Road Safety Prioritisation using the Sliding Strip Analysis Tool

Presented to Low Volume Roads Workshop
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Problems / Issues

• Not meeting Tasman’s share of the 2010 Road Safety Target
• All Black Spots have been treated
• Need a data led method to prioritise safety works
• Tasman has dispersed crashes
Fatal & Serious By Movement Group

Motueka

Nelson
Sliding Strip Crash Analysis Tool

5000m

Offset increment 100

5000m
<table>
<thead>
<tr>
<th>Strip Lengths</th>
<th>Crash History</th>
<th>Conditions</th>
<th>Movements</th>
<th>Objects Struck</th>
<th>Speeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 Strip Length (m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 Offset Length (m)</td>
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</tbody>
</table>

Get Results
Crash Reduction Potential

- High crash numbers do not necessarily mean high crash rates
- Comparison of strips with expected crash rate for the traffic volume
- Difference in crash rates gives “Crash Reduction Potential” i.e. the number of crashes that could be saved over a five year period if this strip was improved to an “average” standard
Expected Crash Rate

\[ y = 1.5917E-12 x^2 - 1.014E-11 x^3 + 7.7777E-21 x^2 - 7.1111E-21 x + 7.0222E+01 \\
R^2 = 9.9808E-11 \]

\[ y = 2.2001E-12 x^2 - 1.3330E-11 x^3 + 5.819E-21 x^2 - 7.6777E-21 x + 2.1190E+01 \\
R^2 = 9.9782E-11 \]
Crash Reduction Potential

- Actual Crash Rate
- Expected Crash Rate

Distance from Highway Start

Crash Reduction Potential
Sliding Strip Analysis

- Powerful tool
- Wide range of uses
- Use to calculate Crash Reduction Potential
- Developed for State Highway Networks but the technology can be transferred using GIS to the local road network