NZ TRANSPORT AGENCY
WAKA KOTAHI

Helping Drivers to Manage Speed at High Risk Rural Intersections

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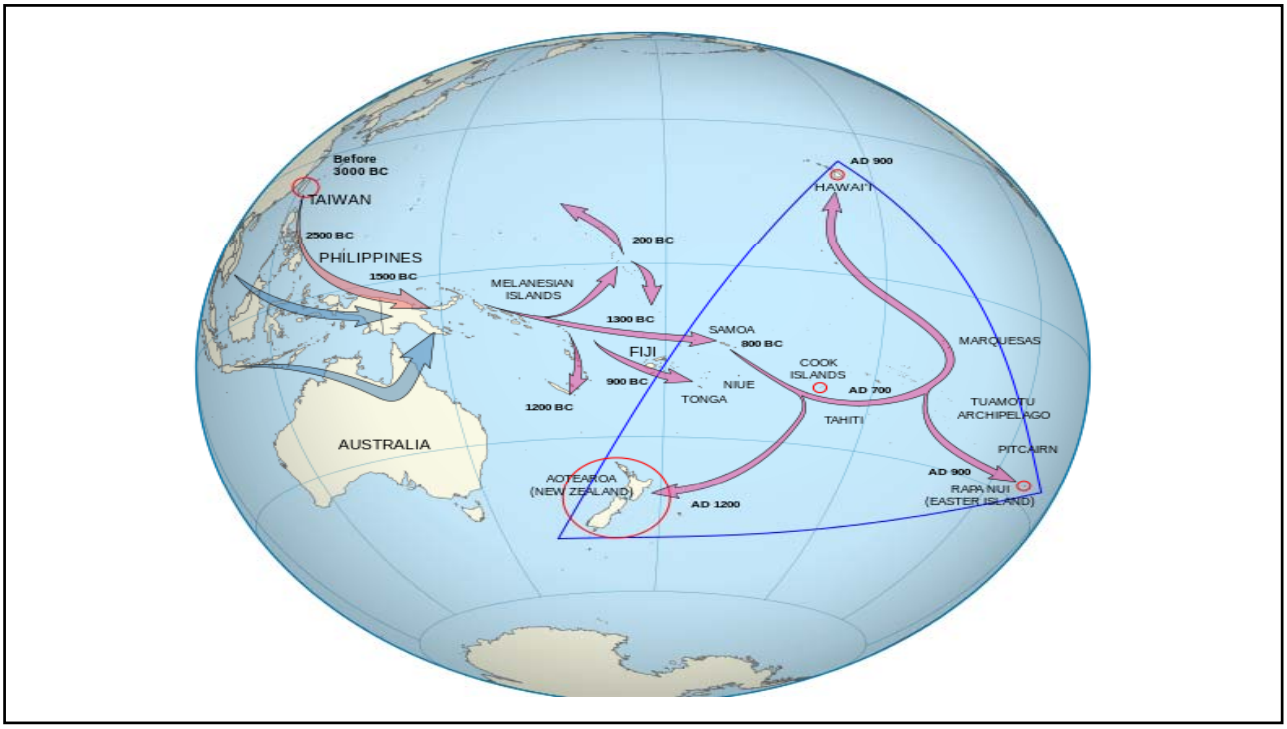
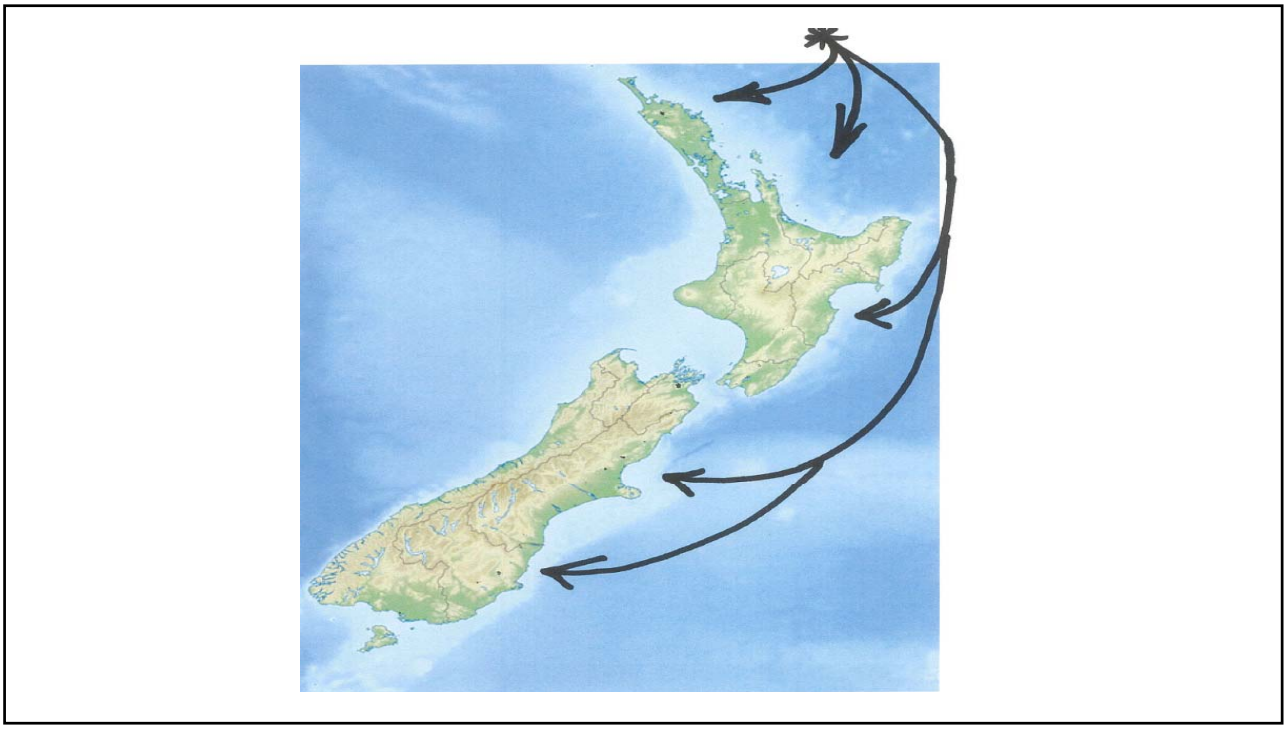
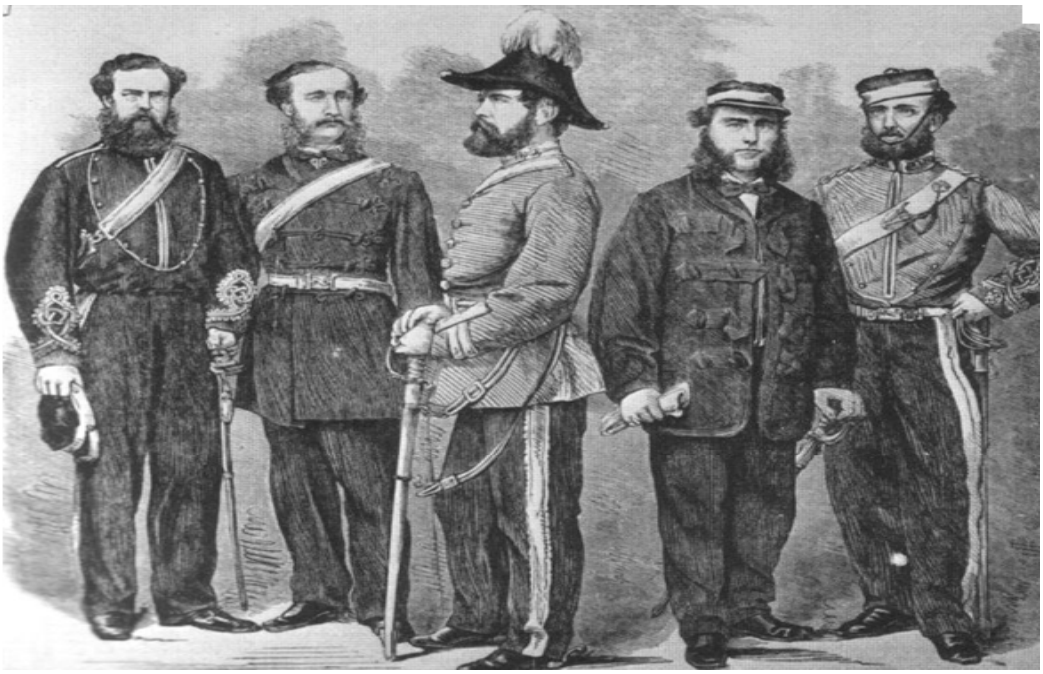
New Zealand Government

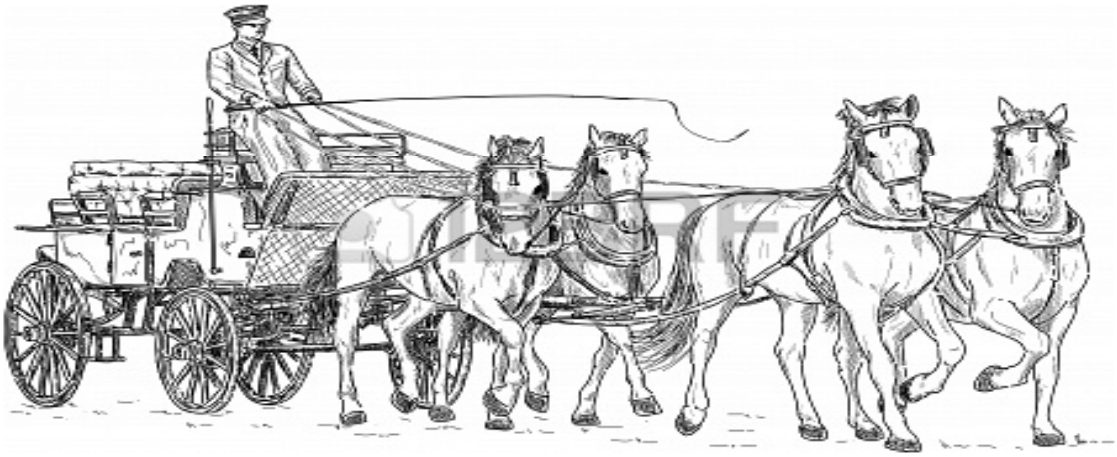
The History of the Development of RIAWS

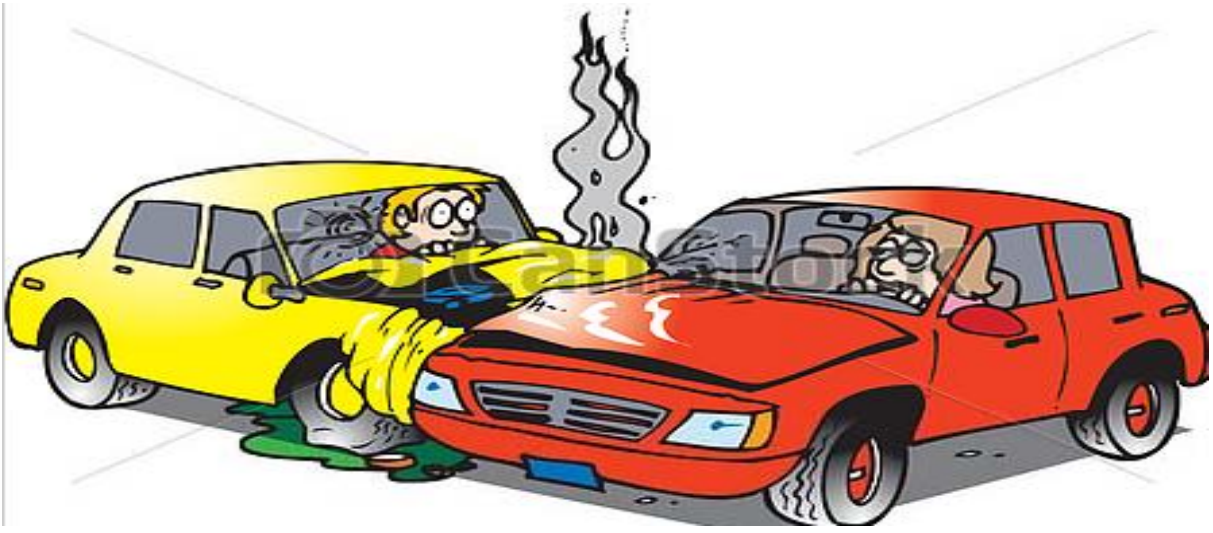

Before
3000 BC
TAIWAN
2500 BC
PHILIPPINES
1500 BC
MELANESIAN
ISLANDS
200 BC
1300 BC
SAMOA
800 BC
FIJI
900 BC
1200 BC
NIUE
TONGA
COOK
ISLANDS
AD 700
TAHITI
AD 900
HAWAI'I
MARQUESAS
TUAMOTU
ARCHIPELAGO
PITCAIRN
AD 900
RAPA NUI
(EASTER ISLAND)
AUSTRALIA
AOTEAROA
(NEW ZEALAND)
AD 1200





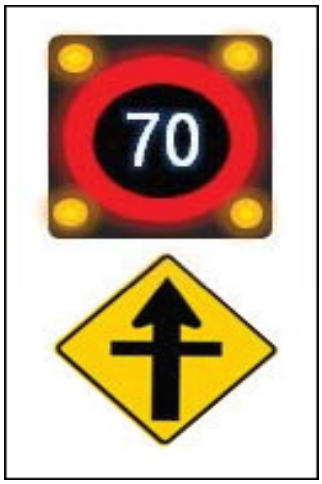

"Odgers was the first man over."





- At about this time The BRODIE intervened.
- Now A Brodie is a bloke who sees a problem and comes up with bright ideas on how to fix it and points everyone else in the right direction to sort it out and then leaves, bit like the Bald Eagle really.

And so the RIAWS system was conceived



People!

What is RIAWS?

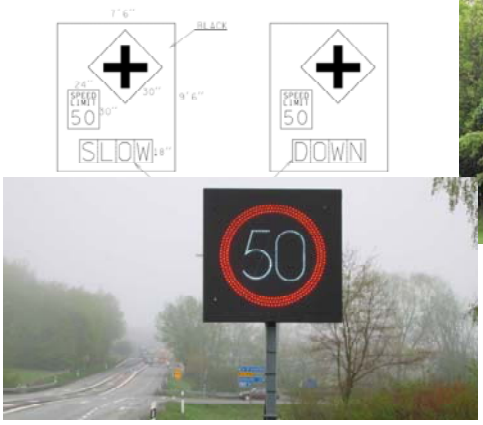
Rural Intersection Active Warning System (RIAWS)

Aim: reduce fatal and serious casualties at high speed, high risk intersections

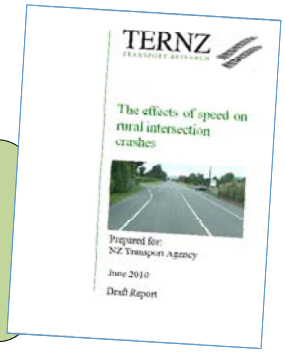
By

1. Slowing motorists on major road intersection approaches
2. Increasing driver state awareness
3. Improving (or not worsening) side-road motorist gap judgement

Intersection warning systems



Speed at intersections



100 km/h → serious or fatal injuries most of the time (est. 61% risk)
80 km/h → serious or fatal injuries avoided most of the time (est. 25% risk)
60 km/h → serious or fatal injuries on very few occasions (est. 6% risk)

For a 'safe system' approach:

Signpost 60 km/h

For overall effectiveness:

Signpost 70 km/h

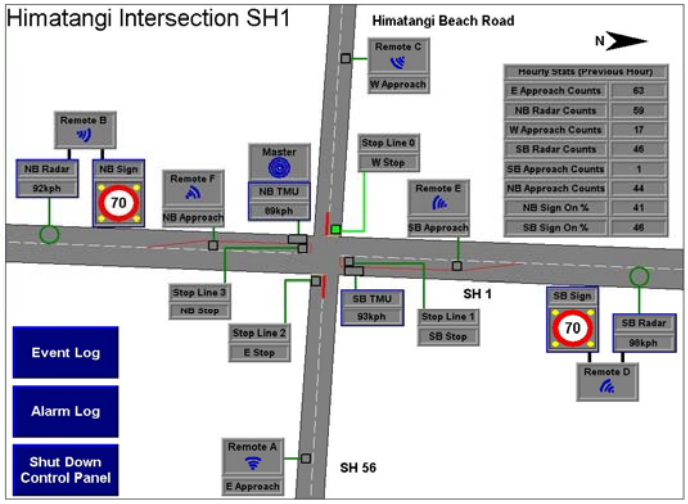
Site selection criteria

All sites derived from the top 100 Worst State Highway Intersections in the country.

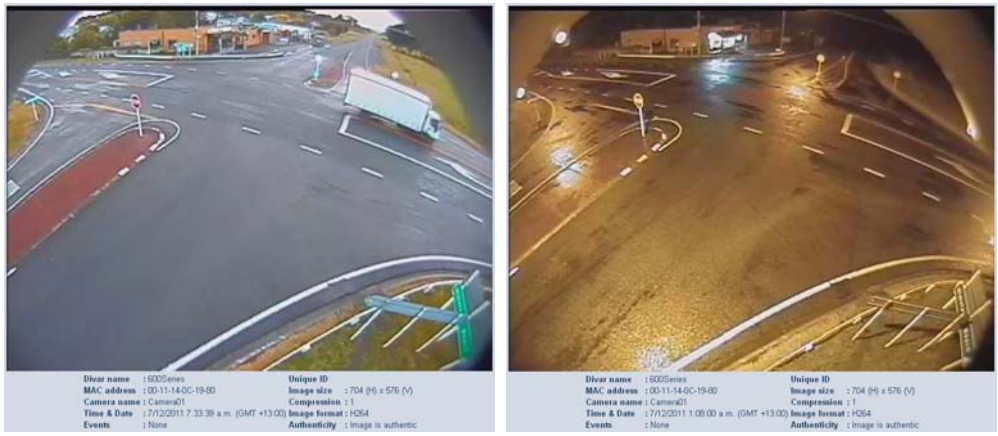
Other selection criteria include:

- Crash codes compatible with RIAWS
- Good balance of through vs side road traffic
- 100 km/h through speed limit
- Poss int approach visibility
- Relatively simple geometry
- ***No planned works***
- Trial convenience factors

Layout and Graphical User Interface



Evaluation tools integrated into system



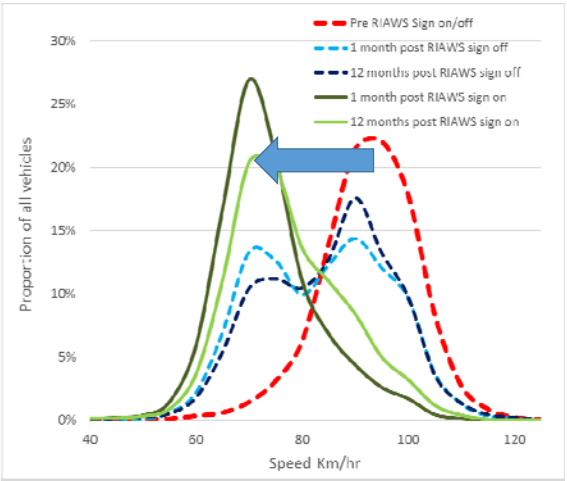
Himitangi RIAWS

Himitangi- Sign utilisation

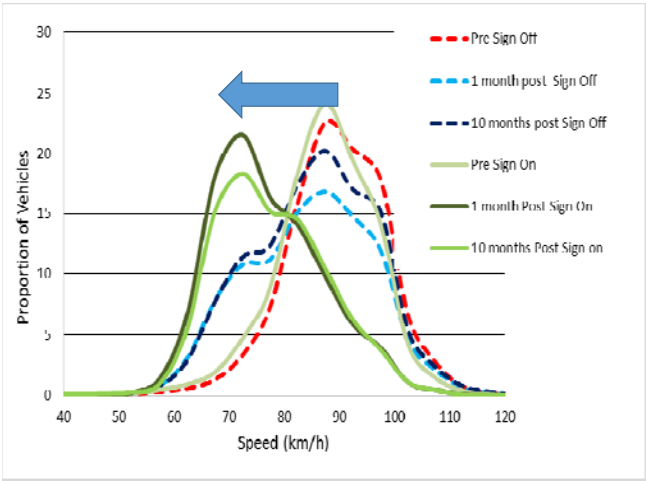
Based on 7-days of data in January

Sustained speed reduction at trial sites

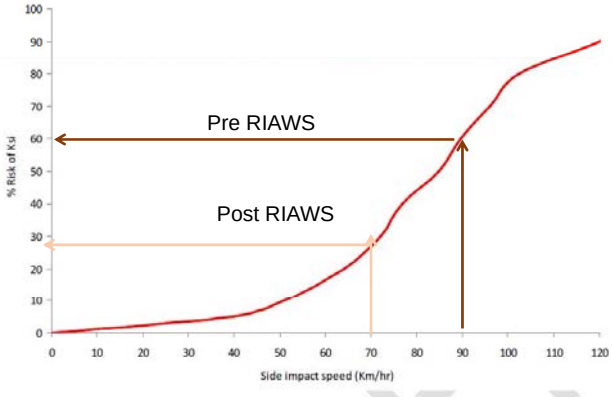
Himitangi Southbound



Yaldhurst Westbound

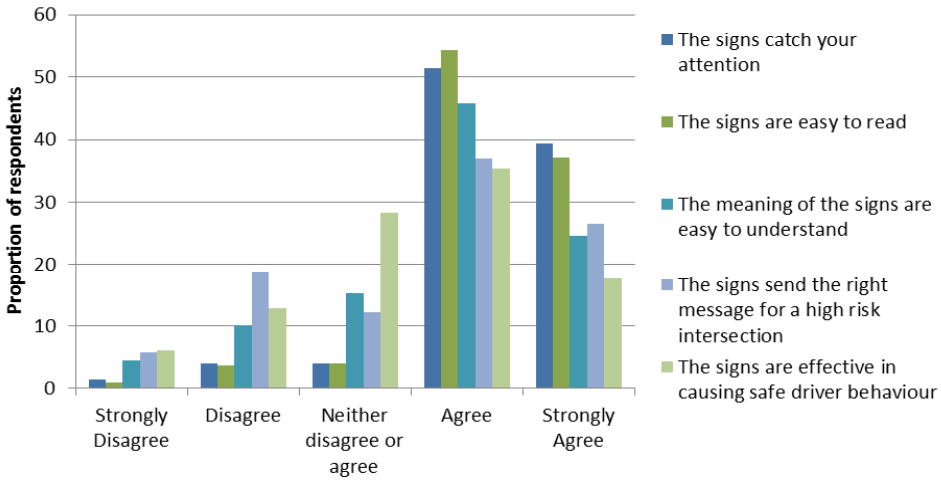


Himitangi Risk Reduction

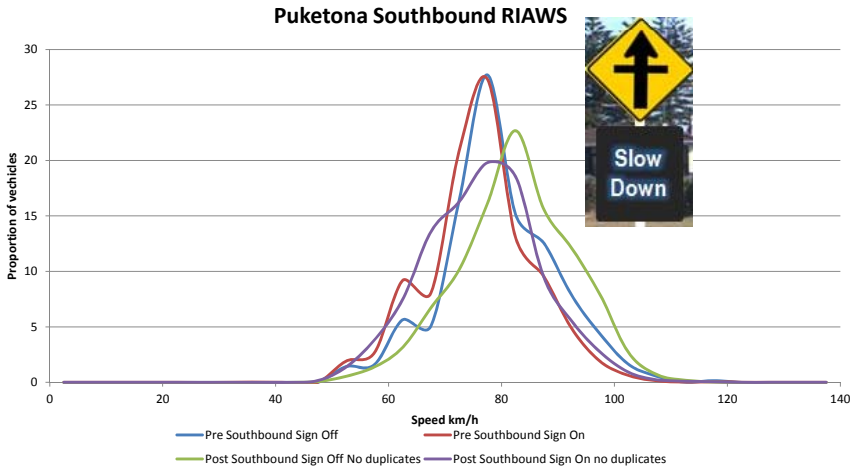


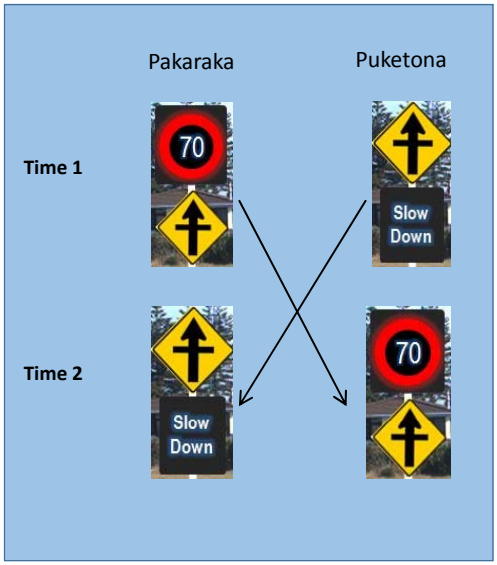
Change in side impact Ksi risk based on modal speed change pre/post RIAWS

Driver perceptions



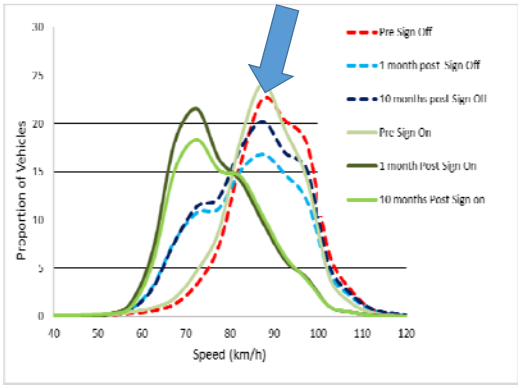
Puketona "Slow Down" sign: Less effective?



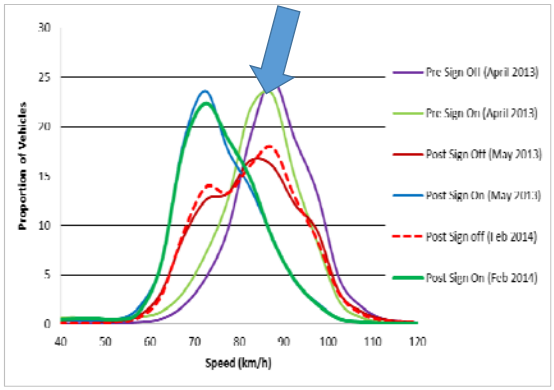


Why is RIAWS so effective?

Helps people to manage risk in a very credible situation, by extending subtle behaviour that currently already exists



Westbound



Eastbound

Yaldhurst

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Variable speed limit signs are very effective

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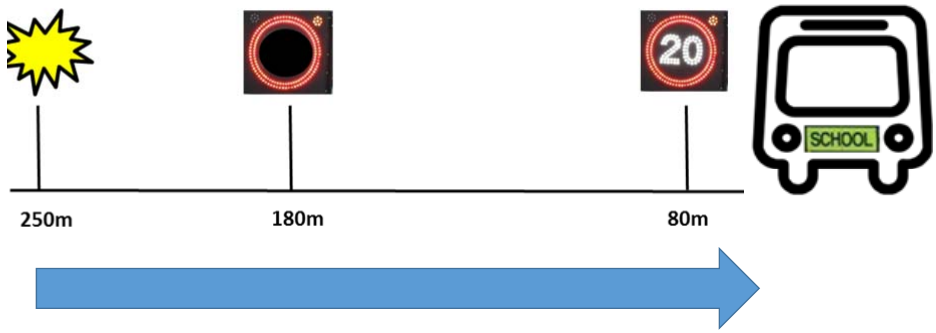

RIAWS trials to date

- Himitangi SH1/SH56
- Buchanans road/SH73 Yaldhurst, Christchurch
- Puketona SH10/SH11 Northland
- Pakaraka SH1/SH10 Northland
- Newbury SH3/SH54 Palmerston North
- SH1S/Kennington Rd, Invercargill

+ 4 new ones (Kaiapoi, Burnham, Waikato, Hawkes Bay)

END OF TRIAL (and of presentation!)