The Safety Effectiveness of the Audio Tactile Profiled Markings Programme

Safer Roads
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Audio Tactile Profiled Markings

- Plastic lumps 7mm high
- Audible and tactile notification
- Thermoplastic or cold applied plastic
- White edgelines; yellow or white
- Additional delineation
- ATP guidelines by NZTA
- Key recommendations
Background: Trials

Audio Tactile Profiled Markings (ATP)

- Successful trials in 2007 (Waikato/BoP/Northland)

- SWATT 2010
  - Improved lane keeping
  - Virtually eliminated centreline crossings
  - No change in vehicle speeds
Background: Trials

- Excellent visibility at night

- Intensive installation 2008/09 with economic stimulus funding

- approx. 3,300 linear kilometres installed as at end of 2012

- 1,300km of SH has ATP
Assumptions

- At least 50% of route stations have ATP
- Minimum 1 year post-installation data
- Injury crashes from 2003 to 2012 inclusive
- Sensitivity tests include:
  - 2/3 has ATP
  - Midblock only
23% injury reduction
ATP V Underlying crash trends (all injury crashes)

State Highway Crashes excluding ATP Lengths

- All injury crashes: 15%
- High severity crashes: 2.5%
ATP V Underlying crash trends (all injury crashes)

State Highway Crashes on ATP Lengths

- All injury crashes: 24%
- High severity crashes: 29%
Sensitivity Testing

% Reduction in Crashes

- High Severity
- Midblock only - High Severity
- All Injuries
- Midblock only - All Injuries

Where 50% of RS has ATP:
- 29%
- 33%
- 23%
- 24%

Where 2/3 of RS has ATP:
- 31%
- 37%
- 24%
- 25%

NZ Transport Agency
Better roads for Safer Journeys
New Zealand Government
Safety Benefits and Costs

- ATP Installation costs of $21.5M
- 5 year crash history 2003-2007
  - 324 fatal; 964 serious; 2,704 minor crashes
- 5 year crash history 2008-2012
  - 34% fatal; 24% serious; 12% minor crash reduction
- $110M annual crash cost savings
- BCR of 25 (whole of life BCR of 17)
Crash Summary

- Injury crash rate reduction 24% (15% without ATP)
- High Severity crash reduction 29% (2.5% without ATP)
- Where ATP on at least 2/3 of RS = 31% reduction in high severity crashes (increases to 37% midblock only)
Thank you for listening. Any questions?