

Advertising Signs Assessment Guidelines for Road Safety

A guide for the Department of Planning, Transport and
Infrastructure

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INTRODUCTION

PURPOSE

Advertising plays an important social and economic role in today's society, with signs ranging from large billboards to small 'sandwich boards', and more recently, electronic signs becoming a common feature along transport corridors. The Department of Planning, Transport and Infrastructure (DPTI) has a key role in the assessment of advertising signs where they are visible from arterial roads.

While DPTI has a former procedure in place to undertake such assessments, there has been a need to review and update this to provide greater flexibility, in line with both national and international best practice. Particularly with the introduction of electronic signs, which continue to change the nature of advertising when compared to more traditional print based signs.

This document replaces DPTI's previous advertising sign assessment practices, with an updated guide for practitioners within DPTI, so that appropriate advice can be provided on behalf of the Commissioner of Highways.

This guideline also allows relevant planning authorities to understand the reasoning behind responses from the Commissioner of Highways in the Development Approval process, and allows applicants to understand the type of information that DPTI requires or considers when assessing the appropriateness of advertising signs.

DEFINITION OF ADVERTISEMENTS AND ADVERTISING SIGNS

The *Advertising Signs Assessment Guidelines* (the Guidelines) are to be applied to advertisements defined as development under the *Development Act 1993* and *Development Regulations 2008*, and therefore requiring Development Approval. It also applies when permission is being sought from DPTI on behalf of the Commissioner of Highways for signs on land owned or under the care, control and management of the Commissioner.

According to *Part 1, Section 4* of the *Development Act 1993*, an advertisement that constitutes development is any "advertisement or sign that is visible from a street, road or public place or by passengers carried on any form of public transport". An advertising hoarding is "a structure for the display of an advertisement or advertisements". For the purposes of this document, the terms 'advertisement' and 'advertising sign' both refer to the advertising sign and the hoarding in combination as a single element.

Further, an 'electronic sign' is considered to be any sign or advertising device that can be updated or changed electronically. This includes (but is not limited to) screens broadcasting still or moving images (e.g. videos or animations), LED/LCD screens/technology, 'scintillating' light displays (such as fibre optic or neon lights), scrolling billboard/poster displays (e.g. a device with a number of advertising panels connected to form a strip that may be wound to sequentially display the advertising panels), tri-vision billboards, variable message signs (VMS) and any other similar devices. It does not include static illuminated light box signs, or flashing illuminated signs that cannot otherwise be changed (e.g. flashing or chasing bulbs).

ADVERTISING SIGNS AND ROAD SAFETY

The principal aim of advertising is to attract attention. This can present a safety issue when advertising distracts road users from the task of operating a vehicle in a safe manner. The trend towards the use of new and more powerful digital technology for advertising has increased the potential for distraction.

In effect, the presence of roadside advertising can:

- Distract drivers from the driving task;
- Compete with traffic control devices for the road user's attention;
- Result in visual clutter to the extent that traffic control devices cannot be easily seen and recognised by road users;
- Obscure or interfere with a road user's view of other vehicles and pedestrians;
- Pose a hazard to errant vehicles;

- Where illuminated or reflective, 'dazzle' or cause discomfort to approaching road users;
- Encourage stopping, slowing down or turning movements in inappropriate locations (this includes instances where drivers may be required to slow down/stop to view an advertisement due to illegibility);
- Desensitise road users to the presence of signage, thereby undermining the impact and credibility of traffic control devices.

DPTI CONSULTATION AND THE APPROVAL OF ADVERTISING SIGNS

Development Plans

Development Plans are the self-contained policy documents for each Council prepared and given statutory recognition under the *Development Act 1993*. Development Plans outline the policy for what forms of development can or cannot occur on any piece of land, including the road. They also articulate broader policies, such as road and public safety considerations, through objectives and principles that control and manage all planning aspects, such as the location, design and impact of any proposal defined as development.

South Australian Planning Policy Library – Advertisements

The *Advertisements* module within the *South Australian Planning Policy Library*, developed in conjunction with road practitioners within DPTI, guides all of the policy aspects of development for advertisements from amenity to road safety. While not currently integrated into all Council Development Plans, it is the development plan policy 'template' for doing so.

The role of the *South Australian Policy Library* is to act as the policy template for Councils to progressively update when Development Plans are being reviewed. This will ultimately see development plan principles within the *Advertisements* module consistently applied across all Councils.

Development Approval for Advertisements

Under the *Development Act 1993*, all development requires approval from the relevant planning authority. The relevant planning authority is either a local Council or the Development Assessment Commission (DAC), unless specifically exempted via the *Development Regulations 2008* or other legislation.

Development Approval requires the assessment of development proposals against the provisions and requirements of the *Development Act 1993* and *Development Regulations 2008*. Advice from the Commissioner of Highways is included within the Development Plan consent assessment process undertaken by either the Council or DAC as the relevant planning authority.

In most cases, when Development Approval is issued it is subject to one or more conditions of approval. Any conditions attached to the approval are binding. In this way the Commissioner of Highways can provide the relevant planning authority with conditions that reflect the road and structural safety requirements for the advertisement.

Advertisements Requiring Referral to the Commissioner of Highways

The Commissioner of Highways' roles and responsibilities are provided under the *Highways Act 1926*. As the custodian of South Australia's arterial road network, the Commissioner of Highways is responsible for ensuring the safety and efficiency of the network. Achieving this requires road safety and transport planning policy to continue to be strategically embedded within development plan policy as defined within Development Plans.

The role of the Commissioner of Highways in the development approval process is prescribed in *Schedule 8* of the *Development Regulations 2008*, which outlines the circumstances where a referral is required and the nature of the advice provided for the proposed development.

As a prescribed referral body under *Schedule 8*, the Commissioner of Highways must be consulted by the relevant planning authority for advertisement proposals as follows:

- “Development that will involve an advertising display on an existing arterial road, primary road, primary arterial road or secondary arterial road (as delineated in the relevant Development Plan) and within 100 metres of a signalised intersection or a pedestrian actuated crossing where the display—
 - a) will be internally illuminated and incorporate red, yellow, green or blue lighting; or
 - b) will incorporate a moving display or message; or
 - c) will incorporate a flashing light”

While any development proposals for advertisements that fall outside of the above legislated criteria are not required to be forwarded to the Commissioner of Highways for comment, either the relevant planning authority or the applicant may, and often does, choose to seek advice from DPTI informally.

Significantly, *Schedule 8* also states that the relevant planning authority is only required to give regard to the response from the Commissioner of Highways, unless the advertisement falls within the road widening setback under the *Metropolitan Adelaide Road Widening Plan Act 1972*. The Commissioner of Highways therefore does not have any power of direction (to refuse or approve the advertisement) based on road safety requirements.

Advertisements on Road Reserve and Land Owned by or Roads under the Care, Control and Management of the Commissioner of Highways

Permission from the relevant road authority is required for all advertising within the road reserve. The relevant road authority is either the Commissioner of Highways or Council.

The Commissioner of Highways is deemed to be the relevant road authority where a notice has been issued under *Section 26* of the *Highways Act* or if a proclamation has been issued under *Section 30A* of the Act. The Commissioner is also the relevant road authority if the road has been vested in the Commissioner of Highways under *Section 21A* of the Act. Consequently, any advertising sign within the road reserve that is under the care, control and management of the Commissioner of Highways will require authorisation from the Commissioner under *Section 221* of the *Local Government Act* and a permit under *Section 222* of this Act. Authorisations and permits will only be issued where the Commissioner is satisfied that the proposal is appropriate and once Development Approval has been granted.

That is, the Commissioner has the power to permit or refuse the erection of advertising signs on particular portions of such land or roads where it is deemed appropriate. The appropriateness of the location of any proposed sign is to be determined by the assessment procedures in this document and any consent is subject to any additional conditions deemed necessary or desirable by the Commissioner.

While the Commissioner may permit the use of particular areas for advertising signs, all advertising signs that constitute development must have approval under the *Development Act 1993* before being erected.

Further details can be found in ‘Appendix 7 – Additional Authorisations and Permissions’.

GUIDELINES OVERVIEW

GENERAL

The Commissioner of Highways recognises the need to have a strategically integrated set of advertising guidelines that, in line with best practice, effectively balances the need to provide a safe and efficient road network, with the important social and economic role that advertising plays. They have been developed to provide greater flexibility in the design and location of roadside advertising, while ensuring road safety is not compromised. That is, there is the potential for allowing advertising signs near and/or within arterial road corridors while recognising that each location will often have unique safety aspects that will limit where such signs can be positioned.

The Guidelines are generally consistent with the *Advertisements* module within the *South Australian Planning Policy Library*. However, they also recognise that by pursuing a balance that allows advertisements, while still maintaining a safe and efficient arterial road network, some aspects are likely to vary from the existing development plan policy principles within Council Development Plans.

The Guidelines have been developed with a focus on the Australian Standards, and consideration to what has occurred in other states. Therefore, they represent a similar approach to the assessment of advertising signs as is undertaken in other states within Australia.

ASSESSMENT OF ADVERTISING SIGNS

It is the responsibility of the relevant planning authority (Council or the Development Assessment Commission) to determine whether or not an advertising proposal satisfies all of the requirements and directions of the relevant Council's Development Plan in terms of desired character and appropriateness, amenity and interface compatibility, and public safety (including road safety). Development Plan requirements may differ between Councils, and can see advertisements considered as non-complying development (i.e. not a desired form of development). Applications may also be subject to public notification by some Councils, but not others. As a result, any refusal or approval granted by the relevant planning authority may be for reasons other than road safety and therefore outside the scope of this document.

The advice provided by DPTI on behalf of the Commissioner of Highways to the relevant planning authority is related to the Acts and activities for which the Commissioner is responsible; including but not limited to road safety, road operations and road widening/improvements. Consequently, the advice will generally include the following, of which these Guidelines have been based:

- Identify whether DPTI objects to the approval of the proposal on the basis of it being a road safety hazard or it being impacted by a road improvement project;
- Identify whether mitigation measures or changes are required to alleviate any concerns prior to the installation or display of the advertising signs;
- Identify any potential conditions that are deemed necessary or desirable and should be attached to any development approval that is granted.

A flow-chart of the Development Assessment Process, including the role of the Commissioner of Highways and the Guidelines, can be found in 'Appendix 6 – Development Assessment Process for Advertising Signs'.

Road Safety Assessment Checklists for Advertising Signs

Principles for guiding the acceptability of advertising along arterial roads, in terms of road safety, have been developed. These performance principles are the core of these Guidelines and are described in detail within the 'Road Safety Checklists' later in this document. Each step within the checklists refers to the 'Appendices' section of the Guidelines, which assist in satisfying the criteria within the checklists.

'Device Restriction Areas'

Restriction areas for advertising signs that are visible from an arterial road have been established. These 'Device Restriction Areas' are based on experience and research both from within DPTI and other state road authorities. They are

predominantly locations where there is a need to ensure that a road user is not distracted, and where important information is conveyed via traffic control devices. Advertising signs within these restricted areas (including electronic signs), will not necessarily be precluded from approval, but will be required to clearly demonstrate that they do not increase road and public safety risk. In these situations, factors that ameliorate the impacts of the advertising sign, so that they do not interfere with the effectiveness of signals or traffic control devices or the safe operation and use of the road, will be paramount. Further details can be found in 'Appendix 2 – Location, Placement and Clearance'.

Electronic Signs

There has been a recent increase in the use of electronic signs, such as LED and LCD displays, which have become more affordable in recent times. This has necessitated a specific focus on these types of signs within the Guidelines. DPTI's broad position is to consider the provision of electronic signs at any location where a standard static sign is considered appropriate, providing the electronic sign is managed in such a way that it does not create any additional road safety concerns. As a result, the Guidelines stipulate the need for an electronic sign to be assessed against specific electronic sign checklists, in addition to the checklists for all signs.

Road Reserves

The Commissioner of Highways has not traditionally supported advertising signs within the road reserve, because displays can cause driver distraction and limit the visibility of traffic control devices and hazards. An advertising sign placed within the road reserve can become a hazard in itself, reducing the separation distance from the carriageway to a fixed object, particularly along high speed roads.

While these issues remain relevant, the Commissioner may consider the installation of advertisements within the road reserve when attached to transport-related infrastructure and/or when community benefit can be demonstrated. However, any such installation will need to clearly demonstrate that they will not increase road safety risk. Principles for managing the road safety considerations associated with advertising signs in road reserves that demonstrate community benefit will be added to these guidelines at a later date.

Removal or Enforcement of Conditions of Approval

The Guidelines directly apply to the approval process for any advertisement before installation or display. Nonetheless, there are also legislative powers under the *Development Act 1993*, *Highways Act 1926* and *Local Government Act 1999* to remove or enforce changes to advertising signs installed or displayed if they are deemed to be in breach of the conditions of approval, installed illegally or deemed to be a hazard. Further details can be found in 'Appendix 8 – Removal of Advertisements'.

WHAT IS NOT INCLUDED

The Guidelines do not consider other planning matters such as amenity and impacts on scenic views, streetscapes or landscapes, or compatibility with the built environment (e.g. heritage).

In addition, these Guidelines do not apply to advertisements that are exempted from requiring Development Approval via *Schedules 3, 3A and 14* of the *Development Regulations 2008*. This means that these Guidelines do not apply to any advertisement or display used exclusively for any of the following purposes:

- To advertise the sale or lease of the property upon which the advertising display is placed (except where the sign contains some form of illumination, moving or changing element)
- A structure near a city or town boundary, which contains the name of such a city or town boundary
- Road Safety Message Signs including fatigue signs, community and police road safety signs, mobile speed feedback signs and dynamic road safety signs (more information is available in DPTI's *Operating Instruction 5.1*)
- Variable Message Signs (VMS), where used as a traffic control device only (i.e. no advertising/community messages)
- Service and Tourist signs

ASSESSMENT CHECKLISTS

ROAD SAFETY ASSESSMENT CHECKLISTS FOR ADVERTISING SIGNS

The below checklists have been developed as a tool for DPTI practitioners to use as a guide when assessing the appropriateness of advertising signs from a safety and efficiency perspective. They consist of the 'Information Requirements for Road Safety Assessment' and the 'Assessment of Road Safety'.

Information Requirements for Road Safety Assessment

The relevant planning authority, when consulting the Commissioner of Highways, must forward a copy of the Development Application form and copies of plans and supporting information defined in *Schedule 5* of the Development Regulations. A relevant planning authority or the prescribed referral body may also ask for additional information that it considers is reasonably required.

In order to successfully undertake road safety assessments, the following information should be supplied by the applicant to either the relevant planning authority or the Commissioner for Highways, with additional information for electronic signs based on their added complexity.

Information Requirements Checklist – All Advertising Signs

1.	Scaled site plans including: <ul style="list-style-type: none"> – Outline of existing buildings and other relevant structures on site – The location of the proposed advertisement(s) on the property and/or buildings – The location of any existing advertisement(s) on the site to be retained and/or removed – The allotment boundaries – The location of access points to the site
2.	Coloured elevation plans of the proposed advertisement(s) including supporting structures/buildings, showing: <ul style="list-style-type: none"> – Any existing advertisement to be retained – Dimensions of the proposed advertisement its height above ground level and extent of projection – The height, width and depth of the total proposed sign structure and any associated structures
3.	Where the sign is within the Commissioner's land, road reserve or attached to infrastructure on, over or adjacent such land, detailed dimensional plans with sign size, mounting height, position and installation detail
4.	Details of the colour, lettering style, proposed symbols to be used and materials of the proposed sign (particularly regarding retro-reflective sheeting class)
5.	The position of traffic control devices within 100 metres of the proposed sign as well as service authority poles, and fences within the immediate vicinity of the site
6.	Details of any form of illumination including details of baffles, the times at which the sign would be illuminated and the proposed luminance levels

Information Requirements Checklist – Additional for Electronic Signs

7.	Details of the proposed message type and content (acknowledging this could be 'various' in the case of signs that are regularly changed/updated with different advertisements/messages)
8.	Details of any movable elements or rotating displays
9.	Details of the proposed dwell time for any non-static images
10.	Details of any electronic LED or Matrix display system including intensity control limits and methods (including light sensor) and error detection
11.	Details of the location of any other scrolling, electronic or animated signs within 200 metres of the site
12.	Photomontages of the sign and its relationship to the adjacent road environment, particularly traffic control devices or areas such as junctions/intersections and curves or crests.

Assessment of Road Safety

The 'Road Safety Checklist – All Advertising Signs' is the tool to be adopted in the assessment of advertising signs. It is not the means to preclude agreement for the installation/display of the advertising sign, but rather, to highlight factors that may ameliorate the impact of the sign on the safe operation of the road.

In essence, should an assessor answer 'no' to any of the road safety assessment checklist items, consideration should then be given to whether:

- Amendments can be made that will result in support being provided; or
- Certain conditions could be included as part of the development approval; or
- It is appropriate to object or refuse to grant permission to the installation or display of the advertising sign.

The 'All Advertising Signs' criteria applies to electronic signs as well, however, in addition they are to be assessed against and *must meet* (i.e. a 'yes') the 'Additional for Electronic Signs' criteria.

Road Safety Checklist – All Advertising Signs		Appendix
1.	Is the advertisement located in an area that has a low crash rate?	1
2.	Is the advertisement located such that it does not create a confusing or dominating background, foreground or surrounding which might reduce the clarity or effectiveness of a traffic control device? <i>Inspection of the site should be undertaken from a driver's perspective to assist in this assessment</i>	2
3.	Is the advertisement located such that it does not obstruct a road user's line of sight of a traffic control device or at an intersection, curve or point of egress from an adjacent property? <i>Inspection of the site should be undertaken from a driver's perspective to assist in this assessment</i>	2
4.	Does the advertisement meet relevant clearances?	2
5.	Is the advertisement located outside of a 'Device Restriction Area'?	2
6.	If the advertisement is attached on a bridge (rail, road, pedestrian) or other transport-related infrastructure, is the advertisement located and attached such that it does not interfere with the integrity and function of the bridge or other infrastructure?	3
7.	Is the advertisement designed such that it cannot be mistaken for a traffic control device or it gives instructions to road users?	4
8.	Is the advertisement designed such that it does not 'dazzle' or distract the driver due to its size, design or colouring, or it being illuminated, reflective, animated, changing, moving or flashing? <i>Note: Criteria outlined in 'Appendix 5 – Illumination, Reflectivity and Movement' must be met</i>	4 & 5

Road Safety Checklist – Additional for Electronic Signs		Appendix
9.	Is the advertisement designed such that lighting effects do not increase road safety risk?	5
10.	Does the advertisement contain an error detection system?	5
11.	Is the advertisement designed such that it does not contain movement or any special effects that create the illusion of movement?	5
12.	Do the messages change at frequency intervals appropriate for the location?	5

APPENDICES

APPENDIX 1 – CRASH RATES

Due to the link between driver distraction and road side advertising, advertisements generally should be avoided at high risk locations, such as those with a history of crashes. Consideration should be given to the advertising medium (and level of road user distraction) and take into account recently installed road safety improvements or those planned to address the crash rate risk.

Specific consideration needs to be given to any location that is considered to be a crash risk area, or has a known crash history. The type of information sourced to ascertain the risk should include casualty crash data such as:

- The most recent assessment of the top 50 metropolitan intersections for casualty crashes and the top 25 rural intersections for casualty crashes which is based on the latest 5 year crash rate data
- Whether the location has been listed as a black spot priority

Additional local knowledge, such as high levels of property damage, can also be considered as part of the assessment.

If a site is identified as high risk then consideration should be given to:

- Whether the location of the advertising sign will impact on particular movements and potentially contributing to the types of crashes recorded
- Whether amendments or conditions of approval will mitigate the potential crash impacts of the proposed sign sufficiently to be acceptable
- Whether the type, operation and placement of the sign is indeed appropriate for the location

APPENDIX 2 – LOCATION, PLACEMENT AND CLEARANCE

General

The placement of signs has the potential to impact on road safety in terms of whether a sign may result in a distracting background to a traffic control device or otherwise interfere with its clarity.

Advertisements should not be erected in locations that would interfere with the effectiveness of, or obscure any official traffic control sign, device (including fixed speed cameras or point to point cameras) or signal. For example, illuminated advertisements should not be located within the direct line of sight for drivers approaching traffic signals.

The positioning of signs is critical in ensuring that they do not block drivers' sight lines of traffic control devices or at intersections, curves or points of egress from properties. Furthermore, signs must not be located so that they dominate the road environment or diminish its legibility. As a general rule, advertising signs should be located such that they are outside of a drivers' central field of view.

The proposed sign location should be inspected to determine if sight distance would be compromised (using the provisions in *Austroads Guide to Traffic Engineering Practice (Part 8)*), including:

- A drive through of the site as well as a detailed site inspection, and
- Consideration of what the advertisement could potentially be blocking. For example, other signs, traffic control devices or views of other cars or pedestrians.

Clear Zones

The placement of advertising signs within the road reserve reduces the separation distance from the carriageway, thereby increasing the risk of it being struck by an errant or oversized vehicle. This in turn reduces the safety of the road environment, particularly along high speed roads. Where advertising signs are proposed within the road reserve of an arterial road they should meet appropriate clear zones for the posted speed limit in accordance with *Austroads Guide to Road Design – Part 6: Roadside Design, Safety and Barriers*. In the event that these requirements are not met, the advertisement should be located as far back within the clear zone as practicable to minimise interference with traffic, and to reduce the risk of errant vehicles striking the advertisement. Appropriate mitigation measures may need to be employed in order to minimise the potential for impact of the sign to errant vehicles (see Appendix 4 – Physical Characteristics).

Sufficient vertical clearance must be provided in order to ensure that advertisements do not interfere with the operation of traffic control devices or become a physical hazard for road users or pedestrians. Where signs are located within the road reserve and above a pedestrian path they must also provide a minimum vertical clearance of 2.5 metres beneath the sign, while a minimum 5.5 metres clearance is required over carriageways.

Device Restriction Areas

There are locations where particular types of advertising should be restricted in order to ensure the safe and efficient operation of the arterial road network. That is, maximising the safety of the road environment by minimising the risk for driver distraction in locations where a high level of concentration is required. These locations are defined as 'Device Restriction Areas'. For example:

- Signalised and un-signalised intersections
- Pedestrian crossings
- Rail level crossings
- Driver decision-making points – in particular in the vicinity of traffic control devices where reading and interpreting is required
- Sharp bends and crests
- Locations of merging and diverging traffic, or where weaving manoeuvres take place

- High road speed environments 80km/h and above (with the exception of Freeways and Expressways)

Device Restriction Areas are defined using a device restriction distance along a road corridor, which provides a 'zone' whereby the installation of advertising signs is required to abide by a 'stricter' set of rules in order to assist in alleviating potential additional safety concerns within these areas (this is dealt with more specifically in 'Placement within Device Restriction Areas' below).

The device restriction distance (d) for advertisements located on or visible from and arterial roads (not including freeways and expressways or similar grade roads) is established in Table 1. The device restriction distances outlined in this table are contingent upon the speed environment in which the device is located. A diagram showing how the device restriction areas are measured is provided in Figure 1.

These restriction distances should generally be complied with, however all proposals will be assessed on an individual basis. Larger distances may be required, depending upon the complexity of individual locations.

Where a proposal relates to a third party sign visible from a Freeway or Expressway grade road the restriction areas are denoted by the value (v) as shown in Figure 2.

Where a sign is not subject to a Device Restriction Area but falls within an area of concern, such as (but not limited to) the following situations:

- Sharp bends and crests
- Locations of merging and diverging traffic or where weaving manoeuvres take place

A value of 0.6V should be applied.

If an electronic sign is proposed to be located on a curve and the geometry, viewing angle or other factors make this undesirable (e.g. back to back horizontal curves or a curve with an advisory speed), the electronic sign is to be located prior to or beyond the curve(s) by a minimum distance of:

- 'd' (excluding freeway and expressways)
- '2.5V' for freeways and expressways

Table 1 – Advertising Signs Device Restriction Distances (General)

Speed Environment (km/h)	Desirable Restriction Distance 'd' (m)
50	60
60	80
70	105
80	130
90	160
100	191
110	225

Placement within Device Restriction Areas

Advertising signs should generally be installed outside of the 5° horizontal envelope around a driver's line of sight to a Traffic Control Device, and not between signals.

Consideration for locating a sign within the 5° horizontal envelope or between signals will only be given when the location is not deemed to be complex. Examples of a complex location include (but are not limited to) the close spacing of junctions/intersections or adjacent rail crossings.

Signs located within the 5° horizontal envelope will need to be assessed for vertical clearances. The advertising sign must be at a minimum height of 12°, as measured from 1.1 metres above the road at a stopping sight distance in accordance with the speed zone in Table 2. The stopping sight distance should be measured from the stop line for signals, and from the traffic control device itself in other instances. No height restrictions apply for advertising signs located outside of the 5° horizontal envelope.

Table 2 – Road Speed and Stopping Sight distance

Road Speed (km/h)	Stopping Sight Distance (m)
≤60	80
70	105
80	130

- Advertising signs should generally be avoided in speed zones greater than 80km/h. However, consideration will be given to advertising signs in speed zones higher than 80km/h where the locality has no other distractions such as other signs, access points, adjacent development and the road is of a high standard (e.g. an advertising sign could be considered on a freeway/expressway with grade separated interchanges and no direct property access, no adjacent development and no adjacent advertisements). In speed zones over 80km/h the advertising sign must, however, be located outside of any Device Restriction Areas.
- LED signs within a Device Restriction Area will only be considered if it conforms to all criteria within the ‘Road Safety Checklist – Additional for Electronic Signs’ (with the exception of roads over 80km/h where all signs must be located outside of any Device Restriction Area).

Figure 1 – Device Restriction Areas (General)

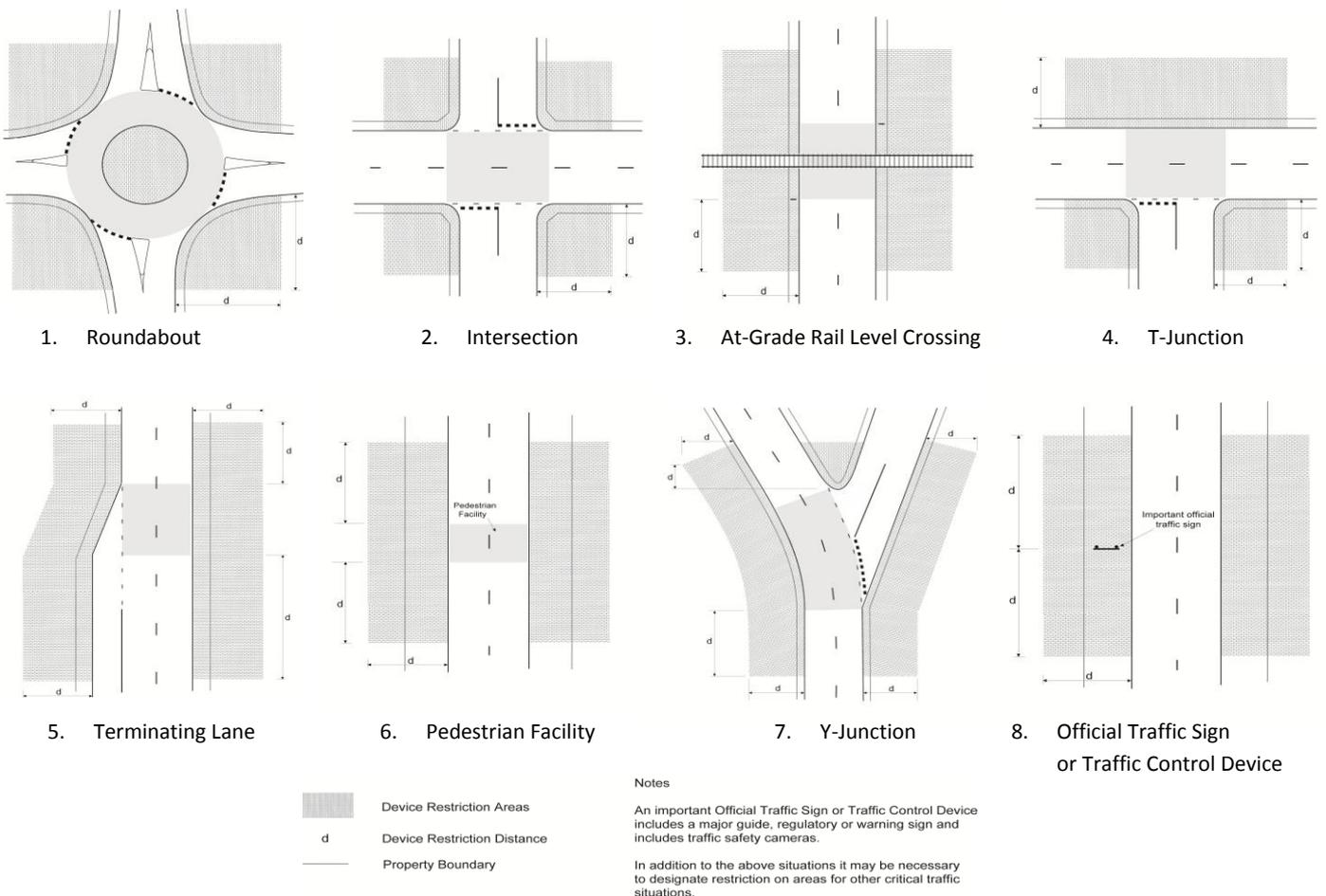
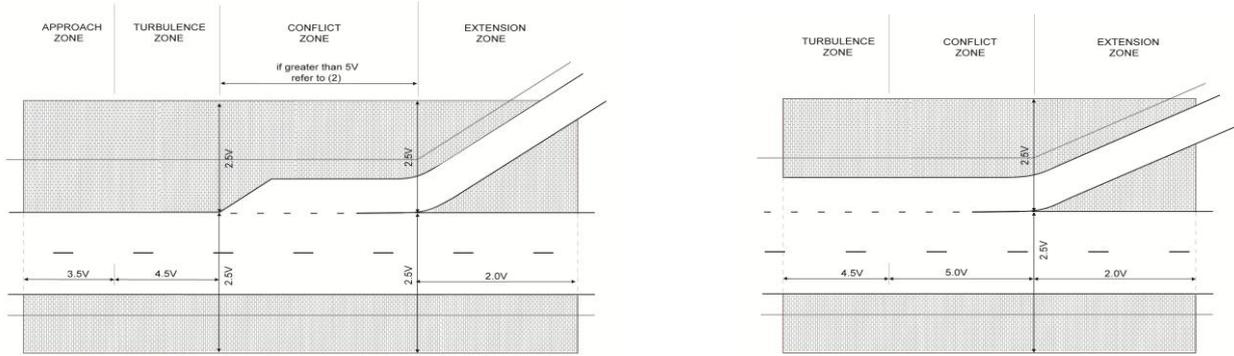
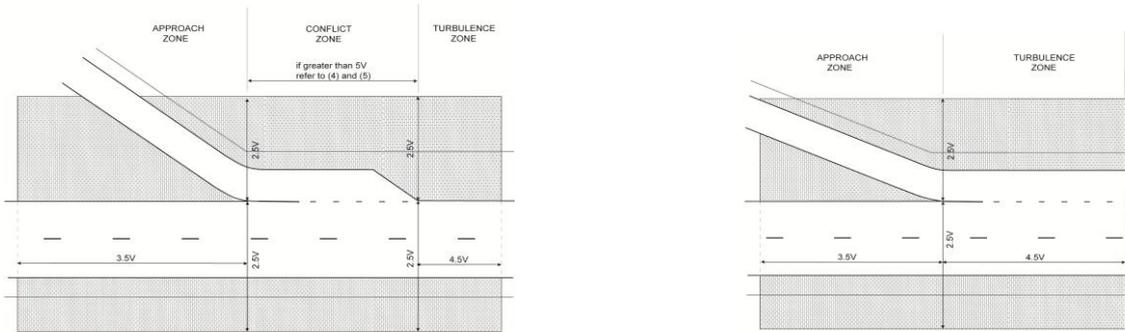


Figure 2 – Device Restriction Areas (Freeways and Expressways)



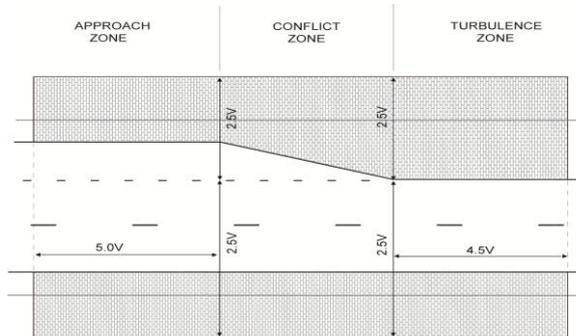
1. Off-Ramp

2. Off-Ramp with Added Lane

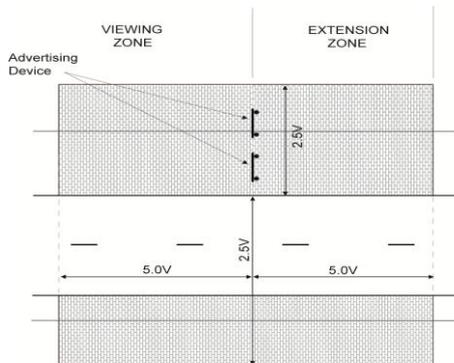


3. On-Ramp

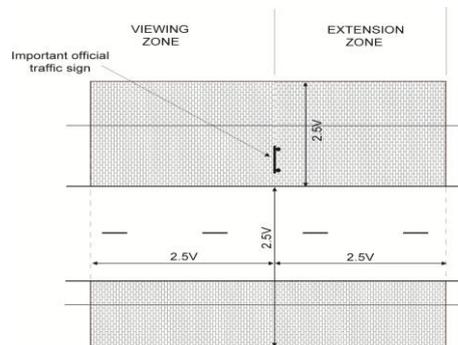
4. On-Ramp with Added Lane



5. Terminating Lane



6. Advertising Sign



7. Official Traffic Sign or Traffic Control Device

 Device Restriction Areas
 V "V" is the posted speed limit
 — Property Boundary

APPENDIX 3 – MEDIANS AND ROAD TRANSPORT INFRASTRUCTURE

DPTI generally does not support advertising signs on electricity infrastructure (e.g. Stobie poles), road lighting poles, road signs or within the median of arterial roads.

Where advertisements overhang the carriageway and/or are affixed to structures such as bridges, tunnels and pedestrian overpasses, appropriate vertical clearance must be provided to ensure the device will not become a physical hazard for larger vehicles. Therefore, the following principles should be considered:

- Provide a minimum vertical clearance of 5.5 metres over the carriageway (greater vertical clearance will be required where a road forms part of an Over Dimensional Route).
- Where overhanging the carriageway, no portion of the advertisement should protrude below the overhead portion of the bridge, unless it is wholly incorporated into the supporting structure
- Provide adequate allowance for collision deflection of existing safety barriers in the design of the advertisement attachment
- The infrastructure to which an advertisement is attached should have adequate structural capacity to support the device, with all required engineering and regulatory standards being met
- Advertisements should avoid creating a tunnel effect or blocking sightlines
- Advertisements should avoid being erected over open faced barriers, where there is a need to maintain casual surveillance for pedestrians
- Advertisements must be designed so that they do not impede the intended use of the infrastructure, or impair access to the bridge structure for maintenance or inspection purposes

For bridges that have been designed in accordance with community input or values, the following principles should also be considered:

- Advertisements should not be located on bridges with significant names
- Attached advertisements should be sympathetic with the architectural qualities of the infrastructure

Note that the Guidelines only relate to bridges and infrastructure located on the arterial road network.

Furthermore, it is intended for future versions of this document to include specific guidance on the following:

- Advertising on public transport shelters
- Advertising on telephone booths
- Community message signs
- Banners and flags

In the meantime, the 'Road Safety Assessment Checklists for Advertising Signs' should still be used as a preliminary guide, with each type of sign and site treated on a case by case basis.

APPENDIX 4 – PHYSICAL CHARACTERISTICS

The design size, shape, content, number and operation of signs can impact on the way that a sign is perceived and can therefore have an impact on road safety.

It is essential that an advertisement cannot be mistaken as an instruction to traffic. The following questions should be considered:

- Does the advertisement look like a regulatory sign?
- Is it located where a regulatory sign is expected?
- Does it contain a blinking, spinning or intermittent light that could be mistaken for a warning or danger signal?
- Does it invite drivers to move contrary to any traffic control device?
- Does it encourage drivers to turn where there is fast moving traffic, or at locations where there is limited time to slow down and signal? *

* If advertising signs are required for way finding purposes (e.g. indicating how to access adjacent housing estates or display centres) then special consideration is required to ensure that the content and location of these signs do not create further traffic hazards or driver confusion. With respect to content, the use of arrows should be avoided.

Type, Size and Shape

The size and shape of advertisements should generally be limited to accepted industry standards, with shapes that could potentially be mistaken for a traffic control device avoided.

Portable Variable Message Signs are generally deemed to be traffic control devices for the purpose of warning or guiding drivers where traffic conditions have changed or will change in the future. The use of these signs for advertising purposes is not appropriate where they are directed towards traffic on public roads and is inconsistent with *Australian Standard 4852*. The use of these signs for advertising purposes has the potential to diminish the effectiveness of these signs where they are used for traffic control purposes. Subsequently, DPTI does not support the use of these signs for advertising purposes.

Pavement and horizontal advertising (e.g. painted on roads) are generally not supported by DPTI.

Colour

Use of colour can have a significant impact upon the legibility of an advertisement/advertising device. Adequate contrast between the letters and their background can increase overall visibility and clarity of a message, while poor contrast can make it difficult to read under even the best lighting conditions. This in turn can increase driver distraction as it may require longer or multiple glances to fully comprehend the message.

This is of particular concern in locations in close proximity to traffic signals. If the advertisement is highly illuminated or falls within the direct line of sight for drivers approaching the signals, a driver may not be able to see the signals or alternately, construe the advertisement as a legitimate instruction.

To minimise potential risks, the following principles should be considered:

- Advertisements should be designed to avoid the use of the colours in combinations or shapes that could be interpreted as a traffic control device
- Colour choice and contrast should ensure good legibility for drivers travelling at the speed limit

Message Type

Advertisements by their very nature are a distraction to road users, however, the distraction and subsequent conflict risk can be minimised through the use of sound design techniques. To ensure that drivers are not required to spend an

excessive amount of time reading and interpreting advertisements it is critical that the device content is clear, succinct, legible and can be appreciated at a glance.

Content

- Advertisements should contain a single, self-contained message, that is not spread across multiple signs
- Advertisements should comply with the requirements of all current industry standards and codes of content
- Advertisements should not contain messages of a salacious, illegal or controversial nature

Symbols/Images

- Images/photographs or symbols used as part of advertisements should not depict or mimic traffic control devices
- The use of abstract symbols should be minimised and, where used, should be accompanied by a text component
- The use of highly stylised symbols should be avoided to promote ease of driver comprehension

Number

In order to ensure that a balance between road safety and the provision of billboards can be achieved, the minimum spacing between billboards is as per Table 3. These separation distances promote the ability of each billboard to be read by a driver without being impacted by another billboard. With respect to smaller electronic, moving or changing signs, only one sign of this nature should be visible to a driver at any time.

Table 3 – Spacing Between Billboards

Road Type and Speed Limit	Desirable Minimum Distance Between Billboards (visible to a single driver)
Freeway/Expressway or Arterial Road > 80 km/h	500m
Arterial Road 80 km/h	375m
Arterial Road 70 km/h	250m
Arterial Road ≤ 60 km/h	150m

Construction

Construction of advertising signs should conform to the following criteria:

- Where advertisements are to be located within the clear zone, the supports should be frangible (e.g. an approved 'slip base' design) or alternately protected by a DPTI approved crash barrier
- All advertisements, including those permitted to overhang roads or footpaths, should meet wind loading requirements as specified in *AS 1170.1* and *AS 1170.2*
- Electrical connections to illuminated or electronic advertisements should be designed to be safe at all times and especially in the event of accidental knock down/conflict
- Electrical connections to illuminated or electronic advertisements should be designed in accordance with all relevant Australian Standards

APPENDIX 5 – ILLUMINATION, REFLECTIVITY AND MOVEMENT

Illumination and Reflectivity

Overly illuminated or reflective signs have the potential to dazzle or distract drivers. This issue can be exacerbated in areas where a high level of concentration is required (e.g. busy intersections and pedestrian crossings) and in remote areas where the level of ambient light is minimal.

In order to minimise the potential road safety risks, non-illuminated advertisements should be no more reflective than a Class 2 Standard traffic sign, as detailed in *AS 1906.1:2007 – Retroreflective Materials and Devices for Road Traffic Control Purposes – Part 1: Retroreflective Sheeting*.

Electronic signs shall be controlled such that they do not cause any undue reduction in the ability of drivers to see objects on the road. This requires both adaptive dimming to suit changing ambient light levels and also calculation of site specific veiling luminance under the prevailing minimum ambient conditions.

Luminance and Adaptive Dimming

Luminance levels should not exceed those of static signs in typical ambient light conditions, with the sign so highly illuminated as to impair the conspicuous nature of traffic signals.

All electronic signs must be equipped with a sensor to measure the ambient light level of the surrounding environment and adjust the sign luminance to suit.

System malfunctions may result in moving or 'jumping' images or blocks of colour appearing on a display, which could in turn become a distraction risk or create driver confusion. An automatic error detection system in place enables the 'removal' of such distractions from the road environment until such time that the sign can be repaired. The sign should incorporate an automatic error detection system which will turn the display off or to a blank, black screen should the screen or system malfunction. Furthermore, the system should ensure it contains measures to prevent 'hacking' or unauthorised modification.

Control systems shall be programmed to adopt a minimum of four levels of stepped dimming to suit a range of ambient light levels from dark of night to fully sunlit conditions. Guidance on sign luminance and relevant test methods is contained in *AS 4852.1:2009, Table 3.3 and Appendix C* and is reproduced in part in Table 4 below.

Table 4 – Luminance levels for internally illuminated signs

Ambient Conditions	Sign Illuminance Vertical Component (Lux)	All Colours	
		Sign Luminance (Cd/m ²) Max	Sign Luminance (Cd/m ²) Min
Sunny Day	40000	6300	2800
Cloudy Day	4000	1100	500
Twilight	400	300	200
Dusk	40	200	100
Night	<4	Site Specific Veiling Luminance or 200, whichever is the lower (refer veiling luminance calculation)	60

Methods for Measuring Luminance

LED non-matrix displays

Typically these are smaller, often scrolling displays not designed for drivers but often bright enough to distract. These signs are very difficult to measure in the field.

Laboratory measurement of sign display – A static display of known area is selected. The luminous Intensity of the display perpendicular to the plane of the display is measured at a distance of at least five times the longest dimension of the static display. The luminous intensity is divided by the area of the graphics.

LED matrix displays

Laboratory measurement of sign display – For the purposes of sign assessment signs shall be assessed using the methods described in *AS4942 Variable Message Signs*, using a frame with a single colour matrix array. This method is suitable for most LED displays

Field measurement of LED matrix displays – A luminance meter with a measurement area of 0.1 to 0.33 degrees shall be used. Measurements shall be carried out as far as possible normal to the display and at a distance where the measurement area covers the stroke width of the character being measured (see Note 3). At least five measurements shall be taken in different elements of the display. The mean of these measurements shall be reported as the display luminance.

Notes:

- As these displays should be dimmed at nighttime, the time of measurement and the external lighting conditions shall be reported with the luminance measurement.
- The luminance of some of these displays is highly dependent on the angle at which the sign is observed. If the display is highly skewed (for instance in order that the sign can be read by traffic in two opposing directions), additional readings shall be taken at an angle simulating that of opposing drivers. In some cases, this may be assessed as the display luminance.
- A clear description of stroke width is given in *AS5156-2010*, Figures 1.4.17 and 2.2.3.

Transilluminated and LCD displays

Laboratory Measurement of sign display – Fixed display signs shall be assessed using the method described in *CAA MOS139*, Section 8.6 MAG Signs. For signs between 5 and 15m² in area, the measurement grid should be increased to 300mm and over 15m² a 500mm grid is considered adequate.

Field Measurement of Transilluminated displays – Signs with substantially uniform displays shall be assessed in accordance with the following procedure:

1. A luminance meter with an acceptance angle of at least 1° and no more than 2° shall be used
2. The sign shall be assessed at a distance where the measuring area just falls within the lesser dimension of the sign, 100m or the sight distance of the sign, whichever is the lesser
3. The height of the measuring device shall be 1.2 to 1.8m above the pavement and as close as possible to the travelled carriageway
4. A series of contiguous measurements shall be taken and the average reported as the average luminance of the display

Signs with substantially non-uniform displays (such as signs with large black areas and bright graphics or legends) shall be assessed with a luminance meter of smaller acceptance angle (typically 0.33° or 0.2°). The areas measured shall only include the bright legends or graphics. The report shall include a photograph of the sign and identification of the areas measured and averaged.

Veiling Luminance

Light from a bright source present in the field of view is scattered by the opacities within the eye. This scattered light then acts as a veil or curtain of light over the whole field of view which in turn reduces the contrast of all objects making them more difficult to detect. In order to limit this contrast reduction to an acceptable level it is necessary to limit the veiling luminance caused by the glare source.

Veiling luminance is a product of not only sign illuminance, but also size and location of the sign relative to the observer. For this reason a site specific night time maximum sign illuminance must be calculated for each proposed sign installation.

Calculations using the simplified CIE formula below are required at regular intervals (<10m) on approach to the sign to determine the maximum sign luminance (Cd/m^2) that will ensure the veiling luminance values in Table 5 are not exceeded.

For incident angles $1^\circ < \theta < 30^\circ$: $L_v = E_g \times 22.155/\theta^2$

where, L_v = Veiling Luminance E_g = Illuminance from sign at drivers eye
 θ = Angle of incidence (in degrees) Driver age = 73.5 years

Table 5 – Maximum Veiling Luminance

Ambient Road Lighting Environment (refer AS 1158)	Average Carriageway Luminance (Cd/m^2)	Maximum Veiling Luminance (Cd/m^2)
V1	1.5	0.40
V3	0.75	0.25
V5	0.35	0.13
Unlit	0.25	0.10

In addition to post commissioning luminance assessment, evidence shall be provided by the proponent justifying their nominated maximum night time sign luminance. Documentation shall detail the maximum veiling luminance values at the nominated sign luminance and provide the results of calculations at 10 metres approach intervals.

Movement

Roadside advertising devices should not contain flashing, blinking, revolving, pulsating or intermittent lights. Flashing/intermittent lights include electronic lights within the screen of the billboard or flashing lights around the outside.

Moving, rotating, flashing, scrolling or changing advertisements are considered to be a potentially unsafe distraction to drivers. In the case these type of advertisements, the following principles should be applied:

- Advertisements should not comprise videos or animations
- Where permitted, each change of message should be completed instantaneously (i.e., within 0.1 of a second). Animated effects such as 'fade', 'zoom' or 'fly-in' must not be used
- Where message change is permitted, each display should have a self contained message that is simple, effective and easily understood at a glance. Sequential messages should be avoided
- Advertising signs should generally be static with a minimal number of changes per day. Where changing messages are appropriate a minimum dwell time of 45 seconds should be applied with no blank screen between messages. Longer dwell times may be necessary in more complex locations, or in higher speed environments

APPENDIX 6 – DEVELOPMENT ASSESSMENT PROCESS FOR ADVERTISING SIGNS

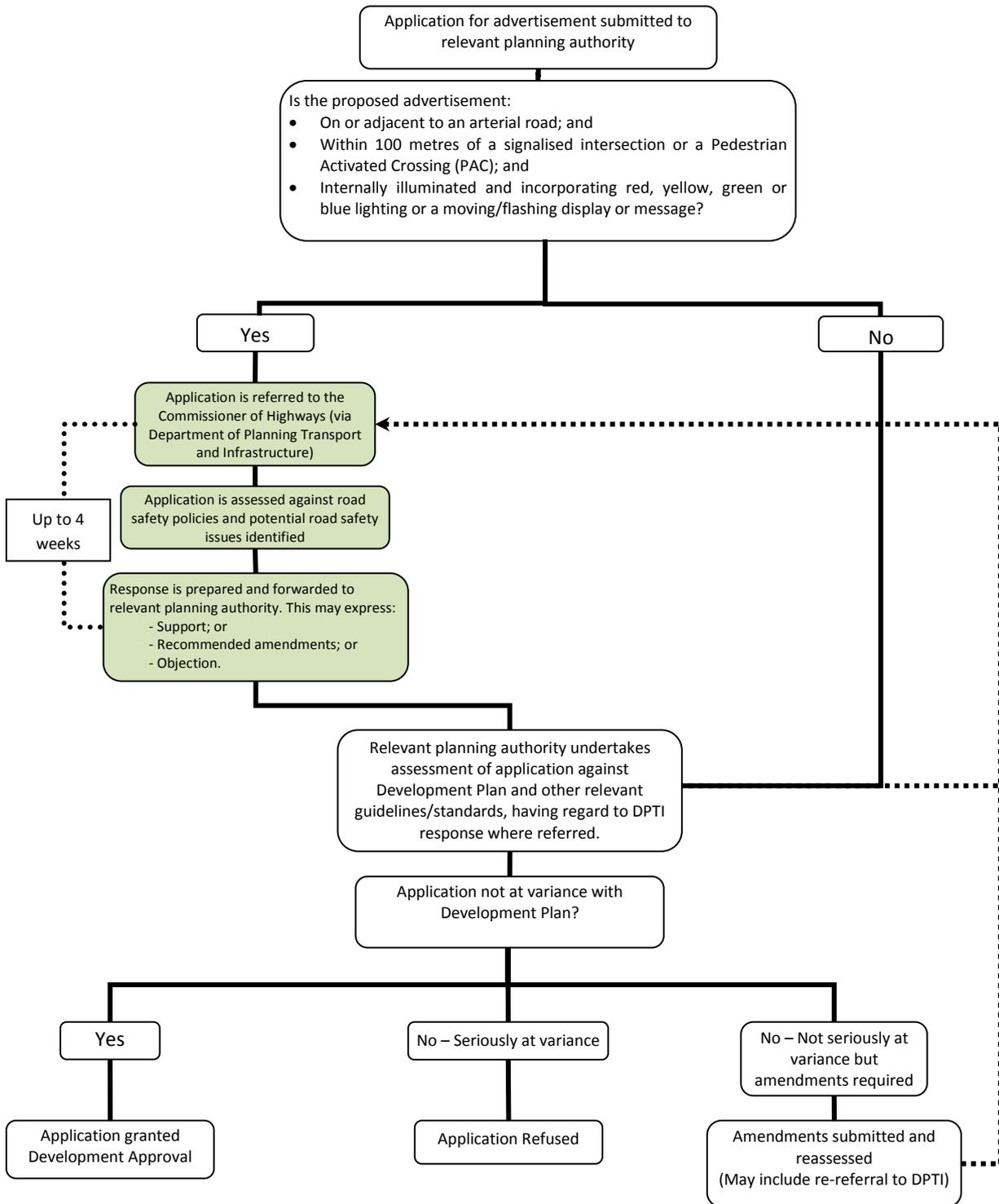


Figure 3 – South Australian Development Application Assessment Process as it applies to Advertising proposals and the role of the Commissioner of Highways (in green) and as such the Road Safety Checklists in the process

APPENDIX 7 – ADDITIONAL AUTHORISATIONS AND PERMISSIONS

The Commissioner of Highways is deemed to be the relevant road authority where a notice has been issued under *Section 26* of the *Highways Act* or if a proclamation has been issued under *Section 30A* of the Act. The Commissioner is also the relevant road authority if the road has been vested in the Commissioner of Highways under *Section 21A* of the Act. Consequently, any advertising sign within the road reserve that is under the care, control and management of the Commissioner of Highways will require authorisation from the Commissioner under *Section 221* of the *Local Government Act* and a permit under *Section 222* of this Act. Authorisations and permits will only be issued where the Commissioner is satisfied that the proposal is appropriate and once Development Approval has been granted. The following excerpts of the relevant acts identify the Commissioner's powers in relation to authorizing and permitting advertising within the road reserve.

Section 26 – Highways Act 1926, and Sections 211, 221 & 222 – Local Government Act 1999

“26—Powers of Commissioner to carry out roadwork etc

(6) The provisions of Part 2 of Chapter 11 of the Local Government Act 1999 apply to roads vested in or under the care, control and management of the Commissioner—

- (a) as if references to a council were references to the Commissioner; and*
- (b) subject to such modifications and exclusions as are prescribed by the regulations.*

(7) A council must not exercise its powers under Part 2 of Chapter 11 of the Local Government Act 1999 in relation to a road vested in or under the care, control and management of the Commissioner except to such extent (if any) as the Commissioner may approve by written notice to the council.

211—Highways

(1) A council may exercise its powers under this Part in relation to a highway if (and only if)—

- (a) the council is acting under an agreement with the relevant authority; or*
- (b) the council is acting under or in accordance with a notice of the Commissioner of Highways under section 26 of the Highways Act 1926.*

(2) In this section—

relevant authority means the Commissioner of Highways or other authority that has the care, control and management of the highway.

221—Alteration of road

(1) A person (other than the council or a person acting under some other statutory authority) must not make an alteration to a public road unless authorised to do so by the council.

(2) A person makes an alteration to a public road if the person—

- (a) alters the construction or arrangement of the road to permit or facilitate access from an adjacent property; or*
- (b) erects or installs a structure (including pipes, wires, cables, fixtures, fittings and other objects) in, on, across, under or over the road; or*
- (c) changes or interferes with the construction, arrangement or materials of the road; or*
- (d) changes, interferes with or removes a structure (including pipes, wires, cables, fixtures, fittings or other objects) associated with the road;*
or
- (e) plants a tree or other vegetation on the road, interferes with vegetation on the road, or removes vegetation from the road.*

222—Permits for business purposes

(1) A person must not use a public road for business purposes unless authorised to do so by a permit.

(2) A permit may grant rights of exclusive occupation in relation to part of a public road.

(3) A permit may be granted for a particular occasion or for a term stated in the permit.

(4) The term of a permit cannot exceed five years.”

Generally applications for such permits will need to be lodged with the relevant Council. The approval for such a permit will be subject to the consent of the Commissioner of Highways as Council's powers with respect to the installation of signs in the road reserve of arterial roads is generally limited by virtue of *Section 211* of the *Local Government Act 1999*, *Section 26* of the *Highways Act 1926* and *Operational Instruction 20.1*. Where a permit is granted, the permit may contain any conditions that are appropriate.

“224—Conditions of authorisation or permit

A council may grant an authorisation or permit under this Division on conditions the council considers appropriate.

Examples—

The conditions could for example—

- require compliance with specified safety requirements;*
- require the person to whom the authorisation or permit is given to carry out specified work (or additional work) such as earthwork, drainage work and fencing;*
- require specified insurance or indemnities;*
- require the maintenance of structures erected or installed, or vegetation planted, under the authorisation or permit in good condition and to specified standards;*
- in the case of an authorisation or permit given for business purposes—require the payment to the council of rent or other consideration;*
- require the removal of a structure erected or installed under the authorisation or permit at the end of a stated period.”*

APPENDIX 8 – REMOVAL OF ADVERTISEMENTS

Local Government Act 1999

In some circumstances it may be necessary for an advertising device located within an arterial road reserve to be removed due to breach of conditions. Failure to comply with any conditions or requirements stipulated within any permit, license or approval provides the opportunity to potentially cancel permit(s) and or the removal of the sign or device subject to Section 225 of the Local Government Act 1999.

“225—Cancellation of authorisation or permit

(1) A council may, by notice in writing to the holder of an authorisation or permit, cancel the authorisation or permit for breach of a condition.

(2) However, before the council cancels an authorisation or permit, the council must—

(a) give the holder of the authorisation or permit a written notice of the proposed cancellation stating the grounds on which the council proposes to act and allowing the holder a reasonable period to make written representations to the council on the proposed cancellation; and

(b) consider any representations made in response to the notice.

(3) The period allowed under subsection (2)(a) must be at least one month unless the council determines that a shorter period should apply to protect the health or safety of the public, or otherwise to protect the public interest.”

Development Act 1993

Where a sign has been approved and is not being used in an approved manner or a sign has been installed illegally, the Commissioner of Highways may issue a notice under Section 84 of the Development Act or may request that council carry out appropriate enforcement of the matter.

Road Traffic Act 1961

Where an advertising sign (either within the road reserve or private property) constitutes a hazard or false traffic control device the Commissioner of Highways may exercise powers under Section 31(2) of the Road Traffic Act 1961 and the powers under Section 31 (2a) of this Act delegated by the Minister, in order to direct the removal or alteration of a sign or advertising device to ameliorate the hazard or distraction. These powers extend to any advertising sign whether approved under any other act or not.

“31—Action to deal with false devices or hazards to traffic

(1) In this section—

false traffic control device means any device, structure or thing that, although it is not a traffic control device installed or displayed under this Act, might be taken to be such a traffic control device;

light means a lamp, sign, advertisement or device of any kind from which light is projected.

(2) Despite any other law, the road authority in which the care, control or management of a road is vested may remove from the road and dispose of any false traffic control device or any device, structure or thing that the road authority is satisfied might constitute a hazard to traffic.

(2a) Despite any other law, if the Minister is satisfied that a false traffic control device or a light or source of reflected light or any other device, structure or thing is on land near a road and might—

(a) reasonably be confused with a lawfully installed traffic control device; or

(b) detract from the visibility of a traffic control device to drivers or pedestrians on the road; or

(c) in any way constitute a hazard to traffic on the road,

the Minister may, by notice in writing, require the owner or occupier of the land to take such action by way of removing, modifying, screening or otherwise dealing with the device, structure or thing as is specified in the notice within the time so specified.

(3) A notice under this section may be served either by post, by means of a letter addressed to the usual place of residence or business of the person to be served, or by delivering it to that person personally.

(4) A person to whom a notice under this section is duly given must comply with it.

(5) If within the time specified in a notice duly given under this section the person required to comply with the notice does not comply with it, the Minister may take the action specified in the notice and recover the cost of doing so from that person as a debt, by action in a court of competent jurisdiction.”

GLOSSARY OF TERMS

Advertising – The promotion of a product, service, event or any other activity for a charity or business that would derive a benefit from the display of the advertising. The advertising may be composed of various forms including (but not limited to) words, pictures and three-dimensional objects.

Advertising hoarding – A structure for the display of an advertisement or advertisements.

Advertising sign – Any structure of any kind or character erected, used, or maintained for outdoor advertising purposes, upon which any poster bill, printing, painting or other advertisement of any kind whatsoever may be placed for advertising purposes. An advertising sign also includes any other form of display used for the advertisement of goods and/or services (this includes the projection of light). For the purposes of this document, an ‘advertising sign’ is an advertising sign and advertising hoarding in combination as a single element.

Advertisement – For the purposes of this document, an ‘advertisement’ is an advertising sign and advertising hoarding in combination as a single element.

Approach Zone – An area indicated on the diagrams immediately prior to a conflict zone associated with an on-ramp or terminating lane on an expressway/freeway or expressway/freeway standard road. This zone is intended to minimise any possible distraction by advertising devices at this critical location so drivers may identify vehicles and hazards ahead. In this area drivers (both on the on-ramp and motorway, or motorway standard road) are able to view each other and assess the speeds and number of other vehicles they will be interacting with. Drivers within this area start to identify gaps in traffic and prepare for the merge (conflict) situation ahead. Drivers in this zone may also suddenly change lane or speed based on the merging vehicles they can see, or the traffic conditions apparent ahead (such as congestion caused by entering traffic).

Banner – Any temporary advertising sign made of a lightweight, non-rigid material; such as cloth, canvas or similar fabric that is displayed for short periods of time.

Billboard – Any large advertising sign (greater than four square metres), either freestanding or attached to a building.

Clear Zone – The total roadside border area starting at the edge of the travelled way, available for safe use by errant vehicles and the display of official traffic signs. The minimum Clear Zone width depends on the speed environment and roadside geometry.

Conflict Zone/Area – An area indicated on the diagrams where vehicle paths may intersect. Vehicle interactions may involve diverging, merging, crossing, turning and weaving vehicle movements.

Device Restriction Area – Any area where a high level of driver concentration is required, such as intersections, merge lanes, pedestrian crossings, etc.

Electronic sign – Any sign or advertising device that can be updated or changed electronically. This includes:

- Screens broadcasting still or moving images (e.g. videos or animations)
- LED/LCD screens/technology
- Scintillating light displays
- Scrolling billboard/poster displays
- Tri-vision billboards
- Variable message signs (VMS)
- Holographic displays and other similar devices

It does not include static illuminated light box signs, or flashing illuminated signs that cannot otherwise be changed.

Extension Zone – An area immediately after a conflict zone associated with an off-ramp from a motorway or motorway standard road. This zone is intended to minimise any possible distraction by advertising devices so drivers within the conflict zone may identify vehicles and hazards. It is also the area immediately after a traffic sign on a motorway or motorway standard road, and is intended to limit the amount of information available to drivers as they view, read and comprehend the traffic sign information prior to encountering an advertising device. This zone is also located

immediately after an advertising device on an expressway/freeway or expressway/freeway standard road, and is intended to limit the amount of information available to drivers through multiple advertising devices by allowing a driver to return their attention to the driving task prior to encountering another advertising device.

Illuminance – A measure of how much incident light illuminates a surface, measured in lumens per square metre (lux).

Illuminated Sign – An advertising sign with specifically designed internal and/or external means of illumination of the whole or portion of the sign.

Official Traffic Sign or Traffic Control Device – Includes a major guide, regulatory or warning sign and includes traffic safety cameras.

Luminance – Luminance is the density of light leaving the surface of a sign in a particular direction. The light emitted by an advertising sign is measured in candela per square metre (cd/m^2)

Non-Illuminated Sign – An advertising sign without specifically designed internal and/or external means of illumination of the whole or portion of the sign

Speed Environment – An indication of the operating speed of a road (the speed in km/h at which 85% of vehicles equal or exceed). Note that it does not necessarily reflect the posted speed limit.

Traffic Control Devices – Any device as described in AS1742

Tri-vision Billboard – An advertising sign where the face of the device comprises a series of vertical three (3) sided prisms turning in unison but where the device structure is stationary.

Turbulence Zone – An area associated with an off-ramp, on-ramp or terminating lane on a motorway or motorway standard road. Traffic flow within the turbulence zone is disrupted by the influence of the on or off-ramps or merging, prior to returning to free flowing conditions. Typically drivers within this zone may change lanes, alter travelling speed and exit or enter the expressway/freeway or expressway/freeway standard road suddenly.

Variable Message Signs (VMS) – Traffic control devices that are used to provide real time traffic and road condition information to road users in order to maintain the operational efficiency of road networks.

Veiling Luminance – Veiling luminance is the effect produced by bright sources or objects in the visual field that causes decreased visibility and visual performance. The veiling luminance calculation is performed with the observer looking in a downward direction of view of one degree as defined in IESNA RP8-2000.

Viewing Zone – An area immediately prior to a traffic sign with important information on a motorway or motorway standard road, and is intended to limit the amount of information available to drivers as they locate, view and read the information on the traffic sign without the possible distraction of an advertising device or an advertising device competing with the traffic sign for the driver's attention. This zone is also located immediately prior to an advertising device on an expressway/freeway or expressway/freeway standard road, and is intended to limit the amount of information available to drivers through multiple advertising devices.

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