INTRODUCTION

Death and serious injury on New Zealand’s roads are increasing, and this isn’t just because of increased traffic. In fact, attributing it to one single cause is difficult because existing methods using time-consuming observations and measurements to support scientific analysis have reached their limits. New methods using emerging datasets, like EROAD’s harsh braking, can help reverse this trend and support the governments’ plan for Vision Zero (reducing road deaths).

METHODOLOGY

The methodology used spatial clustering, using DBSCAN to reduce noise and focus on dense locations of harsh braking and crashes. Then we converted each cluster into a polygon that could be used to calculate overlaps, both in space and time using a modified Hausdorff distance, using time as the third axis. Once these attributes were calculated, an SVM model was used to create the confusion matrix below and yield the False-Positive predictions of interest. These are the location on the network where we believe are at further risk of a crash.

A FASTER FEEDBACK LOOP

By studying these precursors to crashes, faster insights are gained into the efficacy of crash interventions. Rather than waiting years for a response in the signal of crash data, transport authorities can receive faster feedback on more cost-efficient interventions.

AROUND THE SYSTEM

EROAD develops technology solutions (products and services) that manage vehicle fleets, support regulatory compliance, improve driver safety and reduce the costs associated with driving. EROAD also provides valuable insights and data analytics to universities, government agencies and others who research, test and evaluate future transport networks. This data enables those who use the roads to influence the design, management and funding of future transport networks.

SAFER, MORE PRODUCTIVE ROADS

We believe every community deserves safer, more productive roads.