

Improving Safety at Level Crossings

NZTA and ONTRACK Level Crossing Safety Project

1. Background to project
2. Project progress
3. Road Controlling Authority (RCA) involvement



What is a level crossing?



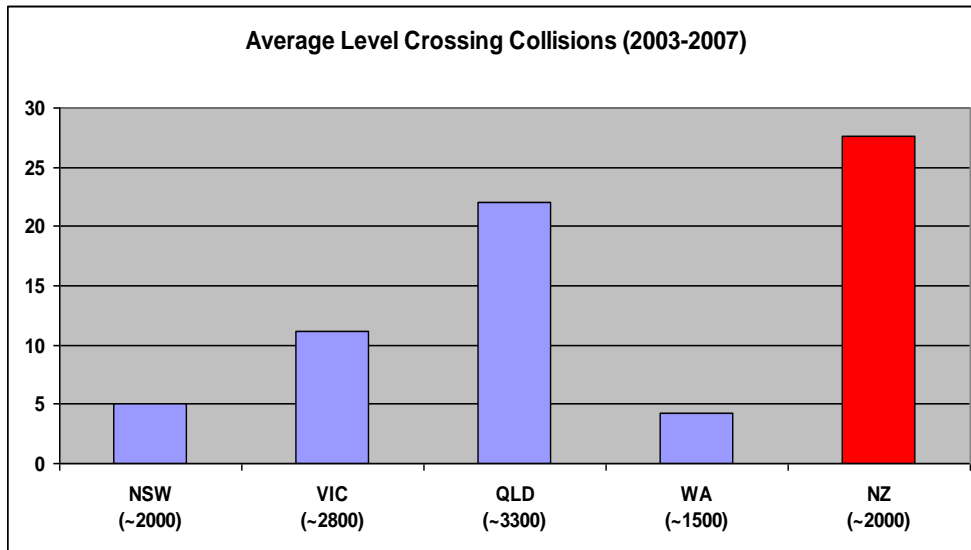
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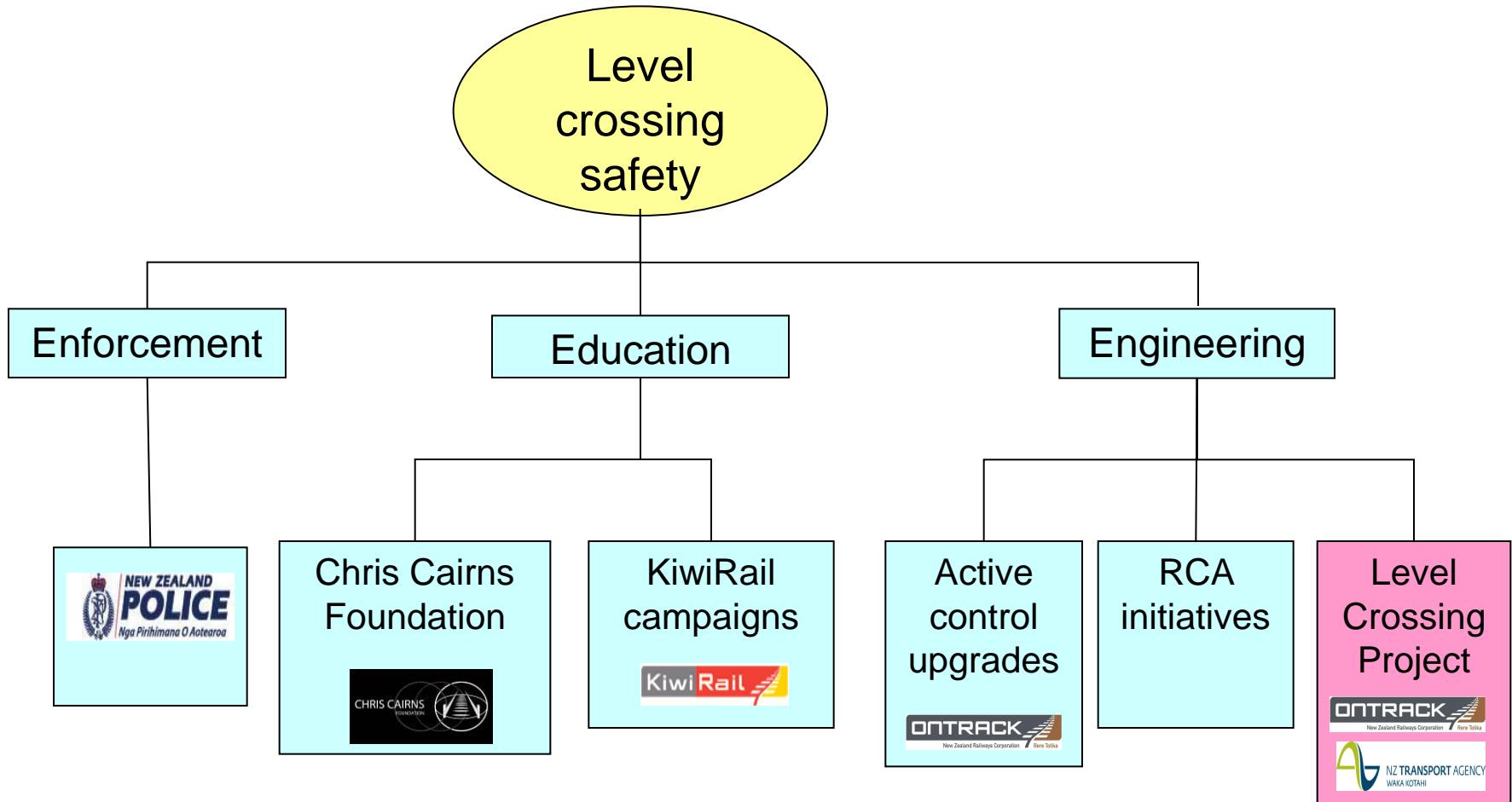
1. One vehicle unable to swerve or stop
2. Much larger forces involved in a collision
3. Two separate authorities involved

Why should we do anything?

1. High accident rate by international standards
2. Some poor crossings – ‘low hanging fruit’



What is New Zealand doing?



What is the Level Crossing Project ?

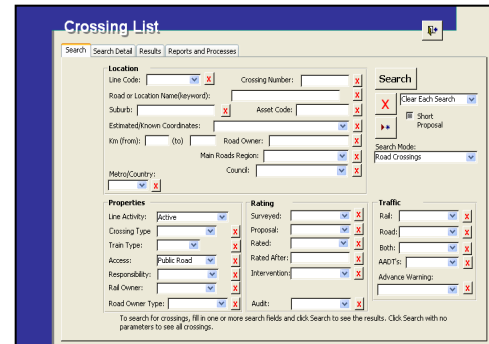
Understand and minimise the risk of an accident at all level crossings nationwide.

For every level crossing:

1. Site survey
2. Risk assessment
3. Present risk assessments & discuss options with RCA.

Consultants

Consultants
ONTRACK
NZTA



Risk assessment tools:

- Collision record
- Standards
- Engineering opinion
(rail and road)
- Local knowledge



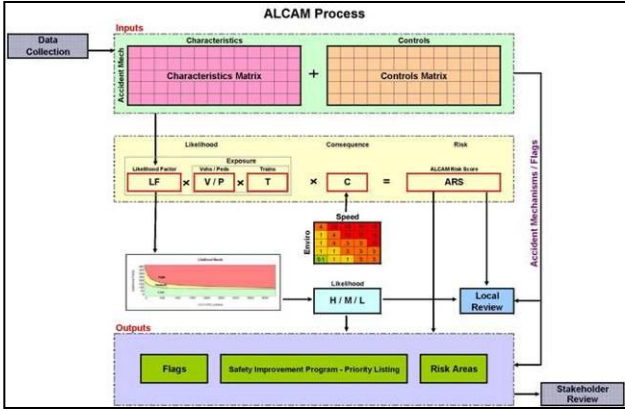
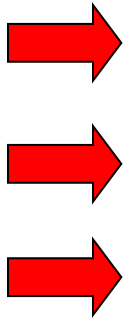
- Assessment model → ALCAM

ALCAM – Risk assessment tool

Proactive Best practice
Objective Consistent standard

Inputs

- Site characteristics
- Traffic and rail volume
- Traffic and rail speed

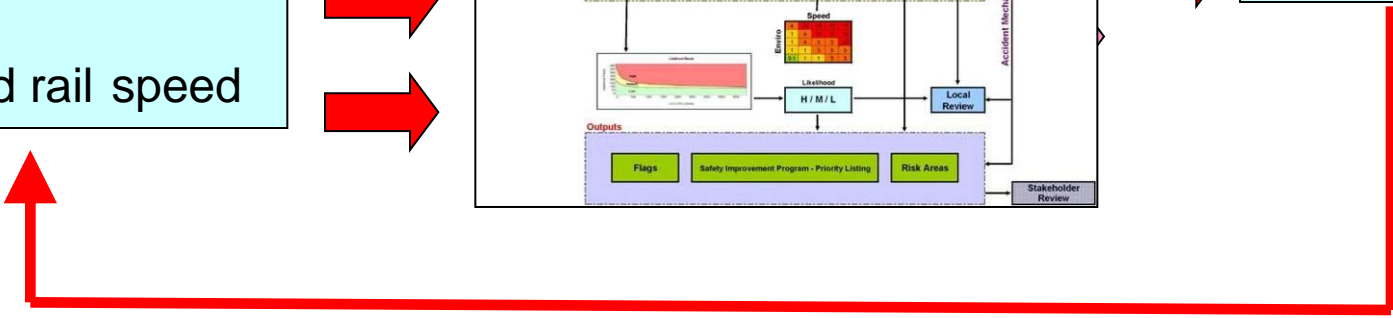


Outputs

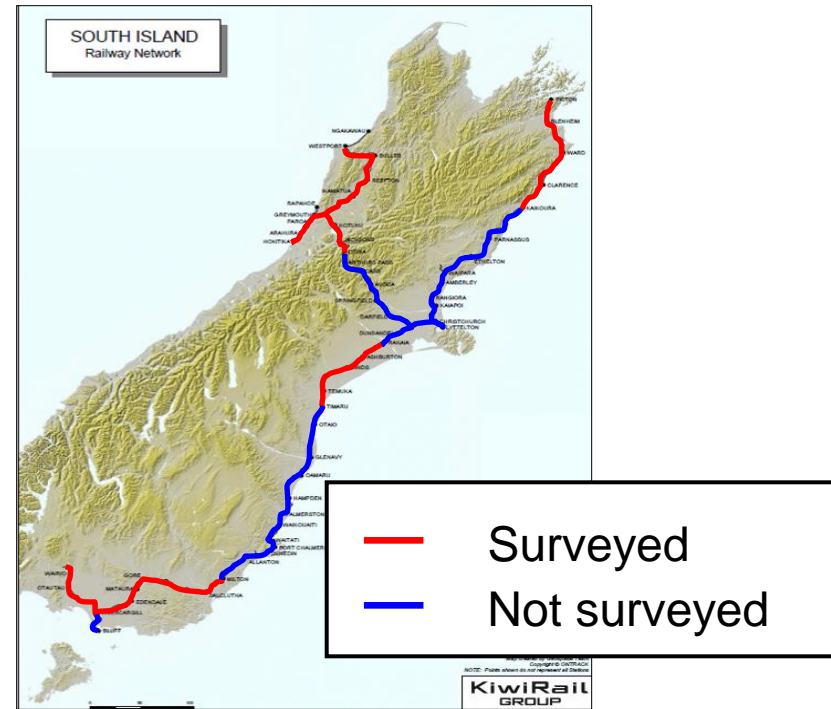
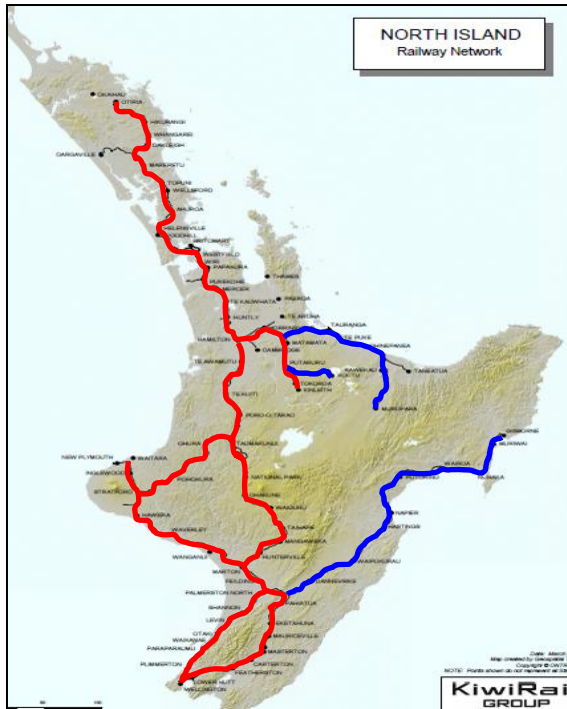
Risk score



Remedial works



Progress of Level Crossing Project



Task	Crossings
1. Site survey	70 %
2. Risk assessment using ALCAM model	30 %
3. Presentation and discussions with RCA	Pilot (5%)

Pilot project

- North Auckland & Marton-New Plymouth
- 74 Level Crossings
- Remedial work fall into two categories
 - Low cost (\$5k/crossing)
 - Higher cost (up to \$200k)

Low cost improvements: NA Line		
Risk reduction	Crossings	Av Cost
High risk to medium or low risk	12	\$6,250
Medium risk to low risk	32	\$5,800
Low risk to standards	30	\$3,000



Substantial reductions in risk through low cost solutions

Pilot project

Accident causes

- Driver unaware of crossing
 - Driver aware, but makes mistake
 - Deliberate or reckless behaviour
-
- 'Infrastructure trap'

Low cost options



Future of Level Crossing Project

- Complete survey program
- Complete risk assessments on all crossings
- Roll out consultation with 62 Road Controlling Authorities



How can we link with your programs ?

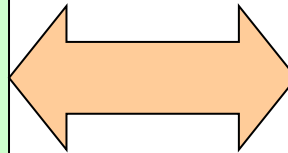
Safety programs ?

Community interest ?

Roading upgrades ?

Resource consents ?

Expenditure ?



Level Crossing
Project



Road Controlling Authority

Thank you



Spare slides

“ In view of the waste of mechanical genius on further inventions of a similar nature, descending gates or booms have been considered in other countries to constitute a serious danger to road vehicles, owing to the possibility of vehicles being struck by the descending arm or getting trapped between the gates. “

NZ Railways Magazine (January 15, 1927)



