

The New Zealand Roadmarkers Federation Inc. (NZRF) has assembled information about rumble strips in one place and provided links to various research reports, Specifications and Guides.

Rumble strips, also known as audible lines, are a road safety feature commonly applied as edge and/or centreline, to alert drivers when they drift from their lane.

Internationally there are a range of formats and methods of installation of “Rumble Strips”. In New Zealand they are installed as long-life plastic (either thermal or cold) lines having regularly spaced raised lumps and are known by the pavement marking industry as audio tactile profile (ATP) markings. The lines may include raised pavement markers and be continuous or intermittent.

International experience with rumble strips indicated significant reductions in single-vehicle run-off-road accidents. Prior to trialling ATP the New Zealand Transport Agency (NZTA) contacted Transport Engineering Research NZ (TERNZ) to undertake research. [2004 Review of lane delineation](#) is a literature research report identifying 24 key research articles citing more than 500 documents. Average accident reductions of 27% were identified.

Subsequently TERNZ developed [The cost effectiveness of delineation improvements for safety July 2007](#): This is a spreadsheet based cost management tool to allow engineers to calculate potential BCR’s (Benefit Cost Ratios) based on accident statistics and network information.

NZTA has prepared a number of documents:

1. An [Information brochure](#): on ATP was issued in 2009 at the time when a programme of installation on the State Highway network got underway.
2. A [Guideline for using Audio Tactile Profile markings](#) which highlights the results of further NZ research and provides guidance on marking formats, placement and maintenance issues.
3. An analysis of the accident data for those areas where ATP has been installed: [The Safety Effectiveness of the Audio Tactile Profiled Markings Programme](#). This was presented by Steve James to the NZ Institute of Highway Technology/NZTA Symposium in November 2011. The data indicates an overall injury crash rate reduction of 16% (7.2% without ATP) and overall high severity crash reduction of 28% (6% without ATP).

The NZTA Specification related to the installation of ATP is [NZTA P30 – Specification for High Performance Roadmarking](#). Markings are to have a dry-night time visibility of at least 150mcd and a wet-night visibility of at least 80mcd. Markings are installed with a four year warranty of their performance

The NZ Roadmarkers Federation has written a [Roadmarking Materials Guide](#): which includes sections on the two materials used to form ATP in New Zealand, cold applied plastic (CAP) and thermoplastic.