

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?



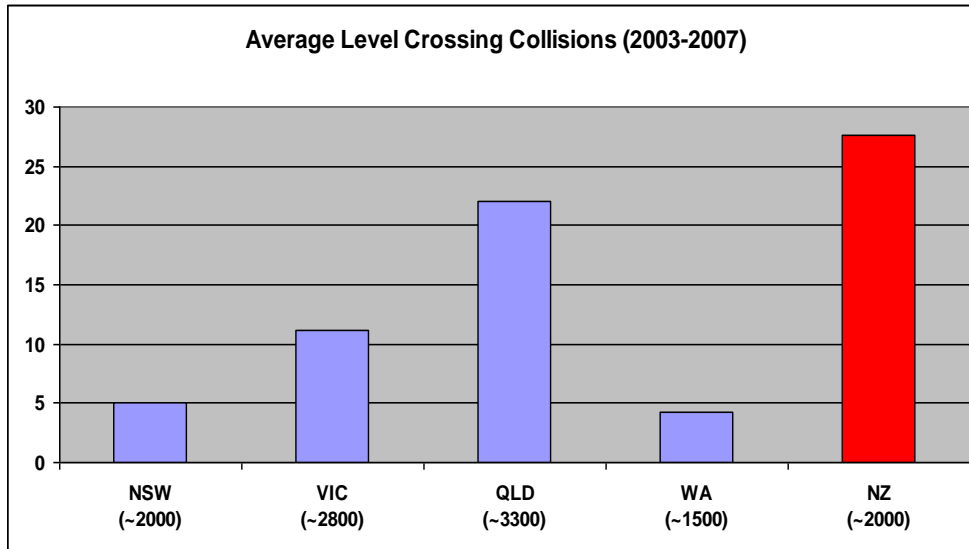
=



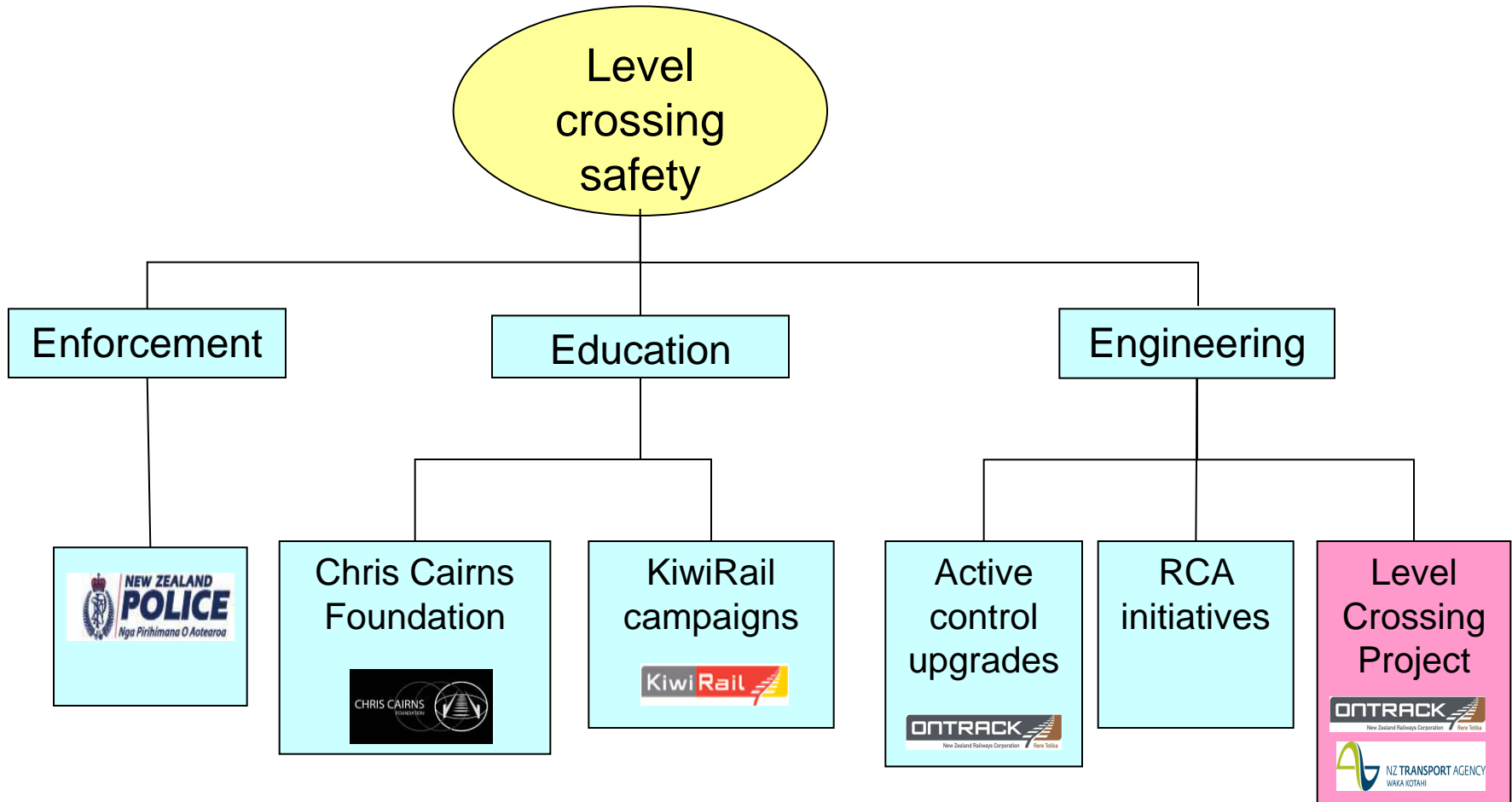
1. One vehicle unable to swerve or stop
2. Much larger forces involved in a collision
3. Two separate authorities involved

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 ?

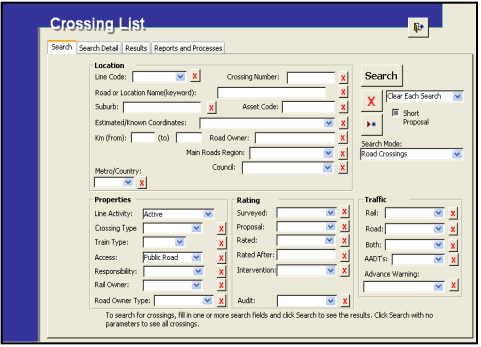
Understand and minimise the risk of an accident at all level crossings nationwide.

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



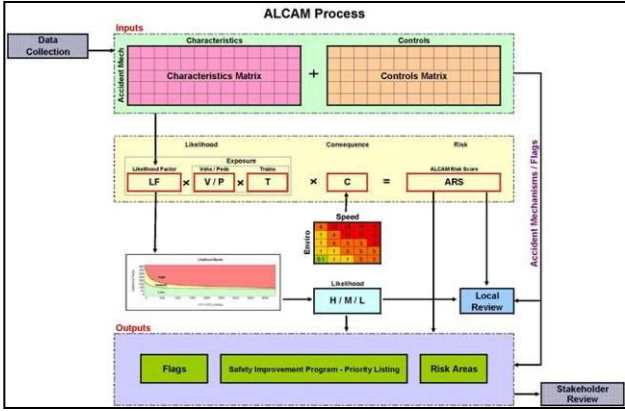
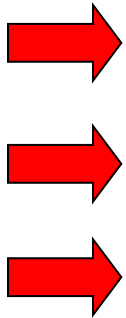
- Assessment model → ALCAM

ALCAM – Risk assessment tool

Proactive Best practice
Objective Consistent standard

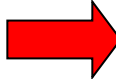
Inputs

Site characteristics
Traffic and rail volume
Traffic and rail speed

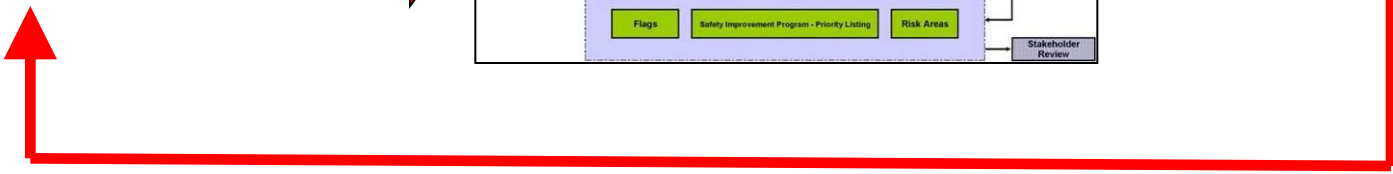


Outputs

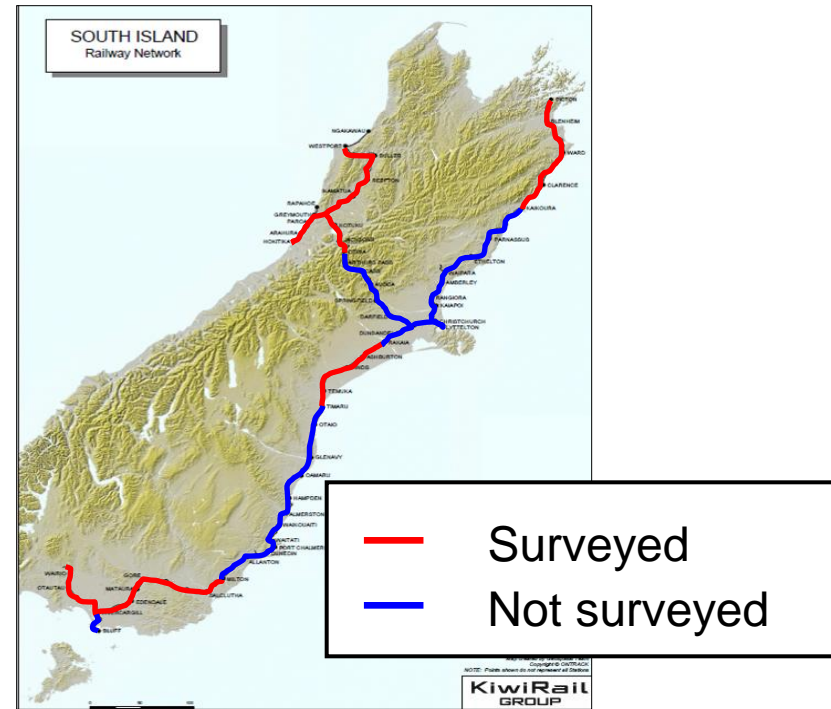
Risk score



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



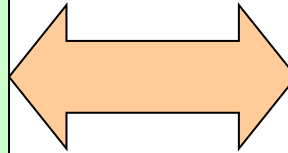
Future of Level Crossing Project

- 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)



