

Developing a Pavement Skid Resistance Strategy for Auckland Transport



Gerri Waterkamp



- I will now discuss our Skid Resistance Strategy.

Why?

- Nationally 28% of crashes are from loss of control on bends (wet)
- Auckland region has similar trend at 24%
- Auckland is growing, how do we keep the user safe in the future?
 - Appropriate skid resistance reduces crash rates
 - An appropriate skid resistance strategy has a good cost benefit ratio – BCR of 4.5 to 6, based upon the level of investment

Nationally 28% of fatal and serious crashes occurred through loss of control in the wet.

The AT network has a similar rate of loss of control crashes in the wet at 24% of the Auckland crash statistics. These statistics are solely on fatal and serious injury crashes.

These figures supported the need to address loss of control crashes in the Auckland region

The costs of fatal and serious injury crashes are very high, with a per crash cost of 4.2m for fatal and 800k for serious injury crashes.

An appropriate skid resistance strategy can reduce the rate of wet fatal and serious crashes.

Improved Skid resistance is also shown to have minimal effect in crash migration.

Finding a solution

- Developed in collaboration with NZTA
- Based on NZTA T10 specification
- Trial scope to assess Auckland Roads
- Analysis to ascertain long term costs and benefits



To find a solution, AT looked to NZTA for assistance in developing a strategy, through collaboration.

NZTA implement the T10 Specification for state highway skid resistance management, from which the AT strategy was developed.

John Donbavand and Dave Whitehead have provided the peer review of the strategy developed by Andy Finch and myself.

The strategy is aligned to the expectations of ONRC

The Trial

- 858 lane kms – 2015- 2016
- Urban and Rural roads
- Varying Speed environments

System

- RAMM review
 - Data tables & data
- What needs to change?



Which bring us to the update to AT's modification of the T10 specification for the urban environment.

We conducted a Skid Resistance Trial in 2015.

The trial assessed 858 lane kms of our arterial and regional network during the summer of 2015/16.

Involved in this is a process to categorise the lane network, to allow a higher degree of granularity when selecting and potentially treating sites.

The RAMM review is part of this categorisation process.

We are also reviewing our prioritisation process to ensure the correct site selection for testing in the trial. The aim is to provide the most effective testing and relevant sites to enable the trial results to be as robust as possible,

What we found

- 2015-16 Survey
 - 150.61 lane km of surveyed roads returned as Priority A sites - Primarily in “rural” speed areas
 - Priority A sites are those that fall below the Threshold Level, are flushed, or where the Scrim Coefficient is low
- Surfacing data completeness and currency greatly affected the results.
- RAMM requires a significant change to our Skid Tables to enable analysis in-line with NZTA -T10 process

To date we have only analysed the RAW data, This was due to the system changes that are required to effect the strategy.

We found that 150.61 lane km’s returned as Priority A sites. This indicates from the data that there is potentially a problem that we need to address.

However due to the issues around the changes required to the RAMM system, further analysis is required and will be conducted after the final system changes are complete.

Slide 5

GW(1) update after extraction from RAMM re SAL table
Gerri Waterkamp (AT), 5/05/2017

Where are we now?

- 2016-2017 SCRIM Survey completed
- RAMM has implemented the required changes to the system
- Surfacing data currency is significantly better and a current improvement task

To reinforce the findings of the previous survey and build data on the “state” of the network. We are undertaking the SCRIM measurements in the coming summer season.

The results will be used to correlate and analyse our existing network interventions, are they correct, and highlight any improvements we can make.

The analysis will assist in driving both safety and asset preservation decisions on the Auckland network.

The analysis will also drive how we approach any review of the current IL and TL levels, and the creation of a “toolbox:” approach to urban skid solutions.

Next steps

- Analysis of two years SCRIM results
- Review of AT Maintenance interventions
 - What are the drivers behind interventions?
 - asset preservation?
 - extended life?
 - safety?
- Create Toolbox for Urban interventions
- Submission to Board for Approval and implementation
 - describe need – Budget for 2017-18 onwards?

The Future

- AT is committed to ensuring the safety of all users of the transport network
- Strategies to ensure public safety are in development for other asset areas
- The future is built on people, keeping them safe is a priority.

For a copy of either strategy please email
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