

**DRAFT**  
**DESIGN STANDARDS**  
**for**  
**URBAN INFRASTRUCTURE**

**8 GUIDE SIGNS**

11 April 2006



## 8 GUIDE SIGNS

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## **8.1 Introduction**

The Australian Standard, AS 1742-Manual of Uniform Traffic Control Devices, and AS1743 - Guide signs – Specification, are the basic references for the design of all road signs in Australia. While both Standards provide comprehensive general guidance, this Design Standard has been compiled to provide more detailed information in particular areas to allow uniform urban signing and accommodation of local ACT conditions and practices.

The Design Standard is based on the National Capital Development Commission Technical Paper No. 41 “Guide Sign Manual”, 1984 and the Draft ACT Guide Sign Manual, December 2003, which have been amended to reflect changes which have occurred in Australian Standards, local procedures, and the growth of Canberra. Detailed information on current design procedures is given, and an introduction to sign blade manufacturing processes is also provided to aid designers when considering sign face layout and material requirements.

The scope of the manual is limited to the detailed planning and design of the location and legend of major guide signs for vehicular traffic. Minor residential signs such as fingerboards are excluded.

The detailed specification for manufacture and erection of signs is covered by the ACT Standard Specification for Urban Infrastructure Works.

## 8.2 Related Codes of Practice and Guidelines

### 8.2.1 Legislation

*Road Transport (Safety and Traffic Management) Act 1999*

*Road Transport (General) Act 1999*

### 8.2.2 Industry standards

*Guide to Traffic Engineering Practice, Part 8: Traffic Control Devices, AUSTRROADS.*

AS 1742                      *Manual of uniform traffic control devices*

    AS1742.1                *Part 1: General introduction and index of signs*

    AS1742.2                *Part 2: Traffic control devices for general use*

    AS1742.5                *Part 5: Street name and community facility name signs*

    AS1742.6                *Part 6: Tourist and service signs for motorists*

AS1743                      *Road signs – Specifications*

AS1744                      *Forms of letters and numerals for road signs (Known as Standard alphabets for road signs)*

*ACT Standard Specification for Urban Infrastructure Works – Section 10 – Road Signs*

### 8.2.3 Policy and guidelines

*Australian Road Rules, National Road Transport Commission.*

*Consultation Protocol: A Guide to Consultation Processes for the ACT Government, Chief Minister's Department, Canberra, 1997*

*The Code of Practice for the Placement of Movable Signs in Public Places, Canberra Urban Parks and Places, Department of Urban Services, Canberra, 1999.*

## 8.3 Planning For Routine Guide Sign Installation

### 8.3.1 General

The provision of a guide sign is dependent on the importance of the destination to which it refers, and the function of the road, according to its position in the road hierarchy, on which it is located.

Sections 8.3 and 8.4 of this standard specify the destinations to be signed at any intersection.

The processes for determining the sign type, sequence, location and letter height are detailed in Sections 8.5 to 8.11.

### 8.3.2 Signage Principles

While the Design Standard is based on the framework of an hierarchy of roads and destinations, it has been prepared with the knowledge that the development of the road network and evolution of planning over the years has resulted in a variety of network characteristics which preclude the formulation of rigid signing rules. The application of a flexible and rational approach, within the framework established, is, therefore, an important part of guide-sign planning and design.

It is also clear that a signage system cannot cater for the entire length of most journeys and that some additional form of aid, map, street directory, or verbal/written instructions remain a necessity for most travellers.

#### Destinations

Destinations for which guide signs are provided are defined to be:

- Urban destinations,
- Services,
- Tourist attractions and heritage sites, and
- Rural destinations.

Urban destinations are classified as:

- Principal - the metropolitan area of Canberra and its extension into neighbouring New South Wales.
- Primary – the urban area districts of the ACT - Belconnen, Gungahlin, City (used as a simpler, more familiar substitute for Central Canberra), Tuggeranong, Woden and Weston Creek, and Queanbeyan.
- Secondary – the City centre, the town centres, industrial areas and other areas having similar activity levels, plus the highways, which are included to provide guidance without the need to sign several destinations.
- Tertiary - suburbs and group centres.

Services are defined according to their extent of influence and categorised as:

- Regional services
- Sub-regional services
- Community services
- Service stations

- Tourist services
- Recreation services

Tourist attractions are treated both as individual locations and, where they are co-located with other attractions, as a group. A distinction is made between national and local attractions.

Rural destinations in the region are classified as primary, secondary and tertiary according to their importance.

#### Hierarchy of Roads

As described in 8.3.3 below, the progression from broad to local scale involves movement through a hierarchy of roads normally identified according to function, width and geometry. Some levels of signage will only be appropriate on roads of a particular level in the hierarchy.

#### Signage Modes

Two modes of direction finding are employed, - Destination Name and Street Name. The destination mode will predominate at the beginning of longer journeys, but regardless of the initial method, the street name gradually assumes greater importance, eventually becoming the only mode as the destination is approached. The choice of modes is recognised by equal prominence being given to street name and destinations throughout the Arterial road network.

Clarity of signing is sought by combining the hierarchy of roads with a hierarchy of signs and by limiting the number of destinations signed at major intersections (Arterial/Arterial). Signing at these intersections is limited to primary and secondary destinations, i.e. towns, town centres, industrial areas and other activity centres that generate a similar level of vehicular movement.

Tertiary destinations, mainly the residential suburbs, are signed on adjacent Arterial roads between the Arterial/Arterial intersections. The intention is to provide direction to each suburb from all adjacent Arterial roads, normally to the suburb shops, as a destination where further guidance may be obtained. Suburbs are further identified by black on white reflective suburb signs, or the superseded routed timber type.

Service signs are provided only when the particular service is located where it may not be reasonably expected to be found. The range of services normally found at suburb, group and town centres are not signed, while a well-equipped health centre located within a suburb could not be anticipated and is, therefore, signed. Special provision is made for signing regional services and for service stations operating for extended hours.

Tourist signs are provided to guide visitors to attractions endorsed by the Australian Capital Tourism Corporation rather than for promotional purposes attracting passing trade. In general, the most suitable method of promoting the tourist industry is to provide clear and uncluttered signing for the arterial network, with the addition of individual attraction signing when the broad scale guidance provided by arterial signing is no longer adequate.

### **8.3.3 Hierarchy of Roads**

Conventionally, roads have been described according to a hierarchy based on function and geometric characteristics. Roads in the hierarchy range from the arterial road, which is

designed to carry substantial through-traffic at high speeds, to the local access street, which is designed to accommodate local traffic at slow speeds.

The ACT Road Hierarchy is defined in terms of:

- Arterial Roads,
- Major Collector Roads,
- Minor Collector Roads, and
- Access Streets.

The Guide Signs Design Standard relates to signage on Arterial Roads and Major Collector Roads.

This classification for the ACT metropolitan area is shown on Map 1 [Standard Drawing DS08-01](#).

### Guide Signs Road Hierarchy

- Arterial Roads

Arterial roads perform the main traffic-carrying function between and within towns. They include the state and national highways which pass through the ACT.

These routes are listed in Appendix A Table A.1

- Major Collector Roads

Major Collector Roads provide the link between the arterial road network and lower order roads within the suburbs. They are generally either the main access roads into the suburb, connecting the suburb shops with the adjacent Arterial Roads or are located between suburbs and serve a maximum of four suburbs.

These routes are listed in Appendix A Table A.2

The following rules are linked directly to the urban road hierarchy:

- national route markers are added where appropriate;
- normally, only primary and secondary destinations are signed at intersections between Arterial Roads. The main exception occurs where one of the four approaches is a Major Collector Road, when it may be necessary to sign a tertiary destination;
- intersections on Arterial Roads are signed with at least a G2-1 (route name only) sign, unless the Arterial Road is of low standard, e.g. single carriageway with a speed limit of 60 km/h and having many closely-spaced minor intersecting roads;
- signs on Major Collector Roads are normally located within the intersection. An exception may be made if traffic volume is uncharacteristically high; and
- all intersections are provided with G5-1 street name signs.



### **8.3.4 The Rural Road Hierarchy**

Rural roads are classified into three main categories:

- Trunk Routes (National Highways and National Routes)
- Rural Main Roads
- Rural Secondary Roads

The influence of the urban area of Canberra tends to distort the usage of the Rural Main and Rural Secondary Roads to the extent that they are classified by designation rather than by description. These are shown in Figure 8.2.

It should be noted also that routes which are not all-weather are not signed for external destinations, except at the ACT border.

### **8.3.5 Roads with National Route Markers**

In addition to signage to be provided as prescribed, route markers are to be provided on the following roads:

#### ***Route 23***

Federal Highway

Northbourne Avenue

Vernon Circle

Commonwealth Avenue

Capital Circle (Commonwealth Av to Canberra Av)

State Circle East (Northbound Canberra Av to Commonwealth Av)

Canberra Avenue (Capital Circle to Monaro Highway)

Monaro Highway (South of Canberra Avenue)

#### ***Route 23 Alt***

Majura Road

Fairbairn Avenue (Majura Rd to Morshead Dr)

Morshead Drive (Fairbairn Av to Monaro Hwy)

Monaro Highway (Morshead Dr to Canberra Av)

#### ***Route 25***

Barton Highway

#### ***Route 52***

Canberra Avenue (East of Monaro Highway)

King's Highway

### **8.3.6 Designated Areas**

The National Capital Plan sets out the broad planning framework for all of the Australian Capital Territory, and provides detailed planning policies and guidelines for areas designated as having the special characteristics of the National Capital. The designated areas include the Parliamentary Zone, the War Memorial and its surrounds and the main avenues and approach routes to the Central National Area.

Any buildings or structures, demolition, landscaping or excavation works in these Designated Areas require the prior written approval of the National Capital Authority. Many destinations, particularly the main tourism attractions, are in designated areas or are located off the main avenues and approach routes, and, in these instances, signage must comply with the requirements of the National Capital Authority.

#### The Main Avenues and Approach Routes

Canberra's main avenues and approach routes have historically been subject to rigorous planning scrutiny and care has been taken to ensure that suitably high standards of development and landscaping have been observed.

Design policies for the main avenues and approach routes are concerned with achieving awareness of the special symbolic and functional significance of the National Capital by:

- marking the boundary of the ACT;
- establishing a clear and identifiable route from the boundary to the symbolic centre of the city, by providing visual cues and strong structural links eg. avenue planting;
- building up expectations by progressively formalising the design character as travellers approach the Central National Area;
- enhancing views to recognisable and popular images of the National Capital so as to further build expectation and define the approach; and
- ensuring that the structure, detailing and signage is consistent along each approach route into the National Capital.

The Main Avenues and Approach Routes include the land within the boundaries of the reservations of the following roads:

#### *Main Avenues*

- State Circle
- Commonwealth Avenue
- Brisbane Avenue
- Canberra Avenue (to Hume Circle)
- Adelaide Avenue
- Northbourne Avenue
- University Avenue
- Limestone Avenue (Sth of Ainslie Avenue)
- Constitution Avenue
- Kings Avenue
- Sydney Avenue
- Hobart Avenue
- Melbourne Avenue

- Perth Avenue
- Edinburgh Avenue
- Ainslie Avenue
- Anzac Parade

#### *Approach Routes*

- Barton Highway
- Federal Highway
- Fairbairn Avenue
- Morshead Drive/Pialligo Avenue to the ACT border
- Canberra Avenue from Hume Circle to the ACT border
- Monaro Highway and its extension as the Eastern Parkway to Morshead Drive.

Detailed conditions of planning, design and development as specified by the National Capital Authority require that:

Road pavements, medians, footpaths and verges will be developed to consistently high standards. Signs will generally comprise traffic, directional and visitor information signs, and unnecessary repetition will be avoided. Commercial roadside signs are not permitted in road reservations, except on bus shelters. Non-commercial signs may be permitted where they comply with the Design and Siting Conditions for signs as set out in Appendix H of the National Capital Plan

### **8.3.7 Signs in Heritage Precincts**

The ACT Heritage Unit should be consulted in relation to the replacement or repair of a sign in a designated heritage precinct where the sign's appearance and materials are integral to the character of the precinct. The ACT Heritage Register provides guidance on locations where preservation of existing features may be required.

## 8.4 Destination and Extent of Influence

Destinations are ranked in a hierarchical structure, with the position in the hierarchy determining the extent of influence, or geographical limit to the signing of the destination.

### 8.4.1 The Urban Destination Hierarchy

#### Principal

The metropolitan area of Canberra, for which the extent of influence extends throughout the ACT and into New South Wales.

#### Primary

City (used as a simpler, more familiar substitute for Central Canberra), Belconnen, Gungahlin, Tuggeranong, Weston Creek, Woden, and Queanbeyan.

The extent of influence of this group is illustrated on Standard Drawings DS08-02 to DS08-07 and DS08-17 respectively.

The appropriate G1 and/or G2 signs are provided at the locations shown on the above listed drawings. The towns are further identified by G6-1 signs located on the Arterial Roads entering them at the point where the towns are first sighted by the motorist.

North Canberra and South Canberra may be used as destinations where their use does not create a conflict between the two commonly accepted meanings of these terms. These are:

- (a) that Canberra includes Woden and Belconnen, etc. and that North and South Canberra are, therefore, the urban areas north and south of Lake Burley Griffin.
- (b) that North and South Canberra are divided by Lake Burley Griffin and extend to Watson to the north and Red Hill to the south.

Therefore, the use of North Canberra and South Canberra as destinations is rare and requires special approval.

#### Secondary

The City Centre and the town centres, industrial areas and other areas having similar activity levels. National Highways are included to provide guidance without the need to sign several destinations.

The extent of influence of the individual categories is illustrated on the following Standard Drawings:

- City Centre and Town Centres DS08-08
- Industrial Areas DS08-12
- Employment/Activity Centres DS08-13
- Federal, Barton and Monaro Highways DS08-21

The appropriate G1 and/or G2 signs are provided at the locations shown on the above listed drawings.

### *City Centre and the town centres*

Civic, Belconnen, Gungahlin, Tuggeranong and Woden Town Centres are defined as the areas subject to Commercial A and B Land Use Policies in the Territory Plan.

Beyond two kilometres from the perimeter of the centre they are to be signed respectively as:

- “City Centre”
- “Belconnen Town Centre”
- “Gungahlin Town Centre”
- “Tuggeranong Town Centre”, and
- “Woden Town Centre”;

and within two kilometres as:

- “City Centre” and
- “Town Centre”.

### *Industrial Areas*

The following industrial areas are to be signed:

- Fyshwick
- Hume
- Mitchell
- Belconnen Minor Industrial Area

### *Employment Centres*

The following employment areas are to be signed:

- Bruce
- Parliamentary Zone
- Russell
- Symonston North
- Symonston West

### *Highways*

The highways are to be signed as:

- “TO Barton Highway”
- “TO Monaro Highway”

### Tertiary

The suburbs and group centres.

### *Suburbs (see Figure 8.1)*

Suburbs are signed on adjacent Arterial roads by the following methods:

G2 signs - indicate street name, suburb name and presence of shops.

G6 suburb identification signs at the corner of each suburb.

G5 –1 street name signs at the intersection of all Major Collector Roads.

Suburbs are not signed at Arterial Road intersections, except where the need is clearly demonstrated. The most common exception is where one of the four approaches is a Major Collector Road.

G2 signs are used to direct users to named suburb shops, give clear direction to the suburb, and indicate the shops as the suburb's activity centre where further direction-finding information can be obtained. The use of "Suburb Shop" signs is determined by the following considerations:

- only one "Suburb Shop" sign is provided for each suburb on any Arterial or Major Collector Road along the edge of a suburb for each direction of travel along that road;
- generally, only two pairs of "Suburb Shop" signs are provided for each suburb;
- the route signed to the shops is the most easily followed and, preferably, the shortest
- turns required within a suburb are delineated by a G2-1 (white on blue) with the legend "Shops";
- in the case of a large suburb, where there are several unnamed activity centres which include shops (e.g. Kambah), the "Suburb Shop" sign may be replaced by a sign with the legend "Local Shops"; and
- where a suburb is bordered by a Major Collector Road, and that suburb is signed at the intersection of the Major Collector Road and Arterial Roads, then a G2-1 is provided on the Major Collector Road.

For suburbs without shops, signing is by suburb name on a G2 sign, one for each direction of travel on each adjacent Arterial Road or Major Collector Road signed for access to the suburb. Generally, the sign is located at the first access encountered in the direction of travel, unless a later access is more appropriate.

Signing of suburbs is illustrated in Figure 8.1

### *Group Centres*

Group Centres are defined as those centres subject to Commercial C Land Use Policies in the Territory Plan. G2 signs are used to direct users to named Group Centres, give clear direction to the suburb, and indicate the shops as the suburb's activity centre where further direction-finding information can be obtained. The use of Group Centre signs is determined by the following considerations:

- up to two signs are provided for each Group Centre on any Arterial or Major Collector Road for each direction of travel along that road;
- the route signed to the Centre is the most easily followed and, preferably, the shortest
- turns required within a suburb are delineated by a G2-1 (white on blue) with the name of the Centre; and
- a Centre may be signed at the nearest intersection of Arterial Roads or of Major Collector and Arterial Roads with a G2-1 sign.

Group Centres are signed as illustrated on Standard Drawing DS08-10.

## **8.4.2 Services**

Service signs are provided only in locations where the particular service would not normally be anticipated. For example, public telephones are signed if located in an isolated position on

an arterial road, but are not signed if located in a suburban shopping centre, all of which have public telephones. Continuity of signing from the first sign to the destination is maintained.

Services are grouped for the purpose of determining the extent of influence:

### **Category 1: Regional Services**

Canberra International Airport	Standard Drawing DS08-14
Hospitals providing emergency services – The Canberra Hospital and Calvary Hospital	Standard Drawing DS08-15
Exhibition Park in Canberra (EPIC) and, Australian Institute of Sport (AIS)	Standard Drawing DS08-16

### Signage of ACT Public and Private Hospitals

The ACT Policy for signage of hospitals is as follows:

- Use of the S1 (white cross on blue background) symbol is restricted to Hospitals providing emergency services - ie .The Canberra Hospital and Calvary Hospital.
- Public hospitals:  
Within 2km of each Hospital location:
  - The Canberra Hospital is signed using the S1 symbol and appropriate directional markers only. (ie “Canberra Hospital’ text is not used)
  - Calvary Hospital is signed with the legend ‘Calvary Hospital’ plus the S1 symbol - The legend is black on a white background using Series Mod E lettering.Outside a radius of 2km from each Hospital location:
  - Both Canberra Hospital and Calvary Hospital are signed using the S1 symbol only.
- Private hospitals (National Capital, John James, and Lidia Perin) are signed with black legends on white plates incorporated into bi-directional signage at all major road and secondary road intersections leading to the address road.  
Legends are:
  - “The National Capital Private Hospital”
  - “John James Private Hospital”
  - ‘Lidia Perin Private Hospital”Calvary Private Hospital, is located within the grounds of Calvary Hospital, and, given the similarity of the name, is not provided with additional specific directional signage.

### **Category 2: Sub-Regional Services**

Major Retail Centres	Standard Drawing DS08-09
Tertiary Educational Institutions	Standard Drawing DS08-11
Canberra Railway Station	Standard Drawing DS08-16
Mitchell and Mugga Resource Management Centres	

### *Major Retail Centres*

The major retail centres in City and the Town Centres are classified as destinations in their own right, and may be signed with the following names as an adjunct to the City and Town Centre signs:

"Canberra Centre"  
"Gungahlin Marketplace"  
"Tuggeranong Hyperdome"  
"Westfield Belconnen"  
"Woden Plaza"

The signs are to be limited to a distance of two kilometres from City or Town Centre perimeter and are only to be located on major arterial roads approaching the Centres.

### *Tertiary Educational Institutions*

The institutions to be signed as:

- "Australian National University"
- "University of Canberra"
- "Australian Defence Force Academy"
- "Australian Catholic University"
- "National Theological Centre"
- "Australian International Hotel School"
- "Canberra Institute of Technology"

### *Mitchell and Mugga Resource Management Centres*

The Mitchell Resource Management Centre is to be signed from the Federal Highway, Gungahlin Drive, Flemington Road and from the Gungahlin Town Centre.

The Mugga Resource Management Centre is to be signed from Yamba Drive, Hindmarsh drive and the Monaro Highway.



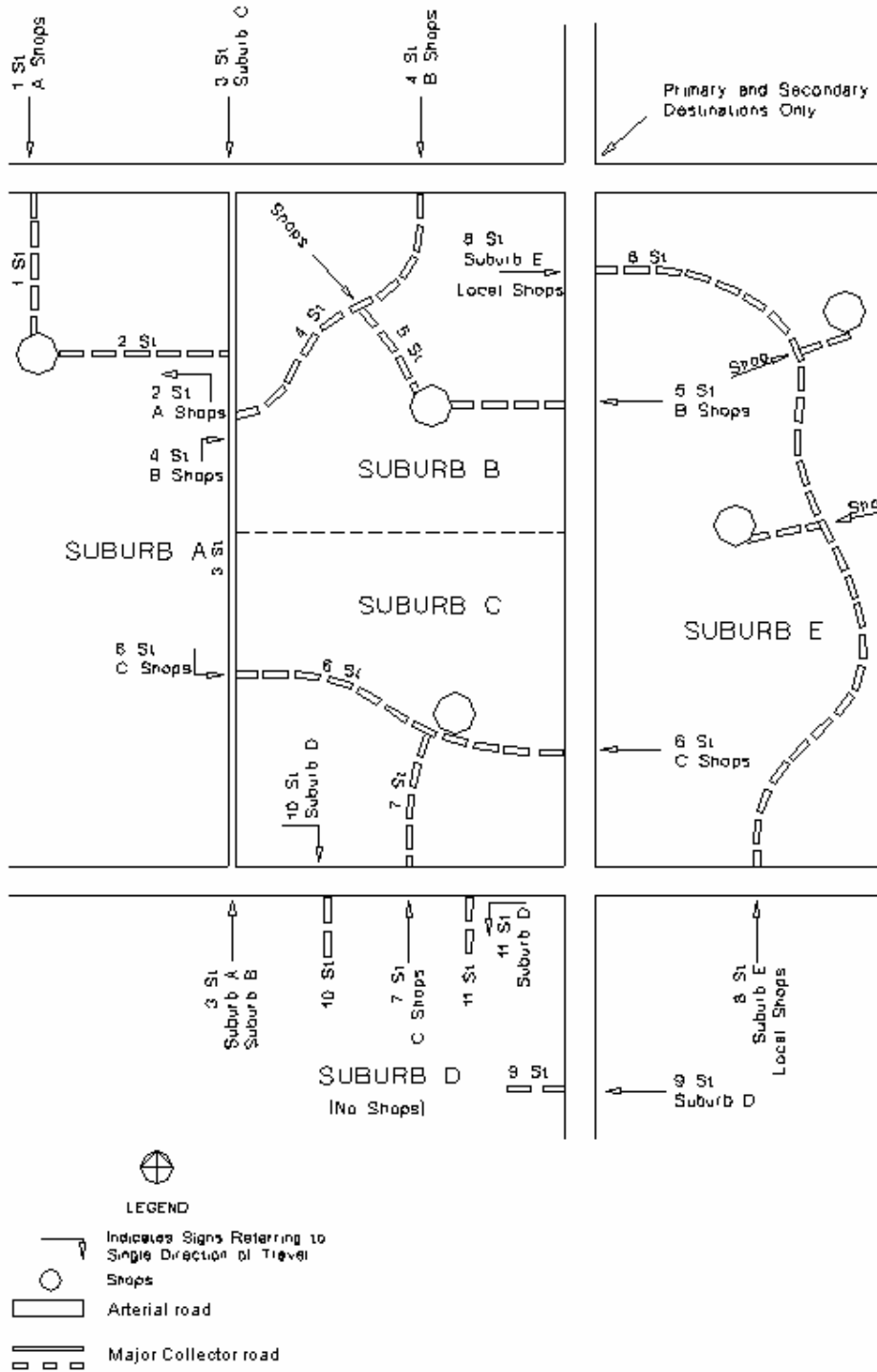


Figure 8.1 – Suburb and Local Centre Signs

### **Category 3: Community Services**

The City Centre and the Town Centres are assumed to provide all services so services are not signed externally. There are very few services which are signed for Group or Local shopping centres. Examples of the type of community services which could be signed are police stations and the motor registry.

Services which may be signed, if located outside the above areas are:

- Cafeteria/kiosk
- Parking Area
- Health Centre (full medical facilities)
- Police Station
- Post Office
- Restaurant
- Shops
- Telephones
- Toilets
- Recycling depots

These are signed on Arterial Roads, subject to the following conditions:

- they are not clearly visible from the road under consideration
- they are not more than 500 m along the road which intersects the route under consideration
- telephones are not signed more than once per kilometre.

### **Category 4: Service Stations**

Service stations are signed only if they operate for a minimum of 16 hours per day, 7 days per week. Signs may then be provided:

- on Group or Local Shopping Centre signs provided for that particular centre
- on Town Centre signs on the Arterial Roads, peripheral to that centre
- on the nearest Arterial Road, providing the service station is not more than 500 m along the road which intersects, and is not clearly visible from the road under consideration.

### **Category 5: Tourist Services**

The following services are included:

- Camp Ground
- Caravan Park
- Information Centre
- Hostel
- Hotel
- Motel
- Tourist Bureau

These are signed on Arterial Roads providing they are not clearly visible from and are within 1 km of the road for which signposting is being considered. For complexes offering more than one of the above Services, the signing normally directs to the primary service only.

Tourist services are not signed if located within Town, Group or Local Centres.

### **Category 6: Recreation Services**

The following services are included:

- Barbeque Area
- Boat Hire
- Boat Ramp
- Bicycle Hire
- Canoeing Area
- Ferry Terminal
- Picnic Area
- Sailing Area
- Swimming Area
- Water-ski Area
- Lookout

These services are signed to the periphery of the services area, or the junction of their exclusive access road and the road for which signposting is being considered.

### **8.4.3 Tourist Attractions and Heritage Sites**

The intent is to provide tourist direction signs to guide visitors to tourist attractions and heritage sites endorsed by the Australian Capital Tourism Corporation or the National Capital Authority, and to promote the tourist industry in general by excellent arterial network guide signing. The promotion of individual tourist attractions is not an explicit objective.

To maintain clarity, it is necessary to limit the number of destinations signed at major intersections, thereby limiting the use of tourist guide signs to the immediate environs of the attraction. Generally, tourists are expected to find the general area or major address road, using the arterial signing network, and are provided with individual attraction signing only when the broad scale provided by this network is no longer adequate.

The extent of influence of a tourist attraction is along the road on which it is located to the road of the next highest order in the hierarchy.

This is modified by the following:

#### Group Signing

The development of a number of tourist attractions in a tourist group, which can be defined under a group name and which has become generally accepted, allows a greater extent of influence under a group name. In this way the group name can be effectively promoted by the Australian Capital Tourism Corporation and signposted by the Department of Urban Services. This is determined on a case by case basis with participation by tourist attraction operators and includes the replacement of the individual tourist attraction signs at the Address Road/next highest order road with group name signage.

Each group (the boundary of which is defined by the entrance roads of the outlying attractions) is entitled to 'National Signage' as defined below. In addition, each attraction

within the group would also be entitled to 'ACT Signage' as defined below, but only within the confines of the group boundary.

The Tourist Route coloured markers must also be located on all direction and advance warning signs that the Tourist Drive follows within the group area.

Examples of locations where group signage should be implemented are as follows:

- Cotter Reserve
- Tidbinbilla (Nature Reserve, Canberra Deep Space Communication Centre)
- Corin (Dam, ski area)
- Yarramundi (National Zoo and Aquarium, Government House, Scrivener Dam)
- Black Mountain (Telstra Tower, Australian National Botanic Gardens)
- Gold Creek
- Parliamentary Zone
- Commonwealth Park/Acton Park
- Tharwa/Namadgi National Park

### Individual Signage

Individual attractions which have a location unsuitable for inclusion in an Attraction Group, must be assessed for individual signage. This is most likely to apply to attractions such as the Royal Australian Mint and the Australian Institute of Sport. The categories would be as follows:

#### National Signage

Individual attractions in this category would be determined by patronage levels or the discretion of the Australian Capital Tourism Corporation or National Capital Authority.

In this category attractions are entitled to direction signage at the nearest (two) intersection(s) of the access road with the next highest order road. At these designated intersections, direction signs are to be implemented on all inbound approaches to the destination.

Attractions are also to be provided with direction signage at the next (two) intersection(s) a hierarchical level above this where this road is on the route of a Tourist Drive. At these designated intersections, direction signs are to be implemented on all inbound approaches to these destinations.

Tourist Route markers are to appear next to the appropriate arrows on these signs on Tourist Route approaches only. Where these designated intersections are located in high speed (80km/h +) or non-urban areas, full advance warning signs are required.

Example 1: In the case of the Australian Mint tourist direction signs appear with the commuter direction signs on westbound Adelaide Avenue at the Kent Street exit and eastbound Adelaide Avenue at the Carruthers Street exit. Since the exit ramps are clearly marked with signs serving as both direction and advance warning signs, no advance warning is required at these two locations. Direction signs also appear at the intersection of Carruthers Street and Denison Street which is the Mint access road.

Example 2: The Australian Institute of Sport (AIS) is not straight forward because the Institute is both a tourist and a commuter destination, and is located on Tourist Drive 4.

The internal signage at the AIS is commuter signage. Outside the complex, tourist destination signage is used. Tourist advance-warning and direction signage is implemented at the

intersections of Haydon Drive/Belconnen Way, Ginninderra Drive/Tucker Street, and Haydon Drive/Battye Street.

Tucker Street/Leverrier Street does not require tourist sign posting because Tucker Street is not a hierarchical level above the AIS access roads (Leverrier and Battye Streets). Instead this intersection has reassurance Tourist Route markers next to appropriate direction arrows on the exiting commuter signs.

### ACT Signage

This category makes up the remaining individual destinations, which are acknowledged by the Australian Capital Tourism Corporation to be genuine attractions, and which cannot be included in an Attraction Group.

In this category, attractions are only entitled to direction signage at the nearest (two) intersection(s) of the access road with the next highest order road where this road is on the route of a Tourist Drive. At these designated intersections, direction signs are to be implemented on all inbound approaches to the destination.

Tourist Route markers are to appear next to the appropriate arrows on these signs on Tourist Route approaches only. Where these designated intersections are located in high speed (80km/h +) or non-urban areas, full advance warning signs are required.

Additional signposting is to be provided at the attraction's entrance road if the attraction is not visible from the approach roads.

### Namadgi National Park

Namadgi National Park is a unique and popular tourist attraction in the ACT. However, it is too large and is accessed from too many points to include completely in a tourist drive system. Some special signage is therefore provided to the Park destinations.

The Namadgi National Park Visitor's Centre on Naas Road, 2 km south of Tharwa, is signposted as part of Tourist Drive 5. Although Tourist Drive 5 does not extend into the National Park, the Park destinations on Naas - Boboyan Road and Brindabella Road are signposted as if they were on a tourist drive.

Except under the provisions described above, tourist attractions are not signed beyond the town or named area in which they are located.

### Service Signage

Services that provide for the tourist needs are signed in accordance to the type of service offered.

In the instances where many services need to be signed from a single direction, small individual symbols are not appropriate, and a finger-board containing all the individual service symbols is required.

Accommodation sites are to be provided with symbol signage at the nearest (two) intersection(s) of their address road with the next road a hierarchical level above if the address road is not trunk or Arterial route.

#### 8.4.4 Rural Destinations

The extent of influence of rural destinations is based on the RTA (N.S.W.) practice of establishing the extent of influence linearly between focal points.

Focal points are the terminals or major junctions of rural, main or secondary roads and are, generally, primary or secondary destinations outside the urban area of Canberra.

A list of rural destinations is given below and the signing of these destinations is illustrated in Figure 8.2.

Only focal points appear on G1, G2, G3 and G10 signs. Focal point and intermediate destinations appear on G4 and G6 signs. Once the name of a destination appears on a G1, G2 or G3 sign, it appears on all subsequent guide signs until the destination is reached.

Primary rural destinations are:

- Cooma
- Goulburn
- Queanbeyan
- Yass
- Braidwood (at NSW border only)

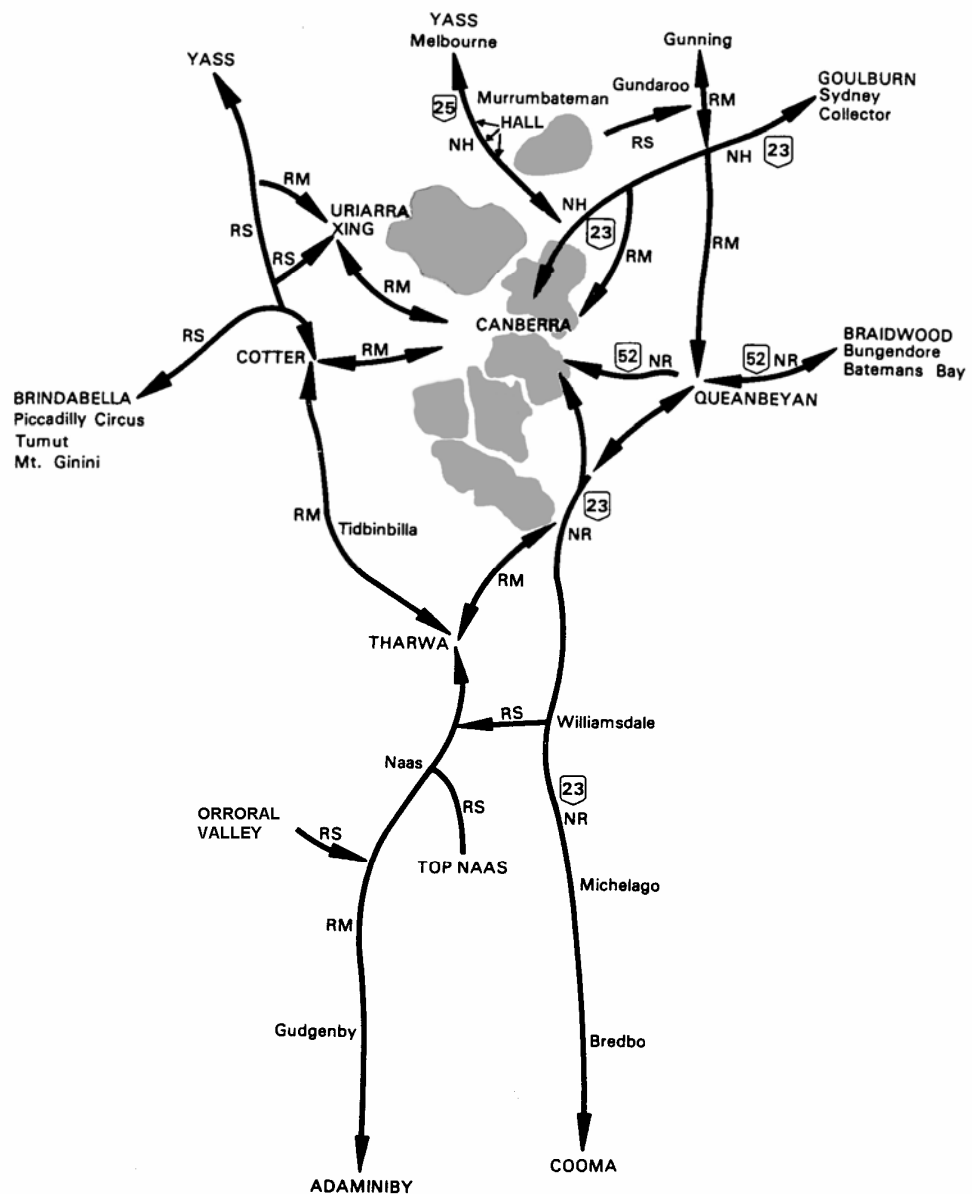
Secondary rural destinations are:

- Adaminaby
- Tumut

Tertiary rural destinations are:

- Bredbo
- Brindabella\*
- Bungendore
- Collector
- Cotter\*
- Hall\*
- Michelago
- Murrumbateman
- Naas
- Royalla
- Sutton
- Tharwa\*
- Top Naas\*
- Williamsdale
- Wee Jasper

\* *Focal points*



LEGEND

- ← Limit of sign posting
- YASS Upper - case names are focal points. Only focal points signed on G1, G2, G4, G6 and GIO signs are indicated.
- Tumut Lower - case names signed on G4 and G5 signs only.
- NH National Highway
- NR National Route
- RM Rural Main Road
- RS Rural Secondary Road

Figure 8.2 Rural Destinations

## 8.5 Sign Types

The following details provide basic information on the most commonly used sign types. Alternative diagrammatic advanced direction signs are designed to satisfy particular requirements. Reference should be made to the example signs provided in Standard Drawings DS08-25 to DS08-34 for more detailed information.

The preferred method of signing tourist destinations and services is by using symbols on standard square grids, the size of which is determined by speed. Services and tourist destinations, for which there is no symbol, are preferably signed with a written legend on the G7 or G8, on any of the standard sizes, providing this allows use of a reasonable letter height. Directional arrows may be included on the G7 or G8 where space permits. The use of G1, G2 and G3 signs for services is considered the least desirable option.

Care must also be taken in determining whether the destination to be signed is a service location or not. Service signs are generally used for an activity rather than a named place. For example, a 'market' can be considered a service, whereas 'Fyshwick Market' is a destination. Similarly, suburb shops are considered a destination rather than a service.

### 8.5.1 Advance Direction Signs (G1)

COLOUR	White legend (white, Class 1) on standard green background, except where: (a) the whole panel or sign displays a service location, then white on blue (Class 1) is used ; and, (b) where the whole panel or sign displays a tourist destination then white on reflective brown is used. Street names have black legend on white Class 1 plate
LEGEND	Maximum number of lines – 5 (unless otherwise approved), with initial capitals left justified unless modified for special circumstances – refer example designs.
LETTER STYLE AND HEIGHT	Refer to Section 8.8. Instructions such as TO, LEFT LANE and EXIT should all be capital letters, the height of which is equal to the street name letter height or the major capital letter height minus 40mm.
SHIELDS	Refer AS 1742.2 for locations and colours.
G1-3	Used where staggered T-junctions on Arterial Roads are less than 120 m apart. They may be also used on grade-separated "diamond" interchanges.
G1-5	Used on approaches to roundabouts on Arterial Roads and Major Collector Roads, except where diagrammatic sign is clearly not justified.

### 8.5.2 Intersection Direction Signs (G2)

COLOUR	White CL.1 legend on standard green background, except: White CL.1 on blue CL.1 when service locations are displayed. White CL.1 on brown CL.1 when tourist destinations are displayed. Street names have black legend on white Class 1 plate
LEGEND	Maximum number of lines - 3, including the street name. Street plates shall be centred on the blade. Destinations are to be left justified and the widest destination aligned centrally with the street plate.
LETTER STYLE AND HEIGHT	Refer to Section 8.8. Instructions such as TO or VIA should be all capital letters, and equal to the major capital letter height minus 40mm.
SHIELD	Refer to AS1742.2 for colour and placement.
LOCATION	G2 signs may also be erected in the advance direction sign location-see Section 8.7
G2-2 SIGNS	Are preferred at diverge points, roundabouts and angle intersections or where the blade height exceeds 1200mm.



### 8.5.3 Fingerboards (G3)

Generally not used in the ACT – Use G2 or G5 types unless otherwise approved

### 8.5.4 Reassurance Direction Signs (G4)

COLOUR	As per G1 signs
LEGEND	Maximum number of lines - 6, including the street name or shield. Initial capitals left justified in left section. Street names or shield centred in the centre section. Distances are right justified in the right section.
LETTER STYLE AND HEIGHT	Street names are 40mm less than the height of the major letters of the destination.

### 8.5.5 Street Name and Pedestrian Direction Signs (G5)

COLOUR	Black legend on white Class 1 plate on green background.
LEGEND	Maximum number of line – 1. Legend centred on panel.
LETTER STYLE AND HEIGHT	Refer to Section 8.8. Letter style to be Series C or D.
SHIELD	Shields (G8 signs) may be attached below the chevron or arrow on left or right pointing signs or centrally beneath a double pointing sign.

### 8.5.6 Geographical Feature Signs (G6)

COLOUR	Black legend on White Class 1 background.
LEGEND	Maximum number of line – 2. Legend centred on the panel.
LETTER STYLE AND HEIGHT	Letter style to be Series D, wide spacing – Height to be 240mm
LOCATION	Preferably on the left side of the road, at a point on the road where the destination is clearly visible.

### 8.5.7 Service, Tourist Signs (G7) and Hospital Signage

COLOUR	White (silver white Cl.1) legend on Class 1 blue or brown background as indicated.	
LEGEND	Where words are used on G7 signs, the letter series and spacing shall be as detailed in AS1743. Letter heights are as follows:	
	Symbol size	
	A	140mm
	B	210mm
ASSEMBLIES	G7 signs may be grouped in horizontal or vertical assemblies to a maximum of 4 signs (including arrows)	
OTHER SERVICE SIGNS	Refer to AS 1742 Part 6,	

## 8.6 Intersection Sign Sequence

### 8.6.1 Urban Intersections

The sequence of signs at intersections is designed to respond to direction-finding methods adopted by users. For primary and secondary destinations in urban areas and for most rural destinations, many users depend on destination signing. When seeking tertiary destinations in the urban area, however, dependence on street name signing increases as the destination is approached. Therefore, it is important to adequately sign street names in the urban area, including advanced sign locations.

Three sign locations are recognised – advanced, intersection and reassurance, as detailed in AS1742.2.

#### Advanced Sign Location

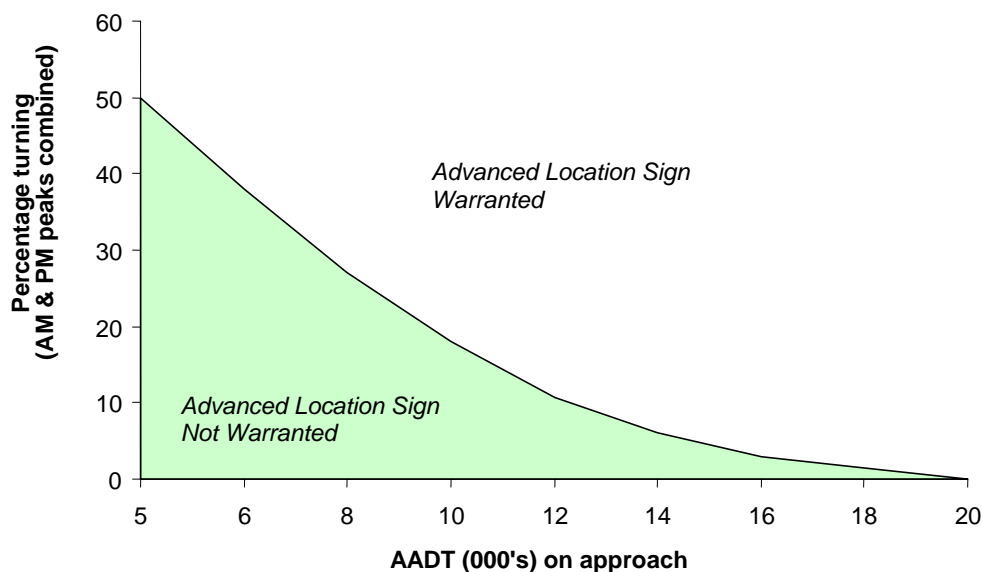
The provision of a sign at the advanced location is dependent on geometry and traffic conditions except where a straight ahead destination is to be signed, and is, therefore, guided by the following considerations. These are applied with discretion, thus allowing provision of an advanced location sign where a number of factors, none of which individually meet the requirements, combine to provide justification.

Advanced location signs are normally provided:

- (a) where the approach speed limit is 100 km/h or greater;
- (b) on approaches to roundabouts (diagrammatic G1-5) except within suburbs, or suburb/local access roads where the roundabout's main function is speed control. In this case, provision of an advanced sign is discretionary;
- (c) on the stem of a T-intersection where the AADT is 10,000 or greater;
- (d) on multi-lane approaches to four-way intersections and on the head of a T-intersection, in accordance with Figure 8.3; and
- (e) on Arterial Roads on entry to the urban area.

Advanced location signs are not normally provided:

- (a) on single lane approaches, even where additional turning lanes are provided within the intersection area; or
- (b) on the stem of a T-intersection where the AADT is less than 10,000.



**Figure 8.3 Advanced Location Sign Warrant**

Intersection Sign Location

In addition to other signs provided as appropriate, a G5 fingerboard

**8.6.2 Rural Intersections**

Sign sequence on rural roads is determined by turning traffic volumes as below:

AAADT TURNING	SIGN SEQUENCE
0 - 25	G3
6 - 125	G2
Over 125	G2 (intersection) and G4

**8.6.3 Route Markers**

Route markers are located on intersection signs in accordance with AS 1742, Part 2

**8.6.4 Kilometre Posts and Markers**

Route markers are located as specified in AS 1742, Part 2

## 8.7 Detailed Location

### 8.7.1 General

Conventionally, guide signs have been located on the left hand side of the roadway and this has, therefore, become the expected location. This may, however, be modified to provide adequate visibility, where visibility would be otherwise limited by obstructions (landscaping, buildings, light or signal columns, etc.) or by horizontal and/or vertical geometry. Accepting that obstructions to visibility will occur quite often, alternative lateral placements, ranked in order of preference, are described in the following pages.

The visibility requirement to be achieved is that the whole sign must be clearly seen from all appropriate lanes for the following distances:

60 km/h-visibility distance 80 m

80 km/h-visibility distance 120 m

100 km/h-visibility distance 180 m

The lateral placement and height mounting of signs is in accordance with AS 1742.2.

It should be noted that many arterial roads in the ACT have a rural environment which needs to be considered in determining sign height in respect of pedestrian activity.

In some cases signs on medians or traffic islands may need to be lower. In these instances, consideration should be given to the potential of injury to pedestrians or of obscuring pedestrians on the median or island in determining the location and height of the sign.

### 8.7.2 Preferred Locations

Advance Direction Signs (G1), Intersection Direction (G2, G3), Reassurance Direction (G5), and Street Name Plates (G5).

The preferred placement for this group of signs is generally in accordance with details shown in AS1742.2 with the following exceptions:

1. AS1742.2 Fig 2.14 – Major Rural Intersection
  - G2-1 signs located at tangent point (TP) at commencement of turn lanes
2. AS1742.2 Fig 2.15 – Minor Rural Intersection – Straight Approach
  - Replace G3-3 with G2-1 signs located 30 metres from intersection
  - Back-to-back G3-3 signs not used for right turns – G2-1 sign located on left verge only
  - G1-1 signs – dimension A measured from modified G2-1 location
  - G1-1 signs to include street name plate
3. AS1742.2 Fig 2.16 – Minor Rural Intersection – Curved Approach
  - G2-1 sign used in lieu of G3-5
  - G2-4 sign used in lieu of G3-3 and G3-4
4. AS1742.2 Fig 2.17 – Major Urban Intersection
  - G4-1 re-assurance direction sign generally not provided in urban environment
  - G2-5/G2-1 signs located 30 metres from intersection

- location preference 1 for Intersection direction signs is at TP at commencement of turn lanes, with Advance Direction signs 100 to 150 metres beyond the TP.
5. AS1742.2 Fig 2.18 – Major Urban Intersection – Divided Road
    - G4-1 re-assurance direction sign generally not provided in urban environment except on exit routes – eg Northbourne Ave, Monaro Highway.
    - location preference 1 for Intersection direction signs is at TP at commencement of turn lanes, with Advance Direction signs 100 to 150 metres beyond the TP.
    - street name plates (G5) located within median islands preferably adjacent to stop lines.
  6. AS1742.2 Fig 2.19 – Minor Urban Intersections
    - G2-1 chevron signs used in lieu of G2-5 and located 30 metres from intersection or at commencement of turn lanes.
  7. AS1742.2 Fig 2.20 – Large Roundabout
    - G4-1 reassurance direction signs generally not used.

#### Geographical Feature Signs (G6)

The preferred placement for this group of signs is generally in accordance with AS1742.2. Suburb name signs are to be located at the corners of each suburb.

#### Service Signs (G7)

The preferred location for service signs is on the first guide sign passed on the approach to an intersection. Symbols are generally incorporated on the blade of the G1 or G2 sign. If there is an arrow on the G1/G2 sign and the service sign is on the blade, no further arrow is required. Service signs mounted under G1/G2 signs require a supplementary arrow. Generally, service signs are located on the main sign post on the side to which the service sign refers, but exceptions are made for adequate visibility.

#### Route Markers (G8)

Route markers are located as specified in AS 1742 Part 2

#### Miscellaneous G7 Signs

Refer to AS 1743 for details of other G7 signs.

### **8.7.3 Route Markers (G8) and Marker Emblems (NR and TRB)**

#### National Route Markers and Emblems

G8-1-2 (yellow legend on green background) used on National Highway 25 and 23 from their junction (Barton Highway/Northbourne Avenue) north to the ACT border (see 8.3.5).

G8-1-1 (black legend on white background) used on National Route 52 and National Route 23, south of its junction with National Highway 25 at Barton Highway / Northbourne Avenue, and on the Route 23 Alternative via Majura Road, Fairbairn Avenue, Morshead

Drive and Monaro Highway (see 8.3.5). The Alternative route markers are to be mounted with G8-2-7 (black legend on white background) ALT signs.

The word “National” is excluded from National Highway Route Markers in the ACT.

#### Tourist Drive Markers and Emblems

Tourist Drives routes are shown in the Canberra Visitors map and in the UBD and are colour coded – refer to Section 8.9.2 for details.

Tourist Drive markers and emblems used in the ACT differ from the Australian Standard in that the legend “TOURIST DRIVE” is omitted.

With the exception of Tourist Drive 7, all Tourist Drive routes are bi-directional and placement of Route Markers should allow for travel in opposite directions.

Where an attraction is signed from a Tourist Drive, the attraction legend should be continuously signed to the attraction. To guide visitors back to the Tourist Drive, Route Markers are to be erected at all changes of direction. Once the Tourist Drive is reached, the Route Markers are to be placed adjacent to G2-1 signs so that drivers can ascertain the correct direction of travel.

#### **8.7.4 Kilometre Posts (G10)**

Refer to AS 1742.2 for general details

Used on National Highway, National Routes and Rural Main Roads outside the urban area.

LEGEND The following abbreviations are used:

Adaminaby	A	Goulburn	G
Braidwood	B	Queanbeyan	Q
Canberra	C	Yass	Y
Cooma	Co	Tumut	T

## 8.8 Sign Legends

### 8.8.1 Alphabets

AS 1744 specifies six standard alphabets for capital letters, ranging from the narrow Series A to the wide Series F. Unless special conditions prevail, all ACT guide signs use series D for capital letters, with wide spacing.

All destinations are signed using the Modified Series E alphabet. This is an upper-case alphabet combined with a compatible lower-case alphabet, where the lower case alphabet letter height is nominally 75% of the upper case alphabet. For street names or other words having all upper-case letters, there is a choice of Series D or E, with series D being preferred. For upper-case words, other than street names, Series C may be used in exceptional circumstances.

The spacing of Series E lettering is usually "medium". However, this should be adjusted to "narrow", if the word controls the length of the sign, and "wide", if the word is noticeably short in relation to other words in the legend.

### 8.8.2 Letter Heights

The required letter height is dependent on:

- lateral placement with respect to the driver's position; and
- vehicular speed;

and, except for G5 signs, is determined in accordance with Table 8.1 below

Letter Heights			
Speed Limit (km/h)	No of Lanes in direction of travel	Capital Letter Height	
		Destination (Mod E)	Street Name (D)
100	2+	240	200
	1	200	160
80 and 90	2+	200	160
	1	180	140
60 and 70	2+	180	140
	1	160	120
Roundabouts	2 Lane Departure	160	120
	1 Lane Departure	140	120

The minimum letter height for any vehicular sign is 120mm

Table 8.1 – Letter Heights

The speed selected is normally the speed limit of the road at the point where a driver needs to make a decision based on the signage information, but this may be adjusted upward if the 85th percentile speed is clearly well in excess of the speed limit.

For G5 signs, the minimum letter height is 100mm.

### 8.8.3 Service and Tourist Symbols

#### Sizes

Service symbol sizes are as follows:

Speed Limit	Symbol Size (refer AS 1743)
Less than or equal to 70km/h	A
Greater than 70 km/h	B

The numeral in a tourist shield shall be equal to the capital height of the adjacent Mod E lettering. The overall height of the shield shall be 2 times the height of the numeral. The words “TOURIST DRIVE” are not to be incorporated into the shield.

#### Hospital Symbol

The hospital service symbol is white on blue and no longer contains the legend “HOSPITAL” within the symbol. The hospital service symbol is only to be used for hospitals offering emergency services. In the ACT this is currently limited to the Canberra Hospital and Calvary Hospital.

Where the symbol is used in conjunction with a black on white hospital service legend (eg Calvary Hospital), the white background plate may be extended to incorporate the hospital symbol where appropriate.

### 8.8.4 Justification

In general, street name plates are to be centred on the horizontal length of the blade and destinations are to be left justified.

Distances in G4-1 signs are to be right justified.

To reduce blade sizes it may be necessary in some signs to offset the groups of destinations so that they are not vertically aligned.

### 8.8.5 Order of Lettering

Destinations should always have the nearest destination at the top of the sign and the most distant destination at the bottom of the sign. Where practical, it is preferred that tourist shields and service symbols be placed adjacent to the destination that contains or is closest to the tourist attraction or service.

### 8.8.6 Place Names and Abbreviations

#### Place Names

The following list identifies the legend used for national places (legend used on signs is underlined).

<u>Australian War Memorial</u>	<u>National Gallery</u>
<u>Australian Defence Force Academy</u>	<u>National Library</u>
<u>Australian National University</u>	<u>National Museum of Australia</u>
<u>High Court of Australia</u>	<u>Parliament House</u>
<u>Australian Institute of Sport</u>	<u>Royal Australian Mint</u>
<u>National Botanic Gardens</u>	<u>Royal Military College, <u>Duntroon</u></u>

**Table 8.2 – Place names**



## Abbreviations

Where a line of the legend controls the length of a guide sign abbreviations may be used to reduce the overall size and cost of the sign.

The following abbreviations may be used:

Above Sea Level	ASL		Maximum	Max
Alternative	Alt		Metre	m
Arcade	ARC		Minimum	Min
Avenue	AV		Mount	Mt
Brace	BR		Mountain	Mtn
Boulevard	Bvd		Mountains	Mts
Circle	CR		North	Nth
Circuit	CCT		Number	No
Close	CL		Numbers	Nos
Court	CT		Park	Pk
Creek	Ck		Parkway	PWY
Crescent	CRES		Place	PL
Croft	CROFT		Point	Pt
Crossing	Xing		Population	Pop
Department	Dept		Railway	Rly
Drive	DR		Range	Ra
East	East		Reserve	Res
Elevation	Elev		Rise	Rise
Government	Govt		River	R
Gardens	GDN		Road	RD
Glen	Glen		Row	Row
Harbour	Hbr		South	Sth
Height	Ht		Square	SQ
Heights	Hts		Station	Stn
Highway	Hwy		Street	ST
Island	Is		Terrace	TCE
Junction	JNC		Through	Thru
Kilometre	km		Tonnes(s)	t
Kilometres per hour	km/h		Way	WAY
Parade	PDE		West	West

**Table 8.3 – Standard Abbreviations**

The distinctive part of a name or destination, such as "Tuggeranong" in "Tuggeranong Parkway" must not be abbreviated.

### **8.8.7 Legend Layout**

AS1743 is used as a minimum and maximum guide to the spaces between lines of legend and edge of sheets. It is preferred that the following ACT modified layout distances are adopted unless it is not economical due to sheet sizes or other influences:

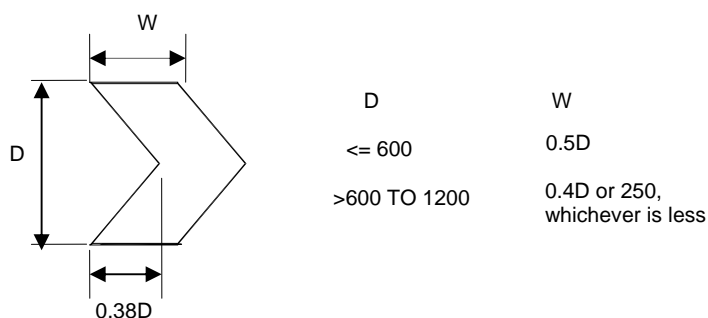
- Vertical spacing between lines of legend = 0.6 times the capital letter height of the adjacent legend or 0.75 if the legend has a descender. Spacing between lines of the legend shall be increased where two plates are beside each other by the gap between the lettering and the edge of the plate.
- Signs without borders (eg; suburb signs, some geographical features):  
 Top and bottom spaces = 50% of the Capital letter height of the adjacent legend.  
 End Spaces = 100% of the Capital letter height of the adjacent legend.
- Signs With Borders (space measured to inside of border):  
 Top and bottom spaces = 50% of the Capital letter height of the adjacent legend.  
 End spaces = 100% of the Capital letter height of the adjacent legend less 2 times the border width.
- Border widths and radii:  
 The border widths and radii listed in Tables 2 and 4 of AS 1743 are to be adopted in the ACT. End, top or bottom spaces may need to be increased where large border radii are used.

### 8.8.8 Arrow Heads

The 'width' of the arrow head (perpendicular to the pointing direction) is to be 1.5 x the largest letter height contained on the sign blade (usually Mod E). If the arrow is of an oblique form, then the horizontal width or vertical height is to be 1.5 x the largest letter height contained on the sign blade (usually Mod E).

### 8.8.9 Chevrons

Chevrons are to be scaled to size using the following proportions:



The gap between the edge of the chevron and the edge of the finished blade is to be as follows:

Top / bottom: 4 x the border thickness (usually 100mm or 64mm)

Side (pointed): 0.8 x the largest letter height contained on the sign blade (usually Mod E).

In most circumstances chevrons should not be used for signs with a blade height greater than 1200mm.

For signs greater than 1200mm in height an arrow should be used within a rectangular border – Refer Standard Drawing DS08-31.

### **8.8.10 Plates**

Where a legend is required to be on a different colour background than the general sign background colour it is placed on a plate. Depending on the method of sign blade manufacture, plates are either placed on top of or cut into the main background. The gap between the edge of lettering and the plate is:

- 0.25 x the Capital letter height in the panel rounded up to the nearest 10mm increment. eg. 160 D lettering would be  $0.25 \times 160 = 40\text{mm}$  or 140 D lettering would be  $0.25 \times 140 = 35\text{mm}$ , therefore round up to 40mm.

Where the reverse cut method of manufacture is used, the background film surrounding the plate is cut to an enlarged size to provide a 12mm white border between the two coloured overlay films to avoid the need for precise matching of the plate and background films. It also provides a visual enhancement to the plate.

## 8.9 Logos

Unless approved otherwise, the maximum height of a logo shall be 1.5 x the capital letter height. If a logo is to match an existing logo, the existing logo height may be retained as long as the details of the logo including dimensions and locations are submitted to the Department of Urban Services for prior approval. It is preferred that the logo is vertically placed so that the centre of the logo is aligned with the centre of the capital letter height of the text it is associated with.

### 8.9.1 Diagrammatic Layouts

#### G1-3 (Multiple Intersection)

The width of the diagrammatic shown in AS 1743 is 0.775 times the Capital Letter height. In the ACT a figure of 0.75 may be adopted.

#### G1-5 (roundabout) signs

The diagrammatic details shown in AS 1743 are based on a width equal to the capital letter height of the destinations. These details can lead to a diagrammatic which is large and in urban areas difficult to locate. A factor of 0.75 is to be applied to the dimensions shown in the Standard or preferably to the modified diagrammatic details shown in the example drawings provided in Standard Drawings DS08-25 to DS08-34. Once a diagrammatic detail is drawn using a CAD package it may easily be enlarged or reduced to suit alternative letter heights.

### 8.9.2 Colours

In general the colours specified in AS 1742.2 and AS 1743 are to be applied to guide signs. There are some ACT specific colours which are listed below:

#### Major Retail Centres

Major retail centre destinations are signed using a white legend on a blue plate within G1 and G2 signs

#### Tourist Drives

Drive	Vinyl Colour	ECF Colour	Numeral Colour
1	Satin Gold	No Equivalent	Black
2	Burgundy	No Equivalent	White
3	Peacock Blue	No Equivalent	White
4	Royal Purple	Violet 1170-13	White
5	Bright orange	Orange 1174	Black
6	Satin Aluminium	No Equivalent	Black
7	Sunflower	Yellow 1171	White

**Table 8.4 – Tourist Drive Sign Colours**

University of Canberra

University of Canberra signage is to consist of a white Mod E series legend on blue background and is to incorporate the University 'pentagonal C' logo.

## **8.10 Sign Supports**

Sign supports are to be designed in accordance with the requirements of the ACT Standard Specification for Urban Infrastructure Works. Designers should take particular care to ensure that posts meet frangibility requirements unless installed in a safe location behind safety barriers or beyond the clear zone. This requirement extends to the replacement of existing non-frangible posts as part of sign replacement work. In many cases, existing posts are oversized, and may often be cut off 50mm or so above ground level. The socket thus formed can be used to hold new smaller diameter posts, secured either by tack welding or by filling the void between socket and post with ‘super sand’ a proprietary mix of fine sand and binding agent.

If post sizes within frangibility limits cannot be used due to design loads, then proprietary frangible posts are to be used. Current standards adopted within the ACT preclude the use of light duty propped posts, and frangibility systems utilising slip bases and ‘fuse’ plates are used. Due to the high cost of these items, designers should investigate all possible location and/or sign design solutions to avoid unnecessary use of proprietary frangible supports.

## **8.11 Design Procedures and Practice**

### **8.11.1 Procedural Matters**

#### Legend Requirements

The designer shall determine the route name (road name) and / or destination using the maps and information in this design guide, existing or new roads, services or tourist attractions, and general knowledge of the area. If the designer is unsure of a destination, service symbol etc. the Department of Urban Services may be contacted to confirm any requirements.

#### Design Lodgement

The designer shall obtain approval for all TCDs including guide sign inventory forms and designs. Guide sign inventories and designs are to be submitted at the same time as the initial TCD submission.

A Guide sign inventory form shall be completed and attached to the guide sign design. For each new guide sign, a guide sign number will be allocated by the Department of Urban Services. Where a guide sign is in a new area or its number is not known or shown on a TCD Drawing, the guide sign number shall be left blank. A TCD / TTM submission pro-forma shall be completed and lodged with the relevant traffic control device drawings (if any), guide sign inventory form (refer Figure 8.4) and the guide sign design. If there are any comments by the Department of Urban Services, they will be marked on the drawing in ink or on the inventory form in pencil. The designer shall then modify the sign design, guide sign inventory form and TCD Drawing (if any) and re-submit for approval. Upon approval of the guide sign design and inventory form, The Department of Urban Services will add the guide sign number into the box on the guide sign inventory form. The designer shall then transfer the guide sign number onto the guide sign design drawing and TCD Drawing.

#### Work-as-Executed Information

The date of installation, manufacturer, and date of manufacture, sheet brand and any changes to the approved design or information contained on the inventory form shall be marked on the inventory form. Changes shall also be reflected in the guide sign design or traffic control device drawing.

This information, together with a digital photograph of the actual guide sign installed constitutes required work as executed records and shall be submitted to the Department of Urban Services on completion of the works. Note that major changes to the design (eg. destinations, letter heights, alphabets etc.) are to be approved prior to manufacture.

### **8.11.2 Design Presentation**

#### Sign Face Design Drawing

While some variations exist between the design presentations produced by competing computer sign design software, the sign face designs are required to be presented principally in accordance with the computer generated format shown in the examples provided as Standard Drawings DS08-25 to DS08-34, except that actual dimensions are to be provided on the blade set-out.

Design drawings shall use the standard title block, and shall provide full details of the following:

- dimensions of the sign blade
- text style, dimensions and positioning
- positions and sizes of plates, symbols, logos and arrows
- border widths
- corner radii
- colours
- background and legend materials (may be referenced to the inventory form)

For TraSiCAD users a rules set file can be modified to suit ACT requirements and is available from the Department of Urban Services.

### Sign Inventory Form

As noted above in 8.11.1, the standard inventory form shall be completed for each sign design. The current version of the inventory form is shown in Figure 8.4. The inventory form is available from the Department of Urban Services in spreadsheet form.

Post and footing details shall be determined in accordance with the procedure shown on Standard Drawing DS9-15 and noted in the relevant section of the form, together with notification of the use of post sockets or direct burial.

Installation instructions are to be included in the comment box below the post and footing information:

eg; “remove existing blade and posts, erect new blade and posts” ;  
“remove existing blades (3 no), extend existing posts by 0.7m, erect new blades”  
“remove existing blade, erect new blade on existing posts”

Where proprietary frangible posts are to be used, the description shall include the required moment capacity required for the installation, ie:

“remove existing blade and posts, install proprietary frangible post system with a total moment capacity for the installation of XX kNm, erect new blade”

The location of the sign is to be fully detailed in the appropriate section of the form, with heights and offsets in accordance with the requirements of Standard Drawing DS9-11 and AS 1742.2 Appendix C. The environment details will be either “urban” or “rural”. It should be noted that many arterial roads in the ACT have a “rural” environment which needs to be considered in determining sign height in respect of pedestrian activity. Reference should be made to the Department of Urban Services where doubt exists as to the correct environment category.

Blade details shall be transferred from the sign face design drawing to the relevant section.

The legend details shall be entered commencing from the top of the sign (position 1). Arrows are not to be included in the legend section, but shields, symbols and logos shall be referenced by type; eg. ‘Service Symbol S3’, ‘Grapes Logo’ etc

For new post installations, a sketch of the site layout showing necessary location, offset dimensions (and varying post and sign blade mounting heights where in embankment conditions) is to be provided in the locality plan box at the foot of the form when the required location cannot be accurately defined by distance and offset descriptions. This is particularly relevant to traffic islands and some median installations.



Sheeting details are to be provided on completion of the installations as part of the work as executed details.

An explanation of the fields in the Sign Inventory Form is shown in Table 8.5.

### Balanced Design

Within the parameters given above, designers should aim to produce a sign which is visually balanced. To this end, or to achieve an economical sign size, it may be necessary for minor adjustments to be made to symbol, arrows and dimensions.

Example design layouts are provided in Standard Drawings DS08-25 to DS08-34 to provide a guide as to the style of sign preferred in the ACT.

**SIGN INVENTORY FORM**

Sign Number <input style="width: 150px;" type="text"/>		As assigned by Roads ACT	
Name <input style="width: 250px;" type="text"/>		Sign Code <input style="width: 100px;" type="text"/>	
Class <input style="width: 150px;" type="text"/>		Size <input style="width: 100px;" type="text"/>	
Suburb <input style="width: 150px;" type="text"/>		Hand <input style="width: 100px;" type="text"/>	
Date installed <input style="width: 150px;" type="text"/>		Drawing No <input style="width: 250px;" type="text"/>	
Road Name <input style="width: 250px;" type="text"/>		Environment <input style="width: 100px;" type="text"/>	
Cross (x) Road Before <input style="width: 250px;" type="text"/>		No of Lanes <input style="width: 100px;" type="text"/>	
Cross (X) Road After <input style="width: 250px;" type="text"/>		Speed Limit <input style="width: 100px;" type="text"/>	
Dist X Road to Sign (m) <input style="width: 250px;" type="text"/>		Position <input style="width: 100px;" type="text"/>	
X Road Origin <input style="width: 250px;" type="text"/>		Face Direction <input style="width: 100px;" type="text"/>	
Number of Posts <input style="width: 150px;" type="text"/>		Chevron Direction <input style="width: 100px;" type="text"/>	
Post Type <input style="width: 150px;" type="text"/>		Lateral Offset (m) <input style="width: 100px;" type="text"/>	
Post Size <input style="width: 150px;" type="text"/>		Height to U/S Blade (m) <input style="width: 100px;" type="text"/>	
Footing Type <input style="width: 150px;" type="text"/>			
Fixing Details <input style="width: 150px;" type="text"/>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Comments</p> <div style="border: 1px solid black; height: 60px; width: 100%;"></div> </div> <div style="width: 45%;"> <p>Brand of Sheeting <input style="width: 100px;" type="text"/></p> <p>Sign Material <input style="width: 100px;" type="text"/></p> <p>Width (mm) <input style="width: 100px;" type="text"/></p> <p>Height (mm) <input style="width: 100px;" type="text"/></p> <p>Manufacturer <input style="width: 100px;" type="text"/></p> <p>Date of Manufacturer <input style="width: 100px;" type="text"/></p> </div> </div>			

Pos No	Legend	Legend Dimensions			Legend Material		Background Material	
		Height	Series	Space	Colour	Class	Colour	Class

Locality Plan		Designer <input style="width: 100%;" type="text"/>
		Company <input style="width: 100%;" type="text"/>
		Approved By <input style="width: 100%;" type="text"/>
		Signature <input style="width: 100%;" type="text"/>
		Approval Date <input style="width: 100%;" type="text"/>

**Figure 8.4 Guide Sign Inventory Form**

<b><i>Sign Inventory Form Field</i></b>	<b><i>Explanation</i></b>	<b><i>Example</i></b>
Sign number	An identification number assigned by the Department of Urban Services (DUS)	
Name	Sign name as per AS1742	ADS
Class	The class (series) of the sign as per AS1742.	GUIDE
Suburb	The suburb in which the sign is located.	Kambah
Sign code	Sign reference number as per AS1742	G2-1
Size	Size designation as per AS1742 for a sign of	A, B, C or D
Hand	Direction of turn to which the sign applies	Left / right / both
Date installed	To be added by DUS after installation at the WAE stage	
Drawing number	The Drawing Number for the detailed set-out of the sign legend.	
Road Name	The road on which the sign is to be erected.	Drakeford Drive
Cross (X) road before	The intersecting road before the sign.	Marconi Cr
Cross (X) road after	The intersecting road after the sign.	Summerland Cct
Dist X Road to sign	The distance from the cross road after the sign to the sign.	143m
X Road origin	The origin from which the distance from the road after is measured.	Centre of Summerland Cct
Environment	The road environment	Rural/Urban/Commercial etc
No of lanes	The number of traffic lanes in the direction of travel on the approach to the sign.	3
Speed limit	The speed limit on the road on which the sign is to be erected	80km/h
Position	The location of the sign relative to the road's cross-section	Left shoulder/median
Number of posts	The number of posts on which the sign is to be mounted	3
Post type	The type of post(s) to be used.	MS pipe
Post size	The cross-section of the post(s) in terms of outside diameter, wall thickness and material strength	60.3 OD x 2.3mm GR350
Footing type	The type of footing for the sign post(s)	Concrete/slip base etc

<b>Sign Inventory Form Field</b>	<b>Explanation</b>	<b>Example</b>
Fixing details	The means by which the blade is fixed to the post(s)	Bandit/Saddle brackets/wall-mounted etc
Face Direction	The direction that the sign faces.	N/S/SE/NNW
Chevron direction	The direction of chevrons on the sign	Right/Left/Both/None
Lateral offset	The position of the closest point of the sign to the road.	3.6m to edge line
Height to U/S Blade	The clearance from road pavement level to the underside of the sign or to the lowest sign in an assembly (measured in metres).	2.0m
Brand of sheeting	Manufacturer's name	3M/other manufacturer
Sign material	The material from which the sign blade is made	Aluminium/Timber etc
Width	Horizontal dimension of the sign blade.	1634mm
Height	Vertical dimension of the sign blade.	1587mm
Manufacturer	To be added at WAE stage by DUS	
Date of manufacture	To be added at WAE stage by DUS	
Comments	Any further information necessary to specify the erection of the sign	Remove existing signs (3No); extend posts by 0.6m and erect new blade.
Pos. No.	The position number for each legend.	1 if only one legend at that height, or 1C if multiple legends at the same height on the blade.
Legend	The text for the legend for this position.	SUMMERLAND CCT
Legend Dimensions Height/Series/Space	The height (mm) of the upper case lettering in the legend/	160 Mod E Medium
Legend material Colour/Class		White / Class 1
Background material Colour/Class		Green / Class 1
Designer	Consultant designer	
Company	Consultant designer's company	
Approved By	DUS approving officer	
Signature	Signature of DUS approving officer	
Approval Date	Date approved by DUS	

**Table 8.4 – Inventory Form Terms**

## 8.12 Glossary

Retroreflective /ity: Material characteristic wherein a percentage of light impinging upon a surface at an angle other than 90 degrees is reflected back to the source through the use of spherical or prismatic lens encapsulated within the material.

Retroreflective Sheeting Classes:

Class 2      Description:      Otherwise known as ‘Engineer Grade’ – Introduced in the 1950’s.  
Uniformly distributed glass beads overlying a metallic reflector coat and sealed with a transparent surface film – has a frosted silver appearance. Lowest reflectance of commonly available materials.

Uses: With the introduction of higher performing materials, Class 2 materials are now only recommended for use in areas of low ambient lighting.

Performance:      Brightness – Low  
   Angularity - Fair

Class 1      Description:      Sometimes known as ‘High Intensity Grade’ – Introduced in the 1970’s. Construction similar to that of Class 2 material but glass beads are encapsulated within cells of shapes which differ between manufacturers. Has a ‘honeycomb’ appearance.

Uses: Now the most commonly used sign face material for rural and urban areas with medium ambient light levels.

Performance:      Brightness – High  
   Angularity – Good

Depending on the entrance angle, the retroreflectivity of Class 1 material exceeds that of Class 2 material by between 3 and 4 times.

Class 1W      Description:      Often referred to as ‘VIP Grade’ (3M designation), or collectively and often confusingly with Class 1A as ‘Diamond Grade’ due to the commonly used diamond shape of the encapsulation. Introduced in the 1990’s, the glass beads of the Class 1 material are replaced with a prismatic lens located within each capsule which is formed into the rear of the transparent surface sheeting. The lens shape of Class 1W material provides enhanced (W)ide angle reflectivity. Under general lighting conditions, Class 1W material has a brighter, whiter appearance than Class 1 material. The thicker surface sheeting

creates a material which is more rigid and more difficult to cut than Class 1.

Uses: Used for signs where geometric constraints inhibit the approach angle.

Performance: Brightness – Superior – 1.6 to 1.7 times that of Class 1  
Angularity – Best

**Class 1A** Description: Commonly referred to as ‘LDP Grade’ (Long Distance Performance), it shares the general construction and appearance of Class 1W, but differs from it in the shape of the prismatic lens, which in the case of Class 1A, are formed to enhance long distance viewing.

Uses: High speed roads or other cases where long distance viewing is desirable, or for highlighting accident black spots.

Performance: Brightness – Very High – approximately 3 times that of Class 1  
Angularity - Excellent

**Class 1 on Class 1** Descriptive term for the traditional method of building up a sign face by overlaying white Class 1 letters on coloured Class 1 background material. Often involves 3 layers (background, plate and lettering/numerals)

**EC Film (ECF)** Translucent adhesive film used as an overlay to white Class 1 material to replicate standard colours in Class 1 material. The film is stencil cut in such manner as to allow the white Class 1 background to form the legend and borders. Allows panels of differing colours to be inserted without multi layering of Class 1 material.

## **8.13 Further reading**

*Territory Plan*, ACT Planning and Land Authority, available online:  
<http://www.actpla.act.gov.au>

*National Capital Plan*, National Capital Authority, available on-line  
<http://www.nationalcapital.gov.au/planning/>

## **8.14 Standard drawings**

DS08-01	Hierarchy of Roads
DS08-02	Areas of Signing Influence - City
DS08-03	Areas of Signing Influence – Belconnen
DS08-04	Areas of Signing Influence – Gungahlin
DS08-05	Areas of Signing Influence – Tuggeranong
DS08-06	Areas of Signing Influence – Weston Creek
DS08-07	Areas of Signing Influence – Woden
DS08-08	Areas of Signing Influence – City Centre and Town Centres
DS08-09	Areas of Signing Influence – Major Retail Centres
DS08-10	Areas of Signing Influence – Group Centres
DS08-11	Areas of Signing Influence – Tertiary Educational Institutions
DS08-12	Areas of Signing Influence – Industrial Areas
DS08-13	Areas of Signing Influence – Employment/Activity Centres
DS08-14	Areas of Signing Influence – Airport
DS08-15	Areas of Signing Influence – Hospitals
DS08-16	Areas of Signing Influence – AIS, EPIC, Railway Station
DS08-17	Areas of Signing Influence – Queanbeyan
DS08-18	Areas of Signing Influence – Yass
DS08-19	Areas of Signing Influence – Goulburn
DS08-20	Areas of Signing Influence – Cooma
DS08-21	Areas of Signing Influence – Barton and Monaro Highways
DS08-22	Reserved
DS08-23	Reserved
DS08-24	Reserved
DS08-25	Guidesign Example Design – Advanced Direction Sign G1-1
DS08-26	Guidesign Example Design – Advanced Direction Sign G1-5
DS08-27	Guidesign Example Design – Roundabout G1-5
DS08-28	Guidesign Example Design – Intersection Direction Sign G2-1
DS08-29	Guidesign Example Design – Intersection Direction Sign G2-1
DS08-30	Guidesign Example Design – Intersection Direction Sign G2-1
DS08-31	Guidesign Example Design – Intersection Direction Sign G2-2 and G2-4
DS08-32	Guidesign Example Design – Intersection and Reassurance Direction G2-4 & G4-1
DS08-33	Guidesign Example Design – Street Name and Suburb Sign– G5 & G6-1



DS08-34 Guidesign Example Design – Tourist Route- G8-9

## Appendix A. Guide Signs Road Hierarchy

**Table A.1 Arterial Roads**

<i>Road</i>	<i>Link</i>	<i>Road</i>	<i>Link</i>
Adelaide Avenue		Horse Park Drive	
Aikman Drive		Isabella Drive	
Ainslie Avenue	Ballumbir St to Limestone Av	Johnson Drive	
Anzac Parade		Kings Avenue	
Ashley Drive		Kingsford Smith Drive	
Athllon Drive		Kuringa Drive	Barton Highway to Kingsford-Smith Dr
Baldwin Drive		Lanyon Drive	
Ballumbir Street		Limestone Avenue	
Barry Drive		Long Gully Road	
Barton Highway		Macarthur Avenue	
Belconnen Way	Barry Dr to Coulter Dr	Majura Road	
Benjamin Way	Belconnen Way to College St	Melrose Drive	
Bindubi Street		Mirrabei Drive	
Brisbane Avenue		Monaro Highway	
Canberra Avenue		Morshead Drive	
Capital Circle		Mouatt Street	
Caswell Drive		Mugga Lane	
Clarrie Hermes Drive		Northbourne Avenue	
College Street	Haydon Dr to Eastern Valley Way	Nurdurr Drive	
Commonwealth Avenue		Parkes Way	
Constitution Avenue		Pialligo Avenue	
Cooyong Street		Southern Cross Drive	
Copland Drive	Ginninderra Dr to Moynihan St	State Circle	
Corranderrk Street		Streeton Drive	Cotter Rd to Hindmarsh Dr
Cotter Road		Sulwood Drive	
Coulter Drive		Taverner Street	
Drake Brockman Drive		Tharwa Drive	
Drakeford Drive		Tuggeranong Parkway	
Eastern Valley Way		Vernon Circle	
Edinburgh Avenue		Wakefield Avenue	Northbourne Av to Limestone Av
Erindale Drive		Wells Station Drive	
Fairbairn Avenue		Wentworth Avenue	
Fairfax Street		William Hovell Drive	
Federal Highway		William Slim Drive	
Flemington Road		Woodcock Drive	
Ginninderra Drive		Yamba Drive	
Gungahlin Drive		Yarra Glen	
Haydon Drive			
Hindmarsh Drive			

**Table A.2 Major Collector Roads**

<i>Road</i>	<i>Link</i>	<i>Road</i>	<i>Link</i>
Ainsworth Street		Clift Avenue	
Alexandrina Drive		Clive Steele Avenue	
Alpen Street		Clunies Ross Street	
Amagula Avenue		College Street	Eastern Valley Way to Lathlain St
Anketell Street		Connah Street	
Ann Clark Avenue		Copland Drive	Moynihan St to Owen Dixon Dr
Anthony Rolfe Avenue		Coronation Drive	
Antill Street	Federal Hwy to Hackett	Cowper Street	
Aspinall Street		Coyne Street	
Atkins Street		Curran Drive	
Badimara Street		Dalrymple Street	
Bandjalong Crescent		Darwinia Terrace	
Barr Smith Avenue		David Street	
Barrit Street		Denison Street	
Bateman Street		Devonport Street	
Battye Street		Dixon Drive	
Beasley Street		Dookie Street	
Belconnen Way	Coulter Dr to Kingsford Smith Dr	Dorsch Street	
Benjamin Way	College St to Emu Bank	Drumston Street	
Bindel Street		Dudley Street	
Blamey Crescent		Duggan Street	
Bodington Crescent		Dumas Street	
Boldrewood Street		Eggleston Street	
Bollard Street		Ellenborough Street	
Box Hill Avenue		Ellerston Avenue	
Braybrooke Street		Eucumbene Drive	Cotter Rd to Warragamba Av
Bugden Avenue		Fincham Crescent	Athllon Dr to Wheeler Cres
Burdekin Avenue		Findlay Street	
Burrowa Street		Flinders Way	
Callam Street		Florey Drive	
Captain Cook Crescent		Flynn Drive	
Carruthers Street		Forlonge Street	Taverner St to Wheeler Cres
Castleton Crescent		Fullagar Crescent	Starke St (E) to Findlay St
Catchpole Street		Gilmore Crescent	
Challis Street		Girraheen Street	
Charleston Street		Gold Creek Road	
Chewings Street		Goldstein Crescent	
Chuculba Crescent		Goyder Street	Dalrymple St to Jerrabomberra Av
Clancy Street		Gozzard Street	The Valley Ave to Anthony Rolfe

<b>Road</b>	<b>Link</b>	<b>Road</b>	<b>Link</b>
	Av	Crescent	
Grampians Street		Learmonth Drive	
Gungahlin Place	Hibberson St to The Valley Av	Lexcen Avenue	
Hambidge Crescent		Lhotsky Street	
Heagney Crescent		Livingston Avenue	
Heysen Street	Hilder St to Devonport St	London Circuit	
Hibberson Street		Luxton Street	
Hobart Avenue		Lysaght Street	
Hodgson Street		Lyttleton Crescent	
Hopetoun Circuit		MacFarland Crescent	
Hoskins Street		MacNaughton Street	
Hurtle Avenue		MacPherson Street	
Inkster Street		Madigan Street	
Ipima Street		Majura Avenue	
Ipswich Street		Mannheim Street	
Jerrabomberra Avenue		Manuka Circle	
Jim Pike Avenue		Marconi Crescent	
John Cleland Crescent		Marcus Clarke Street	
Johnson Street		Maribyrnong Avenue	
Joynton Smith Drive		Masson Street	
Julia Flynn Avenue		Mawson Drive	
Katherine Avenue		McCaughey Street	
Kellett Street		McCulloch Street	
Kelleway Avenue		Melba Street	Antill St to Bradfield St
Kent Street		Melbourne Avenue	
Kerrigan Street		Miller Street	Macarthur Av to David St
King Edward Terrace		Morphett Street	
Kitchener Street		Moynihan Street	
Knoke Avenue		Mugga Way	
Knox Street		Murrnaji Street	
Koscisuszko Avenue		Namatjira Drive	
Kreft Street		Narrabundah Lane	
Kuringa Drive	Kingsford-Smith Dr to Tillyard Dr	National Circuit	
Lady Denman Drive		Nettlefold Street	
La Perouse Street		Newcastle Street	
Lambrigg Street	Beasley St to Dookie St	Noorooma Street	
Langdon Avenue		Northcott Drive	
Langton Crescent		Novar Street	
Lathlain Street		O'Halloran Circuit	
Launceston Street		Osburn Drive	
Lawrence Wackett		Outtrim Avenue	

<b>Road</b>	<b>Link</b>	<b>Road</b>	<b>Link</b>
Owen Dixon Drive		Summerland Circuit	
Palmer Street		Telopea Park	
Perry Drive		Tharwa Drive	
Petterd Street		Tharwa Road	
Phillip Avenue		The Valley Avenue	
Pockett Avenue		Theodore Street	
Randwick Road		Tillyard Drive	
Ratcliffe Street		Tom Roberts Avenue	
Redfern Street		Torrens Street	
Sainsbury Street		Tyagarah Street	
Sandford Street		Vansittart Crescent	
Schumack Street		Verbrugghen Street	
Shoalhaven Avenue		Victoria Street	Barton Highway to Gladstone St
Soward Way		Vosper Street	
Spalding Street		Wanganeen Avenue	
Springvale Drive		Wattle Street	Macarthur Av to Brigalow St
Starke Street		Were Street	
Statton Street		Wilkins Street	
Sternberg Crescent		William Webb Drive	
Stirling Avenue		Windeyer Street	
Streeon Drive	Hindmarsh Dr to Namatjira Dr	Wisdom Street	
Sturt Avenue			