

rumble strips

INFORMATION SHEET



NZ TRANSPORT AGENCY
WAKA KOTAHI

What are rumble strips?

Audio tactile profiled markings, commonly known as rumble strips, help prevent drivers from running off the road or straying across the centreline.

Consisting of raised ribs spaced at regular intervals along the edge of a road or down the centreline, they can be felt and heard when car wheels cross over them. The rumbling effect acts as a wake-up call for drivers that they are veering out of their lane.

Rumble strips have been used on New Zealand roads for many years. The NZ Transport Agency (NZTA) is beginning a new installation programme in 2009 to significantly increase their use on state highways.

Safety benefits

Recent research and trials have suggested significant safety benefits could be gained by increasing the use of rumble strips on New Zealand's highways.

A research report prepared by Transport Engineering Research New Zealand for the NZTA found that rumble strips are particularly effective in reducing crashes caused by driver fatigue and inattention and up to 70 percent of our highways could be made safer by their installation.

KiwiRAP¹ 2008 identified them as one of the most cost effective road safety improvement tools available, with the potential to reduce injury crashes by 20-45 percent in the locations where they are installed.

In addition the NZTA has carried out successful new trial installations through the Central Waikato, Bay of Plenty and Northland.

¹ KiwiRAP is a road assessment programme managed by New Zealand Automobile Association in partnership with the NZTA, Ministry of Transport, Accident Compensation Corporation and the New Zealand Police. It uses different methods to measure a road's safety, including risk maps based on the crash history of a road and five-star ratings based on a road's engineering features.

The effect of rumble strips on road users

If drivers leave their lane a rumbling sensation will be felt and heard.

Edgelines and centrelines will be more visible to the driver where rumble strips are laid due to their good reflectivity. They have higher visibility than a standard painted line, especially at night-time or in wet conditions.

The effects of rumble strips on all road users, including cyclists, motorcyclists and truck drivers, have been considered in designing the installation programme. Where possible, a one metre sealed shoulder will be maintained outside rumble strips for cyclists to ride on. Rumble strips also improve separation between cyclists and motorists.



Rumble strips may be laid either on top of the edgeline/centreline or just alongside it, creating a visible tooth-like effect.

The NZ Transport Agency's installation strategy

The NZTA has developed a national strategy to increase installation of rumble strips on New Zealand highways from early 2009. Initially around 750 km will be installed, primarily along State Highway 1 between Ohaewai (south of Kaitaia) and Milton (south of Dunedin).

High-risk stretches of road will be targeted first. For example, roads with a high incidence of crashes or high traffic volumes. Other state highways with above-average levels of crashes caused by fatigue or inattention (eg roads used for long-distance travel and/or by tourists) will also be targeted.

Continuous installation of rumble strips along a significant length of highway will be favoured over a series of localised or spot treatments at crash black-spots. This is because the warning to a driver that they are leaving their correct traffic lane should occur some distance before the location of a potential crash. Also, a consistent road environment in itself brings safety benefits.



Layouts on the road

Rumble strips are generally laid along road edgelines or centrelines where they:

- help counteract crashes where drivers run off the side of the road
- help prevent head-on crashes. Many head-on crashes result from vehicles first leaving the side of the road, then over-correcting and crossing the centreline.

On busier roads, with high incidences of head-on crashes, centreline rumble strips may also be installed.

Rumble strips are placed either on top of the edgeline/centreline or alongside it. They protrude from the painted line, creating a tooth-like effect visible to road users.



Rumble strips may be laid along road edgelines (left) or centrelines (right)



For more information

For more information please visit the NZ Transport Agency website at www.nzta.govt.nz or call our contact centre on 0800 699 000.