



NZ TRANSPORT AGENCY
WAKA KOTAHI

Towards a safe system in NZ *... from 3E's to 4S's*

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Why a systems approach?

**** Everything is connected to everything else ****

Integrates effort across the sector

Maximises available intervention levers

Maximises opportunities and benefits

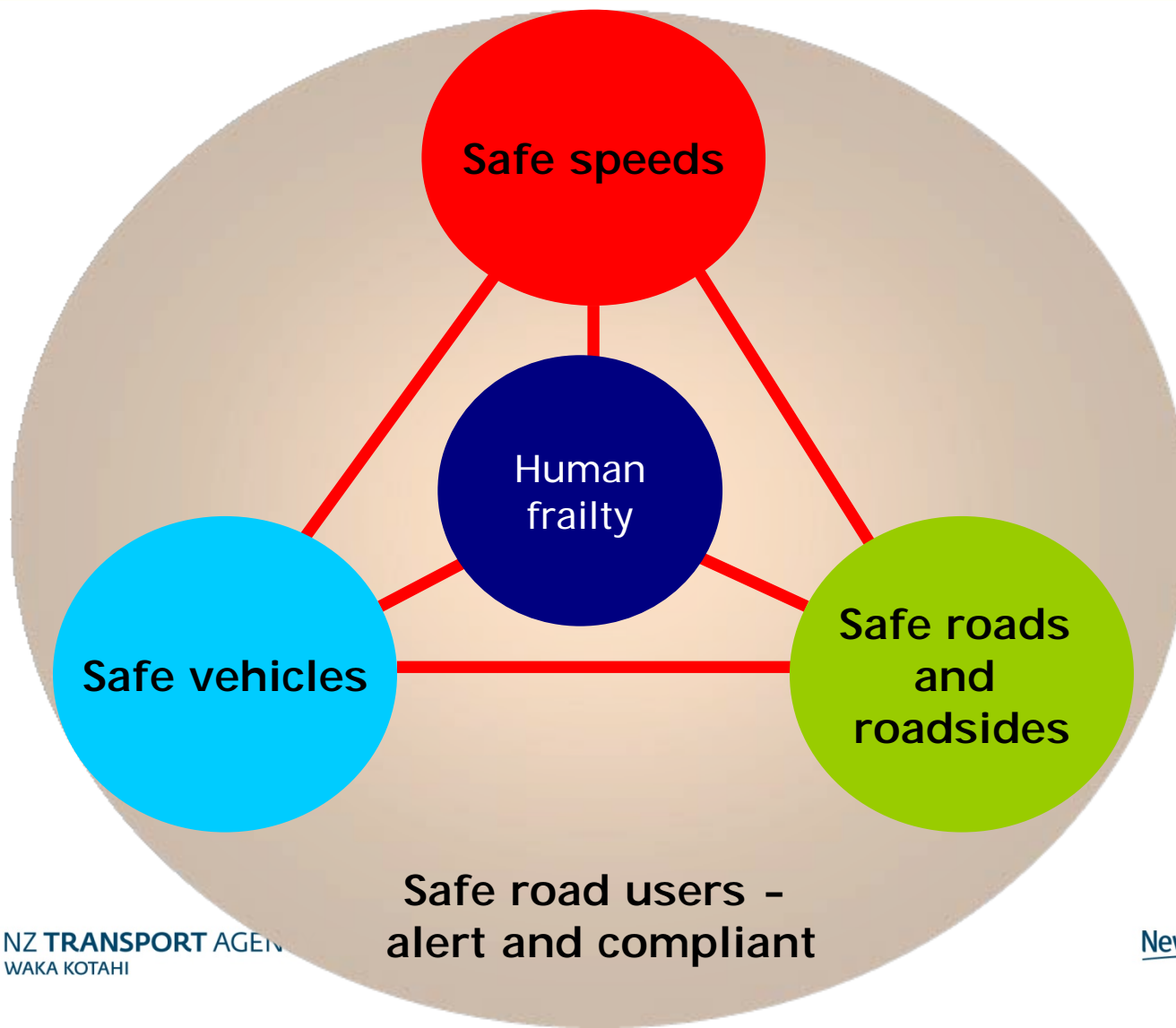
Enables shared initiatives and sequencing options



Safe system principles: design for people

- Serious road trauma is preventable, not inevitable
- Users are fallible and crashes due to error cannot be totally eliminated
- Recognise the limits of the human body to withstand force
- Road safety responsibility is shared:
 - * designers and managers – reduced consequences
 - * users – alert and compliant
- **Long term goal = improving crash survivability**

Four pillars of the safe system – 4S's



Case study: Levin crash January 2007

Toyota Trueno loses control on the Manakau rail over bridge, crashes into a southbound truck, teenage sisters lose their lives

Vehicle

- Mix of snow tyres and standard tyres = dangerous combination
- Vehicle entered NZ legally with this combination
- Young owner warned of risk but didn't take action (cost)

Road

- 6 fatalities since 2000 on this 700m of road
- Issues: engineering, surfacing, visibility, signage
- Not designed for today's traffic volumes and speeds

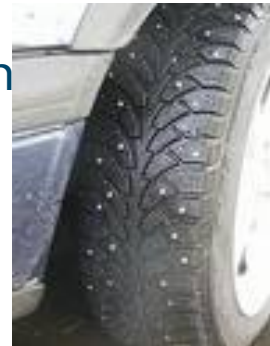
User

- Texting while driving (Coroner finding)
- Questions about driver maturity & training (raised by family directly with then LTNZ)

System weakness – two young women paid the ultimate price



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How do the 4S's relate to the 3 E's?

The safe system builds on the 3 E's

Education and **enforcement** are important parts of the safe system (informed, alert and compliant users)

Engineering is an integral part of the safe system (roads and roadsides)

3 E's were heavily weighted towards correcting the road user, whereas 4 S's recognise the shared responsibility between system designers and system users

3 E's focused on three interventions, 4 S's rely on many more, and focus on outcomes



The paradigm shift

A car spins out on a corner on a wet road and hits a pole and serious injury occurs

Old 'driver blame' scenario:

- Why did that bloody idiot crash into the pole?
- Must have been driving too fast for conditions, inexperienced, falling asleep or been distracted

New safe system scenario:

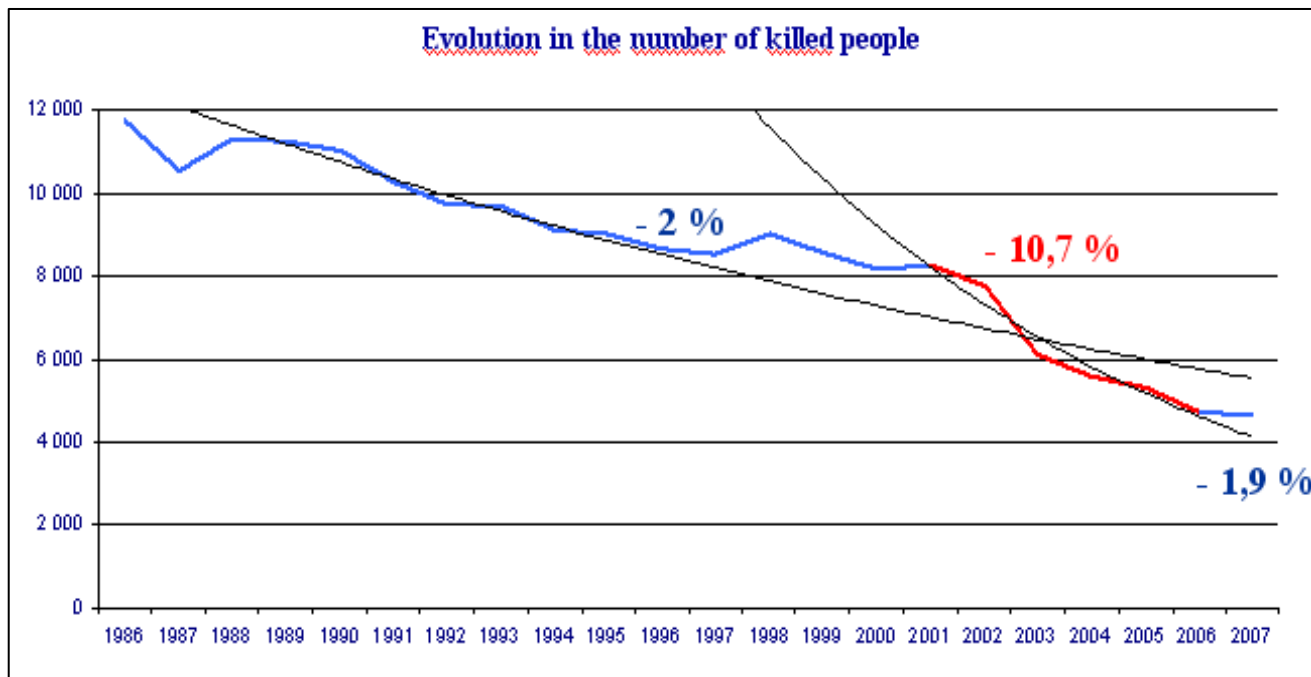
- What bloody idiot put the pole there? (roads/roadsides)
- Did the vehicle have ESC and air bags? (vehicles)
- Was the speed limit appropriate and was the road designed to promote appropriate behaviour? (speeds)
- Was the driver trained and alert to the risks? (road use)



Does the safe system work?

International experience says "YES"

How we commit to it in NZ will determine our level of success



July 2002 - Road Safety announced as one of French President Chirac's three major projects - focus on speed and introduction of thousands of speed cameras
New Zealand Government

Embedding the safe system in NZ

It is a new approach; it will take time

It requires us all to put a systems hat on

It will require cultural change within our organisations

It will be challenging to implement – nationally and locally

It will require the use of more technology

We will need to be bold!





Thank you

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