



Delineation

Section 19 - Delineation management
and audit

The delineation guidelines have been developed to assist in designing and maintaining a quality delineation system.

The guidelines are to comprise 19 sections and an appendix. These are initially being released individually and in no specific order. The sections which are to be released are as follows:

Part	Title
Section 1	Introduction
Section 2	Delineation principles
Section 3	Pavement markings
Section 4	Longitudinal markings
Section 5	Enhanced longitudinal markings
Section 6	Transverse markings
Section 7	Transverse markings - Pedestrian facilities
Section 8	Diagonal and chevron markings
Section 9	Messages on pavements
Section 10	Pavement arrows
Section 11	Pavement markings at roundabouts
Section 12	Pavement markings for bicycle facilities
Section 13	Pavement markings for kerbside parking restrictions
Section 14	Maintenance of pavement markings
Section 15	Raised pavement markers
Section 16	Guide posts and delineation of safety barriers
Section 17	Alignment signs and markers
Section 18	Delineation systems
Section 19	Delineation management and audit
Appendix A	Locating and setting out of dividing (barrier) lines

To determine which sections are currently available go to:

www.rta.nsw.gov.au/doingbusinesswithus/downloads/technicalmanuals/delineation_dll.html

The information contained in the various parts is intended to be used as a guide to good practice. Discretion and judgement should be exercised in the light of the many factors that may influence the choice of delineation devices in any situation. The guidelines make reference, where relevant, to current Australian Standards and are intended to supplement and otherwise assist in their interpretation and application.

Delineation

Section 19

DELINEATION MANAGEMENT AND AUDIT

Special Note:

As from 17 January 2011, the RTA is adopting the Austroads Guides (Guide to Traffic Management) and Australian Standards (AS 1742, 1743 & 2890) as its primary technical references.

An RTA Supplement has been developed for each Part of the Guide to Traffic Management and relevant Australian Standard. The Supplements document any **mandatory** RTA practice and any complementary guidelines which need to be considered.

The RTA Supplements **must** be referred to prior to using any reference material.

This RTA document is a complementary guideline. Therefore if any conflict arises, the RTA Supplements, the Austroads Guides and the Australian Standards are to prevail.

The RTA Supplements are located on the RTA website at www.rta.nsw.gov.au





Roads and Traffic Authority

www.rta.nsw.gov.au

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To access electronic copies of these and other guidelines go to:

www.rta.nsw.gov.au/doingbusinesswithus/downloads/technicalmanuals/technicalmanuals_dli.html

For the latest amendments (if any) to these guidelines go to:

www.rta.nsw.gov.au/doingbusinesswithus/downloads/technicalmanuals/delineation_dli.html

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19.1 Introduction

An effective system of roadway delineation management is necessary to achieve a safe and efficient road network.

19.2 Cost effectiveness

This means applying a delineation system that provides the longest service life per unit cost, provided performance is equal. If this criterion is not adhered to, the most cost-effective option will seem to be a low-cost, low-performance system that may eventually create a hazard because of its rapid failure or degraded visibility early in its lifetime.

Model specifications (Section 1.5.2) are available for various delineation devices and should be strictly adhered to for procurement and maintenance. Apart from selecting appropriate delineation devices, a cost-effective delineation system also requires careful consideration of key variables for a particular location. These variables include roadway geometry, weather and climate, traffic volume and composition and type of substrate.

19.3 Maintenance

Delineation systems must be maintained in good condition. This will, not only, ensure driving comfort and traffic safety, it will also minimise legal implications in civil litigation suits.

The activities of various departments need to be coordinated to avoid conflicts. Benefits of durable delineation devices such as profile linemarkings, raised pavement markers etc would be negated if these devices were installed on the road scheduled for resurfacing.

19.4 Basic delineation system for a road network

Delineation systems play a major role in improving road safety and easing the driving task. The actual delineation system for a particular road is dependent on site specific characteristics and various factors as explained in Section 2.5.

These Guidelines give logical processes by which installation decisions are made. However, it is the RTA's endeavour to maintain a reasonable standard of delineation on the RTA road network at all times. This is termed as the basic delineation system and is a function of traffic volume (AADT).

For the purpose of determining the basic delineation system for a road network, the delineation system may consist of the following delineation devices or treatments:

- (a) Lane lines
- (b) Dividing lines
- (c) Edge lines
- (d) Reflective raised pavement markers
- (e) Guide posts
- (f) Chevron alignment markers
- (g) Curve and advisory speed signs

The following steps are used to arrive at the basic delineation system for a particular road.

19.5 Delineation audit

19.5.1 Step 1 – Determination of AADT

The AADT is measured either as the number of vehicles or the number of axle pair passes (see Section 2.5.3). The RTA's Traffic Volume Data handbooks (Reference 1.4.1) give traffic volumes on classified roads.

It should be understood that AADTs measured by counting vehicles is not equivalent to AADTs measured by axle pair passes.

AADT to determine the basic delineation system = AADT measured by axle pair passes or Actual number of cars + 3 times actual number of trucks/buses.

19.5.2 Step 2 - Hierarchy of delineation treatments

Table 19.1 gives basic level of delineation based on AADT for rural conditions. Table 19.2 gives basic level of delineation for urban conditions.

19.5.3 Step 3 - Determination of basic delineation level

Example 1

A rural road has an AADT of 1200 axle pair passes.

AADT to determine basic delineation level = 1200

From Table 19.1, the basic delineation system for this road shall be Guide posts, Dividing lines and Edge lines.

Example 2

Traffic volume on an urban road is 1700 vehicles. It consists of 1500 cars, 170 trucks and 30 buses. From this data:

AADT to determine basic delineation level = $1500 + 3 \times (170 + 30) = 2100$

From Table 19.2, the basic level of delineation system for this road shall be Dividing lines.

MINIMUM AADT	Basic Level of delineation (For installation guidelines and specifications of individual delineation devices, refer to the relevant sections in the guidelines)
All Rural roads	<ul style="list-style-type: none"> • Guide posts
• 300	<ul style="list-style-type: none"> • Guide posts • Dividing lines
• 750	<ul style="list-style-type: none"> • Guide posts • Dividing lines • Edge lines
• 3,000	<ul style="list-style-type: none"> • Guide posts • Dividing lines • Edge lines • Reflective pavement markers on centreline • Full treatment at intersections, auxiliary lanes and substandard horizontal curves
• 5,000	<ul style="list-style-type: none"> • Guide posts • Dividing lines • Edge lines • Reflective pavement markers on centreline and edge lines • Full treatment at intersections, auxiliary lanes and substandard horizontal curves

Table 19.1: Delineation level based on AADT (Rural Conditions)

Notes:

- (a) Table gives the minimum level of delineation
- (b) Some roads may require reduced volume warrants or some devices may require additional warrants before they are installed – refer to the main section in the guidelines
- (c) Full treatment means the provision of all the delineation devices, if warranted.

MINIMUM AADT	Basic Level of delineation (For installation guidelines and specifications of individual delineation devices, refer to the relevant sections in the guidelines)
• 2,500	<ul style="list-style-type: none"> • Dividing lines
• 4,000	<ul style="list-style-type: none"> • Dividing lines • Edge lines
• 6,000	<ul style="list-style-type: none"> • Dividing lines • Edge lines • Reflective pavement markers on centreline • Full treatment at significant intersections, auxiliary lanes and substandard horizontal curves
• 10,000	<ul style="list-style-type: none"> • Dividing lines • Edge lines • Reflective pavement markers on centreline and edge line • Full treatment at significant intersections, auxiliary lanes and substandard horizontal curves

Table 19.2: Delineation Level Based on AADT (Urban conditions)

Notes:

- (a) Table gives the minimum level of delineation
- (b) Some roads may require reduced volume warrants or some devices may require additional warrants before they are installed – refer to the main section in the guidelines
- (c) Full treatment means the provision of all the delineation devices, if warranted.

19.6 Delineation checklist

Delineation should meet the following requirements:

- (a) Be capable of fulfilling a function (Section 2.2) and meeting both driver information (Section 2.3) and driver visual (Section 2.4) needs.
- (b) Should take into account delineation variables such as road geometry, weather, traffic volume, driver psychology, and vehicle limitations (Section 2.5).
- (c) Be installed after adequate studies and the basic delineation system should be maintained at all times (Section 2.6).

For further enquiries

www.rta.nsw.gov.au

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