

Delivering a risk-based road safety strategy to deliver cost-effective solutions

Simon Hunt

Fulton Hogan, Corporate

Chris Pacey

Fulton Hogan, Corporate

The One Network Road Classification (ONRC) was designed to standardise the performance of our roads throughout New Zealand. Several key performance areas were determined i.e. safety, resilience, amenity, accessibility, and travel time reliability, and for each area, performance measures were developed – both customer outcome and technical output measures.

Two of the key contributing factors to road crashes are rural out-of-context curves and the skid resistance of the road surface. We have developed a comprehensive risk-based framework for managing these. This framework has been designed so that it can be applied to any road controlling authority (RCA) and tailored to reflect the asset inventory and condition data, which they have i.e. from basic asset inventory data through to networks, which have been surveyed using a data collection vehicle, such as the SCRIM truck.

Our strategy is outlined below:

- Determine, with the road controlling authority, the skid demand for different safety risk situations, including curves, based on the principles of New Zealand Transport Agency's (NZTA) skid resistance management specification (T/10)
- Split the roading network into segments, based on these skid demands (this step can be undertaken by a data collection vehicle but our methodology can determine these segments from basic inventory data)
- Score the criticality of each segment based on weighted safety factors (a prioritisation ranking matrix)
- Inspect the high-risk sites to determine the issue that is required to be mitigated or treated; the treatment options and any further investigation or testing required to better define the most suitable treatment
- Develop a suite of cost-effective treatments, based on the identified safety issue(s)
- Develop and implement a monitoring programme to continually improve the strategy

This process demonstrates how the development and implementation of a risk-based strategy delivers a prioritised works programme, which cost-effectively meets the RCA's high-risk safety performance measures.