

## Variable Speed Limit Signs

Summary:	Audience:
<p>This Technical Direction provides advice and specific guidelines for the installation of Variable Speed Limit (VSL) signs that can be used either as a stand alone device or when integrated with a Lane Use Management Signal as part of a managed motorway. This Technical Direction applies to all roads but excludes School Speed Zone systems.</p>	<ul style="list-style-type: none"> <li>• Asset maintenance staff / contractors</li> <li>• Project management staff / contractors</li> <li>• Procurement staff</li> <li>• Traffic management practitioners</li> <li>• Road safety practitioners</li> <li>• All Motorway owners and operators</li> </ul>

### General

Variable speed limits are used to achieve and maintain optimal network traffic conditions, with minimal delays and congestion to provide an appropriate balance between safety, mobility and amenity on public roads. NSW currently have a number of VSL signs across the network which have been installed in a similar manner to static speed limit signs as defined by Australian Standards AS1742.4.

Roads & Maritime Services is committed to progressively incorporating Managed Motorway technology into existing and future motorways. This will provide the most productive and resilient motorway network capable of delivering the maximum travel reliability, efficiency, safety and sustainability benefits to the community. This will be realised through the application of Intelligent Transport Systems which have been adopted across Australia to enable dynamic network management and operation in real-time.

RMS is currently preparing Managed Motorways Guidelines based on the Vicroads Managed Freeway Handbook. This will require an amendment to the current Variable Speed Limit (VSL) sign configuration so as to integrate the Variable Speed Limit display with the overhead Lane Use Management (LUM) signal display. The new configuration can also be used for stand alone Variable Speed Limit (VSL) devices.

Reference documents related to the following practices should be referred to:

- *LUMS Lane Use Management Systems*
- *Lane Use Signs*
- *Variable Message Signs*

These can be found at [www.rms.nsw.gov.au/trafficinformation/guidelines/documentregister](http://www.rms.nsw.gov.au/trafficinformation/guidelines/documentregister).

### Approvals:

Owner:	General Manager, Network Optimisation	Review Date:	July 2017	
Authorised by:	Ken Kanofski, Director Journey Management	Date:	08-07-2014	Page 1   3

## Background

Variable Speed Limit (VSL) signs are illuminated signs that comply with the format and colours specified for speed limit signs in the NSW Road Rules, and are capable of being changed by electronic means. Requirements for electronic, variable speed limit signs are set out in AS 1742.4.

The first Variable Speed Limit (VSL) sign in NSW was trialled in 1993 and was fitted with flashing amber conspicuity devices to bring to the drivers attention when the speed limit had changed.



A flashing red annulus originally was considered in lieu of the flashing amber conspicuity lights however, technology at the time required the full annulus to flash on then off, thus creating potential legal issues as the sign did not comply with NSW Road Rules.

New technology has since been developed which allows part of the red annulus to flash while still maintaining a constant red annulus display.

## Guidelines

The revised Variable Speed Limit (VSL) signs consist of white numerals on a full matrix display, centrally located within a red annulus on a black background to display Regulatory Sign (R4-1). They can also be integrated with overhead Lane Use Management (LUM) signals. Conspicuity devices are no longer required.

The speed limit display with steady red annulus indicates the lane is open at the normal speed limit. When a reduced speed limit is applicable the inner part of the red annulus flashes.

Where multiple Variable Speed Limit (VSL) signs are used on the same gantry, all flashing red annuli must flash when a speed limit is changed and all VSL signs are to display the same speed limit.

## Sign Specifications

Detailed specifications for the integrated Variable Speed Limit and Lane Use Management Signs see Specification No. TSI-SP-011.

## Variable Speed Limit Sign Size

A VSL sign should be the same size as a static speed limit sign in an equivalent setting. The size of a speed restriction sign R4-1 in the AS1742.4 (Standards Australia 2008) gives guidance as to appropriate VSL sign sizes.

However, the sign face will be square, provided that the dimensions of the annulus and lettering comply with the standard.

**Note.** Size 'C' Integrated Variable Speed Limit and Lane Use Management Signs will be the maximum size required for overhead Lane Use Management Systems with size 'B' Integrated Variable Speed Limit and Lane Use Management Signs recommended for tunnels in Managed Motorway conditions.

### Variable Speed Limit Sign Placement

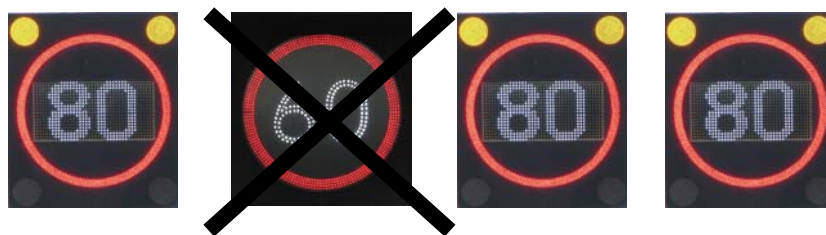
Longitudinal placement, lateral placement and height of VSL signs should follow the same principles as static speed limit signs as defined by AS1742.4.

VSL signs should be side mounted or overhead mounted (e.g. signs are suspended at an appropriate height over the centre of each lane on the carriageway).

### Management of existing Variable Speed Limit Sign infrastructure

The VSL sign with flashing amber conspicuity lights is currently used across NSW. These signs will need to be replaced as part of a coordinated maintenance program to ensure consistent sign selection along the entire VSL route.

A mix of flashing Annuli and Flashing Amber conspicuity lights is not to be used.



*Prior to replacing or upgrading the current VSL signs, a review of the VSL zone should be carried out to determine the feasibility of upgrading the entire route.*

### Action

*This technical direction is to be adopted across NSW immediately.*

### Updates

*To ensure that this Technical Direction remains current and relevant, minor updates may be made from time to time. This may be done through the Roads & Maritime Services' website using the Traffic & Transport Policies & Guidelines Register which can be found at:*

[www.rms.nsw.gov.au/trafficinformation/guidelines/documentregister](http://www.rms.nsw.gov.au/trafficinformation/guidelines/documentregister).