

Traffic Note 54

Date April 2005
From Safer Roads
Authorisation Peter Croft, Manager Safer Roads

Signature _____

No. of pages 2

Linear delineation panels– Guidelines

1 Purpose

In 2002, four sites were treated with linear delineation panels in consultation and collaboration with the Land Transport Safety Authority (now Land Transport New Zealand) and road controlling authorities. This Traffic Note provides guidance arising from the trial sites and the feedback from road practitioners.

2 Delineation systems

Compared with road marking, delineation devices such as bridge-end markers, hazard markers, edge marker posts, chevron boards and chevron curve indicator boards are a point source of guidance. Some situations may require a linear or continuous device to better define geometric constraints in the roadway.

Examples of situations which might benefit from linear delineation include:

- short sections of winding, undulating road where standard point source delineators, road markings or retro-reflective pavement markers do not give a clear, unambiguous description of the mix of horizontal and vertical curves;
- curves on median divided roads where, because of difference in levels between the two sides, the headlights of opposing vehicles may mask the nature of the curve and reduce the effectiveness of other delineation devices.

The use of linear delineation may be considered for other situations such as isolated bends, bridges and tunnels where a decrease in vehicle speed or improvement to lateral placement is desirable.

3 Linear delineation panels

The linear delineation used in the trials comprised panels approximately 870mm long, 100mm wide with a repeating raised lateral ridge 8.6mm high approximately every 57mm. Each panel was constructed of retro-reflective material permanently bonded to an aluminium substrate. The shape provides retro-reflection across a wide range of entrance and observation angles.

The panels are designed for installation on rigid structures including W-section steel traffic barriers, concrete median barriers, movable lane barriers and sight rails and conform to the shape and orientation of these structures.

4 Spacing between adjacent delineation panels

In some countries linear delineation panels are installed with no gaps. The linear delineation panel trials indicated gaps are required between adjacent panels in order to give a good indication of the road alignment. A gap larger than half a panel length (440mm) and smaller than 2 panel lengths (1740mm) provided good visual cues. The radius of the curve will affected the spacing; where smaller radius curves will need smaller gaps and larger radius curves greater gaps.

5 Use of colours

Consultation with the industry and road controlling authorities provided the following consensus on the colours and use of the various linear delineation panels.

| Panel colour | Use |
|---------------------------------------------|--------------------------------------------------------------------------------------------------|
| white | sight boards |
| yellow fluorescent yellow | in association with other permanent warning devices (eg curve warning signs, chevron boards etc) |
| alternating white and fluorescent orange | work zone barrier delineation |
| alternating red and white | rail rolling stock |

6 Installation issues

The panels provide an almost continuous indication of the road alignment and it is important the rigid structures on which they are installed substantially conform to the road alignment – both vertically and horizontally. This may require some realignment of existing structures.

Where used as curve delineation devices the linear delineation panels should be used to supplement other appropriately installed permanent warning signs. A careful review of other delineation devices along the treated length of road should then be carried out. Those that will remain must be compatible with the permanent warning signs and the linear delineation and the combination must provide a clear and unambiguous message to drivers.