



AUSTRALIAN RAIL TRACK CORPORATION LTD

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Engineering Standard – NSW

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Signalling

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Speed Restrictions

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		Refer to Reference Number	H Olsen	M Owens	Refer to minutes of meeting 12/08/04

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About This Standard

This Principle addresses the requirements for the provision of Advisory Speedboards at specific locations or at the boundaries of specific areas where it is necessary for trains with particular braking characteristics to operate at speeds commensurate with the braking distance provided by the signalling arrangements at the specific location or within the specific area.

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5 Speed Restrictions

5.1 Principle No. 5.1 - Provision Of Advisory Speedboards

5.1.1 Introduction

This Principle addresses the requirements for the provision of Advisory Speedboards at specific locations or at the boundaries of specific areas where it is necessary for trains with particular braking characteristics to operate at speeds commensurate with the braking distance provided by the signalling arrangements at the specific location or within the specific area.

5.1.2 Existing Signalling Arrangements

On lines carrying a range of mixed traffic which is required to operate within the limitations of the existing signalling arrangements and to avoid incurring the costs of upgrading work, Advisory Speedboards should be provided indicating to the drivers of trains that the speed must be regulated to ensure that the train does not exceed the speed indicated on the Advisory Speedboard by the time the train reaches the next signal.

If, on sighting the next signal it is displaying a full clear indication, then normal speed running may be resumed except where the restriction applies to an area where normal speed must not be resumed until the “end” speedboard is reached.

5.1.3 Positioning of Advisory Speedboards

The position of each Advisory Speedboard shall be determined having regard to the following factors:

- i) The permitted line speed.
- ii) The braking characteristics of the trains operating on the line.
- iii) The curvature and gradient of the line and its effect on the train running for particular types of trains.
- iv) The braking distance provided by the existing signalling arrangements.

This shall be undertaken by calculation and/or approved simulation methods. Refer to figure 2.

In close signalled multiple aspect territory if the positioning of Advisory Speedboards occurs prior to previous signals, or be close enough to cause confusion, the signalling aspect sequence should be altered rather than install the Advisory Speedboard.

5.1.4 Style of Advisory Speedboards

Advisory Speedboards for superfreighter trains shall consist of a circular background 600mm in diameter covered in yellow retro-reflective material. The speed to be indicated to drivers shall be shown in numbers covered in red retro-reflective material

and superimposed on the background. Refer to figure 3.

Advisory Speedboards provided for XPT trains shall show red retro-reflective numbers superimposed on a retro-reflective silver background.

Advisory Speedboards for freight trains more than 1150 metres long shall consist of a circular background 600 mm in diameter covered in blue retro-reflective material with the advisory speed shown in numbers covered in yellow retro-reflective material and superimposed on the blue background.

Where the advisory speedboard applies to an area there will be a “begin” and “end” board each of which shall describe the type of train to which the speed limit applies. Eg “Freight Trains Begin (End) 80 Speed Limit”.

The Advisory Speedboard shall be positioned to the left of the track unless other sighting considerations apply. Refer to figure 4.

5.1.5 New Signalling Arrangements

Wherever possible new signalling arrangements shall take into account the requirement for mixed traffic running to avoid the provision of Advisory Speedboards.

5.1.6 Intermediate Train Stop Advisory Speed Boards

These are 350 mm in diameter with 150 mm white numerals on a black background – figure 1.

ITS advisory board are located at the commencement of the timing point and indicate the speed a train must travel at in order to successfully negotiate the next intermediate train stop ahead.



Figure 1

Distance required by train to brake to
the nominated speed by the distant
(or caution) signal

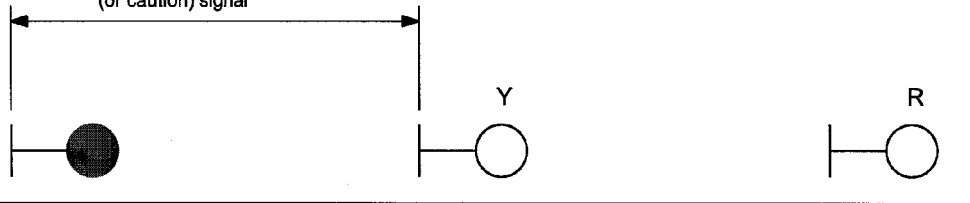


FIGURE 1

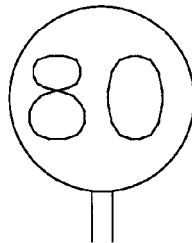


FIGURE 2

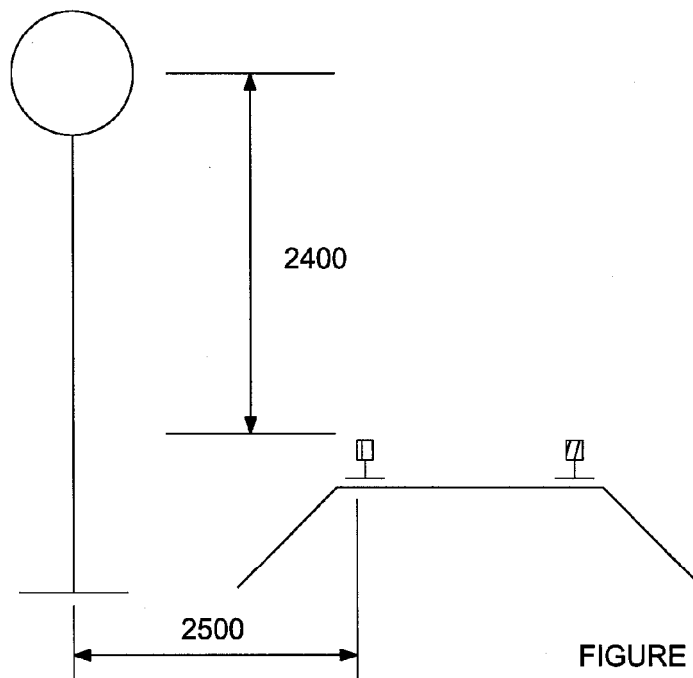


FIGURE 3

LOCATION OF ADVISORY SPEED BOARDS

PRINCIPLE N° 5.1