

**Interactions of safe roads, vehicles,
speeds and people:**

**The need for collaboration from
people to utilise safer vehicles.**

Dr Soames Job

Executive Director

National Road Safety Council

National Road Safety Council

- Funded by the states, territories and Commonwealth
- Facilitates implementation of effective road safety measures
 - (Evidence based approach)

Heavy Trucks and Road Safety

1. Large over-representation of heavy vehicles in fatal and serious crashes
2. Does not mean always at fault. Most open road head-on crashes with a heavy vehicle involve the light vehicle being on the wrong side.
3. But, its not just a “small percentage of cowboys”.
 - NSW speed surveys show half of all HVs are speeding.

The Safe Systems Approach

(Key element of the National Road Safety Strategy)

- **1. People will make mistakes.**
- **2. Humans have a limited tolerance to violent force.**
- **3. Ultimate responsibility for safe transport rests with the system designers and operators.**
- **4. Systems designers and operators must supply a system which forgives to a level which avoids forces beyond human tolerance.**
- **5. Moral demand: No one should die or suffer serious injury on our roads (We don't hand out such severe penalties even for murder).**
- Is prevention better than cure??
- The solution does not have to be of the same form as the problem.

The system elements

- Safe roads
- Safe vehicles
- Safe speeds
- Safe people

Lots happening in each area



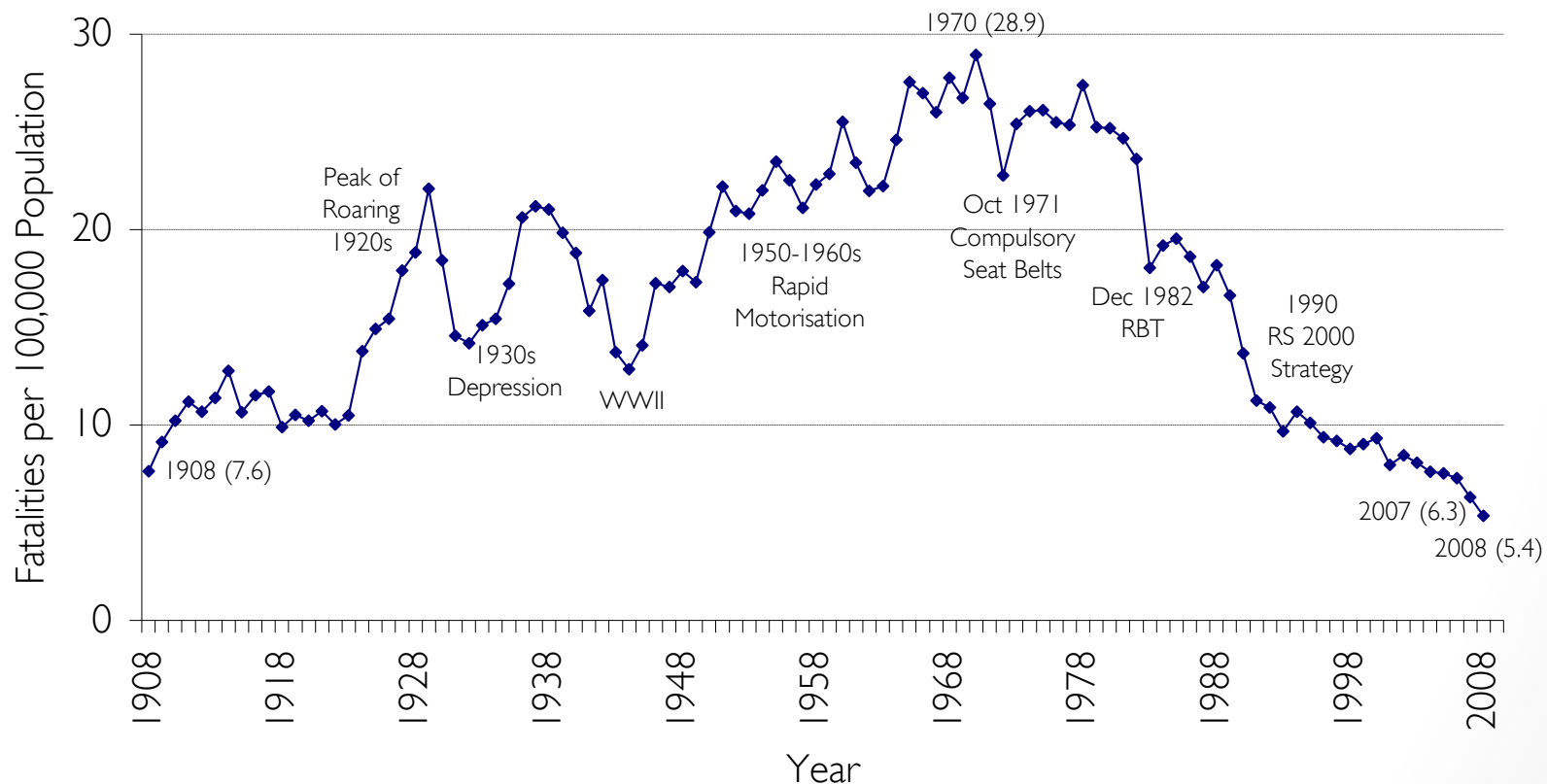
Safe systems approach works:

NSW-

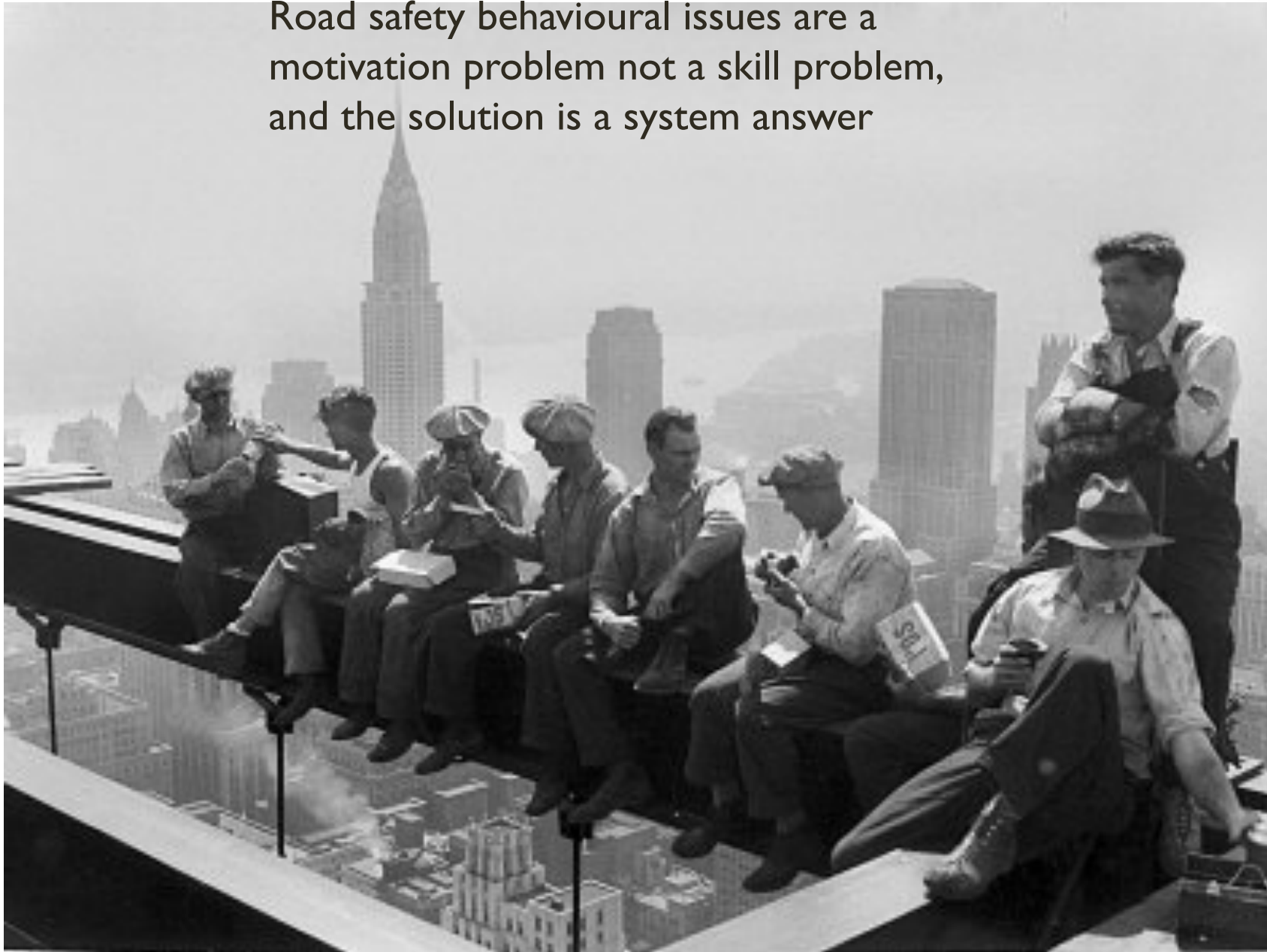
Historically Low Fatality Rates per Population

- 2008 fatality rate per population (5.4) lowest since 1908, lowered again in 2011
- Fatality rates per vehicle fleet and motor vehicle travel lowest on record

**Road Traffic Crash Fatalities per 100,000 Population,
NSW, 1908-2008**



Road safety behavioural issues are a motivation problem not a skill problem, and the solution is a system answer





The system elements do not operate in isolation

- Every element influences every other element
- Most importantly here: people affect the impact safe vehicles and technology can have on safety.

Safety from vehicle and equipment technology

- Delivers benefits- SOMETIMES, not always
- Benefits often not as predicted
- Examples of
 - Success: seat belts, airbags.
 - Failures: ABS brakes, speed limiters for heavy vehicles.
- WHY? Human-Vehicle interactions are key.

Why do we have so much faith in Safety from vehicle and equipment technology?

- Does deliver sometimes
- Its convenient- it absolves other people in the safety arena from action
- It's the area under private company control and so, it's the arena promoted commercially.
- Change over of vehicles is generally faster than people and roads, so outcomes can be realised faster.

When do we get Road Safety from vehicle and equipment technology?

- I suggest- When it meets two conditions:
 1. Its used
 2. It doesn't induce the driver to change their behaviour to balance the perceived risk.
- The road safety technology, equipment, advance is used when it suits the operator/driver/commercial imperative.
- Examples: Speed limiters versus anti-theft technology
- Perceptions of improvement may induce changed behaviour
- Examples: Seat belts and airbags versus ABS.

technology?

Something that works but isn't obvious when driving:

- Lane departure warning?
- Commercial realities:
 - Fatigue monitoring (that stops the vehicle)?
 - Longer, wider, heavier, higher? (safety value with negotiation and reduced vehicle numbers, but.....)
 - Alcohol interlocks? (Drugs more relevant to HV)
 - Weight detection that prevents the vehicle from moving?
 - Speed limiting?

Focus on the worst understood element: Speeding and the road toll.
In many instances- speeding is commercially valuable (chain of

Note: Community costs not= HV operator costs

Note: not a claim of HV industry not paying its way (different debate);

Safe Speed limits



⇒ Human tolerances:

↳ 30 km/h pedestrian / vulnerable road users

↳ 50 km/h side collision

⇒ 70 km/h frontal collision
⇒ Myths associated with speed limits:



↳ Ignored by drivers

↳ Can not be applied to isolated locations

↳ Not suitable for unsealed roads



↳ Must be credible (ideal but is this possible?)

Evidence overwhelming demonstrates: Reducing the speed limit delivers real road safety benefits

Speeding- the evidence

- It is the most significant behavioural road safety issue.
- It is the most significant behavioural road safety issue.
 - **37% fatal**
 -
 - **16% injury**
- Went up in 2009 with no Mobile Cameras
-
- cost to the community of \$917 million.
 - **(My view. THESE ARE SIGNIFICANT UNDER-ESTIMATES)**

-
-
- **conducted in 2005 evaluation of five NSW fixed speed camera program**

- The number of vehicles exceeding the speed limit was reduced by 71%
- 90% reduction in fatal crashes

- 23% reduction in casualty crashes

-
- **benefits**
- **globally generalised reports studies NSW and Victoria in 2011 show clear**

- **Globally hundreds of studies show the same.**

- Strong support for fixed speed cameras; little media support.
- **Community attitudes**

Why speed, and yet why support speed cameras?

I suggest: Because evidence is not personally accepted.

I suggest: Because evidence is not personally accepted.

It won't happen to ME. Cameras and messages are for others.

Due to personal experience basis of judgement (and misjudgement of the statistics)

- Misperception that speed does not cause crashes
- Misperception (relative judgement problem) at high levels
- Optimism bias (relative judgements carry survival).

So: threat of enforcement works, yet threat of crash does not.

Conclusions

Vehicle technology delivers road safety gains when:

its used (commercially aligned, wanted, or regulated and enforced)

Speed and fatigue are the largest behavioural issues for the trucking industry. Better management of these is critical.

The trucking industry (and road users generally) do not pay the full costs for speeding.

Speeding is deeply misunderstood (personally misjudged, and believed to be a problem only at high speeds).

Thank you for your attention

Trends in Road Fatalities, NSW v Rest of Australia, 2002 to 2008 and Projected 2009 Results

