

# Wide centreline trial

## What is the wide centreline trial?

*Safer Journeys – New Zealand's road safety strategy to 2020* (Ministry of Transport 2010) identified a series of key priorities to be addressed from 2010. One of these priorities is 'safer roads and roadsides'. In order to address this issue, *Safer Journeys* proposed that one of the first actions was to focus safety improvements on high-risk rural roads.

One of the measures to improve high-risk rural roads that the NZ Transport Agency (NZTA) is undertaking is a two-year trial of wide centreline markings on various sections of state highway around New Zealand.

The trial involves installing two lines in the centre of the road at variable widths to provide greater separation for opposing traffic and reduce the likelihood of cross-centreline crashes.

Surveys to compare speed and vehicle position on the road are being carried out at the trial sites both before and after the new road markings are installed to evaluate the effectiveness of the markings. The change in the crash statistics will also be monitored over time.



## Safety benefits

Similar road markings are being used internationally, and a trial is currently underway in New South Wales, Australia. Early results on the sections of the Pacific Highway<sup>1</sup> with a 1m-wide centreline treatment show that the number of crashes, and crash severity, have been reduced. Although at this time, the crash data is not over a long period, the results indicate that there has been a positive effect from the wider centreline separation, and that fatigue, distraction and possibly speed crashes could be expected to be reduced.

Research from the United States<sup>2</sup> indicates that a wider centreline treatment with rumble strips can be expected to reduce head-on crashes by 55%, and all crashes by 15%.

<sup>1</sup> SP Levett, RFS Job and J Tang (2009) *Centreline Treatment Countermeasures to Address Crossover Crashes*, NSW Centre For Road Safety, RTA, 2009 Australasian Road Safety Research, Policing and Education Conference.

<sup>2</sup> F Gross and E Yunk (May/June 2009) *Using CRFs to improve highway safety*, Public Roads, Federal Highway Administration, Washington.

## Trial sites

As at October 2011, eight sites have the trial markings installed: SH22 at Drury, SH1 at Huntly, SH3 at Rukuhia, SH29 at Tauriko, SH35 at Gisborne, SH50A at Hastings, SH1 at Waikanae and SH1 at Woodend. We plan to install the trial markings at further sites in 2012.

The NZTA undertakes consultation with key stakeholders and local residents prior to the markings being installed.



Wide centreline markings at SH1, Huntly, where passing is permitted



Wide centreline markings at SH1, Huntly, where passing is not permitted

# Layouts on the road

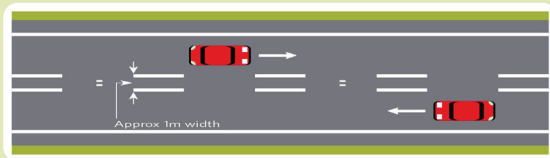
The new road markings incorporate two painted lines approximately one metre apart to provide greater separation between each lane of the road. The lines are painted as a dashed white line on sections of the road where passing is permitted, and a solid yellow line in no passing areas. The standard dashed yellow marking to warn drivers of a no-passing area ahead will also be used. The line markings may be supplemented with rumble strips.



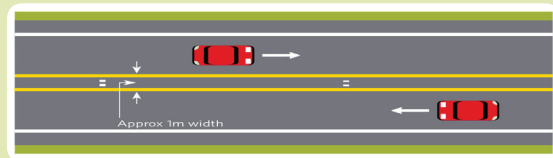
Wide centreline markings at SH1, Woodend



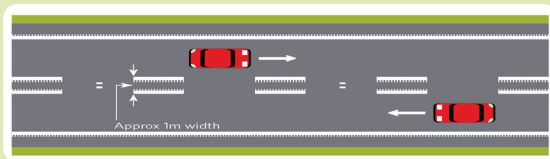
Wide centreline markings at SH22, Drury



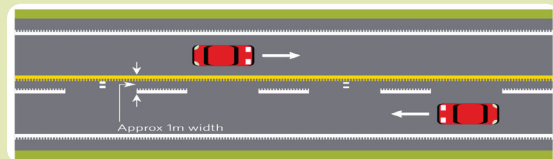
Passing is permitted when safe to do so



Passing is not permitted



Passing is permitted with rumble strips when safe to do so



Passing is permitted in one direction only

# Monitoring

'Before and after' monitoring surveys have been undertaken at four of the trial sites. Lateral separation of vehicles is measured using two-hour video surveys on both weekdays and weekends. Speed surveys are done using automatic tube counters capable of measuring 85th percentile free speeds over seven consecutive days. The results from the surveys are provided below:

Trial site	change in lateral separation	change in vehicle speeds
SH22 Drury	+0.54m	-5.6km/h
SH1 Huntly	+0.19m	+1.4km/h
SH1 Waikanae	+1.40m	-1.8km/h
SH1 Woodend	+0.14m	+0.65km/h

Overall, it was found that the wide centreline has increased lateral separation across the above four sites by an average of 0.6m. There was no significant change in speed within or downstream of the above sites as a result of the wide centreline.



**NZ Transport Agency**

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