



QUAL IT SUCCESS STORY

NZ Transport Agency



Need	Confidence in the traffic solution implemented to alert drivers of adverse weather.
Solution	Testing thought leadership, co-ordination and execution across multiple public safety agencies.
Outcome	Award winning project, delivering vehicle speed reduction and increased public safety.

“ They knew what they were doing and got it done really efficiently, making life easy for me.

Angela Crean
Lead Project Manager
NZ Transport Agency

CONFIDENCE KEY IN A WEATHER ACTIVATED ROAD SIGN STRATEGY

NZ TRANSPORT AGENCY

Road safety in New Zealand is an ongoing challenge with NZ Transport Agency constantly evaluating new technology solutions aimed at addressing our traffic issues.

The Kaimai Range between Bay of Plenty and Waikato is a notorious stretch of road in terms of both adverse weather conditions, and serious crashes. The stretch of road over the range has not only a high 'fatal and serious crash' rate, but 70% of these crashes occur in poor weather with 40% of those caused by excess speed for the conditions.

NZ Transport Agency's Lead Project Manager, Angela Crean, explains that "Speed was the main factor causing the crashes so reducing people's speed would hopefully reduce not only the number of crashes but also the severity of them."

The NZ Transport Agency, in conjunction with the New Zealand Police and MetService, partnered to try and solve the growing problem.

SLOWING THE CRASH STATISTICS

Through this partnership, the three agencies developed the concept of Digital Road Signage – road signs which could be updated depending on the current weather situation.

The 'Weather Activated Road Signs' development project completed a trial in November 2017. The project consists of a series of adjustable, digital speed signs placed along the Kaimai Range with a weather station situated at the top that relays data to the Auckland Traffic Operations at one minute intervals. When the weather reaches a certain point, be it rain, ice, fog or wind, the Transport Agency's Auckland Traffic Operations Centre receives an alert and adjusts the speeds accordingly.

With split zones on the different sides of the hill, the Transport Agency are able to ensure the legitimacy of the speed changes by targeting only the affected zones along the stretch of road. "We're tweaking as we go to get it working as best we can because drivers need to understand why the speed is reduced. If they can't see why the speed has been lowered they won't trust the sign and then they won't comply," says Crean. Ensuring that the information systems present the right information is key to the project.

THE AIRBAGS BEHIND THE PROJECTS

With many critical components to the solution, and multiple agencies responsible for their delivery, it is critical that each works seamlessly, particularly because public safety is at risk.

Qual IT were brought in as independent testers to work with NZ Transport Agency's Information Systems Team to confirm the reliability and accuracy of the solution being developed, which ultimately lead to the success of the project.

Qual IT developed a programme level test plan that covered every aspect of the solution. This testing was first successfully undertaken in controlled environments, before being repeated in the real environment – the Kaimai Range.

"Qual IT developed and supervised the test plans, allowing the project team to implement it on the road driving backwards and forwards and putting up the different response plans. They coordinated all of that and set up the whole testing regime," explains Crean. "They knew what they were doing and got it done really efficiently, making life easy for me."

LOOKING FURTHER AFIELD

The key indicators for the project come in the form of a reduction in the instances of fatal and serious crashes. While it is too early into the project to confirm that it is meeting each of their goals, the three monthly monitoring periods over summer and winter have seen a 10% reduction in speed which shows promising results. It's too early to know if this will be reflected in the crash statistics, but it at least shows the project is going in the right direction.

The project itself is being recognised widely for its innovation and proactivity within many different industries. Most notably, they won the 2016 3M Traffic Safety Innovation Award as part of the Institute of Professional Engineers of New Zealand (IPENZ) Transportation Group's annual conference. The IPENZ Transportation Group National Chairman, Mr Pravin Dayaram, commented that the project "demonstrates an effective and innovative approach to reducing road trauma on a state highway known for its unpredictable weather conditions.

About Qual IT

Qual IT is New Zealand's largest provider of quality assurance services for information technology, working with some of the country's largest and most successful organisations including Transpower, NZ Police, IAG and New Zealand Transport Agency through offices in Auckland, Wellington, Hamilton and Christchurch. Formed in 2004 we have in excess of 230 permanent and contract quality assurance and test professionals.