADC member country which does not have English as an official language (at the time of publishing such variations apply to the use of Portuguese in Angola and Mozambique, although every effort has been made to minimise this need by the use of symbolic messages).
- 3 All signs are listed once in colour in the Contents section and are provided with text describing their meaning and function. Any additional National variants involving a modified or different symbol will be identified pictorially in the National Variants section. Any National Variants which are unique to one country will appear in the National Variants section complete with appropriate text.
- 4 All signs are allocated numbers. An additional variant is allocated a three letter suffix identifying the country to which it belongs. In the case of a unique variant such a sign will be allocated a unique number which includes the appropriate National three letter suffix. If the sign becomes more widely used the use of the suffix will be discontinued. The letter codes allocated for each member country are as follows:

(a) Angola	- Ang;
(b) Botswana	- Bot;
(c) Democratic Republic of Congo	- DRC;
(d) Lesotho	- Les;
(e) Malawi	- Mal;
(f) Mauritius	- Mau;
(g) Mozambique	- Moz;
(h) Namibia	- Nam;
(i) Seychelles	- Sey;
(j) South Africa	- RSA;
(k) Swaziland	- Swa;
(l) Tanzania	- Tan;
(m) Zambia	- Zam;
(n) Zimbabwe	- Zim.

- 5 When National Variants occur they will be covered in Subsections of this Section, bearing the name of the country. All National Variants are identified in the Contents by a black dot thus - ●. The purpose in identifying variants is to assist education on road traffic signs within the region for travellers beyond National borders, and to assist sign manufacturers.

5.3.2 Angola and Mozambique

- 1 Every effort has been made to create information signs which portray their message by means of symbols. A few signs in this chapter, however, utilise word messages. These signs may be provided in Angola and Mozambique in Portuguese.
- 2 Figure 5.2 shows examples of word message signs with Portuguese text as follows:
 - (a) "DURANTE" with a distance on "distance for" supplementary plate signs IN11.2- Ang and IN11.2- Moz;
 - (b) typical text messages on supplementary plate signs IN11.4 • Ang and IN11.4 - Moz (there are many possible applications of such text message signs);
 - (c) "ESTRADA EM EXPERIENCIA" temporary information signs TIN13 - Ang and TIN13- Moz (other messages may be displayed but these should be limited to well known or common messages related to road network operation- Subsection 5.2.7);
 - (d) "FASES" multi-phase traffic signal signs IN15- Ang and IN15- Moz.

Supplementary plate sign IN11.6 may also display a road authority name in Portuguese.

5.3.3 Namibia

- 1 Namibia uses a different symbol to that used by the majority of countries in the region for BUS STOP/PICK - UP POINT AHEAD sign IN16 • Nam. This is an additional form of variant and is illustrated in Figure 5.3. For details of the use of sign IN16 - Nam refer to Subsection 5.2.10.



Fig 5.2 Information Sign Language Variants- Portuguese
ANGOLA and MOZAMBIQUE



IN16 - Nam

Fig 5.3 National Variant Sign IN16 - Nam NAMIBIA