

# SafeRoads 2008

## DO SPEED CAMERAS WORK?

Brendan Facey

A/Director

Infringement Management & Enforcement Services

Department of Justice



# Speed cameras



- Introduction
- Speed causes casualty crashes
- Cameras deter speeding

# The environment in Victoria



- In 1989 cameras were introduced
- 24% motorists detected speeding
- Road toll 776
- In 2008 2% motorists detected speeding
- Historic lows in road toll. Reduced by over 50%

# Other initiatives – *Arrive alive 2008-2017*

- Continued mass alcohol screening
- Targeting other high-risk behaviours (drug driving, mobile phones, hoon driving)
- Vehicle safety
- Better roads
- Graduated licensing scheme

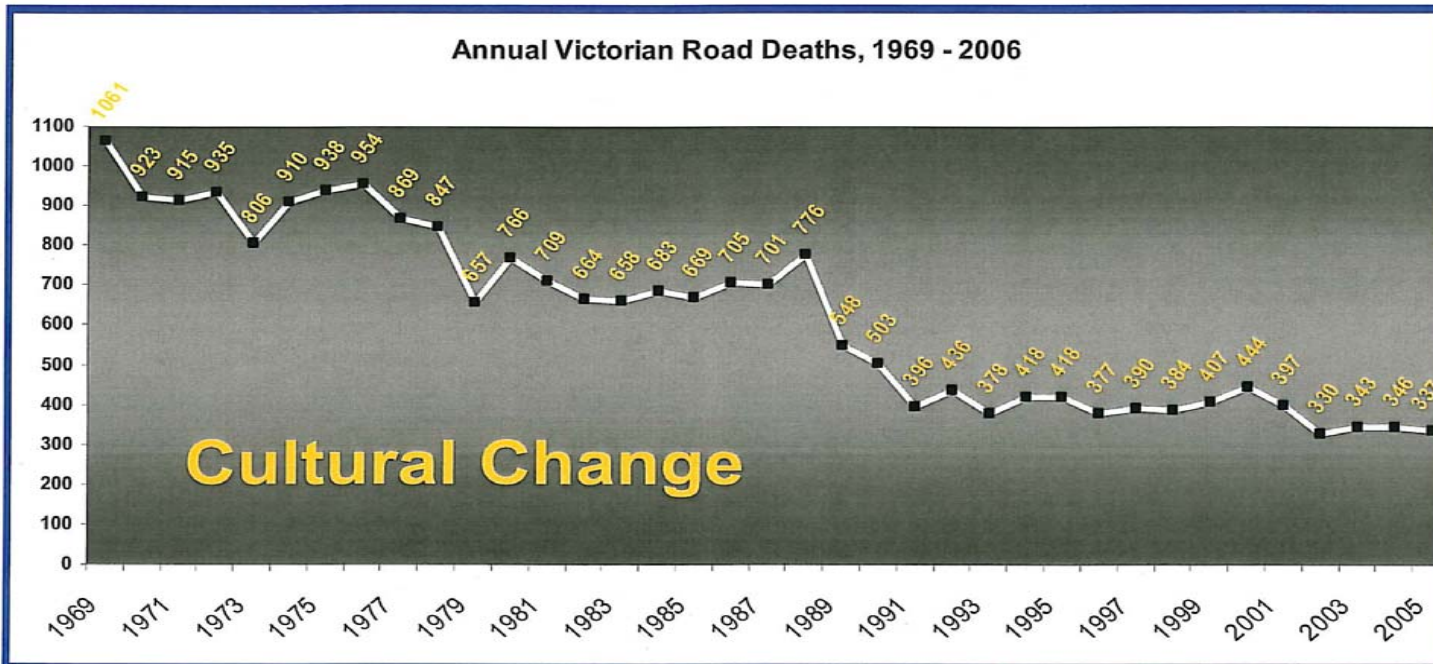


# Cultural change chart

DEPARTMENT OF JUSTICE



VICTORIA POLICE



Over 30 years the motor vehicle fleet in Australia has increased by 151%, whilst the population has increased by 50%

# Evidence of camera effectiveness

- Physics
- Epidemiological studies
- Studies of speed camera programs



# Physics

- The faster a vehicle travels, the longer it will take to stop (velocity)
- The faster a vehicle travels, the greater the severity of the crash (kinetic energy)



# Low speed band

- The probability of serious injury or death in the event of a crash depends strongly on impact speed.
- Impact rises exponentially with increased speed
- There is a low ‘Speed Band’ between surviving and dying. Even small increases in speed can make a big difference



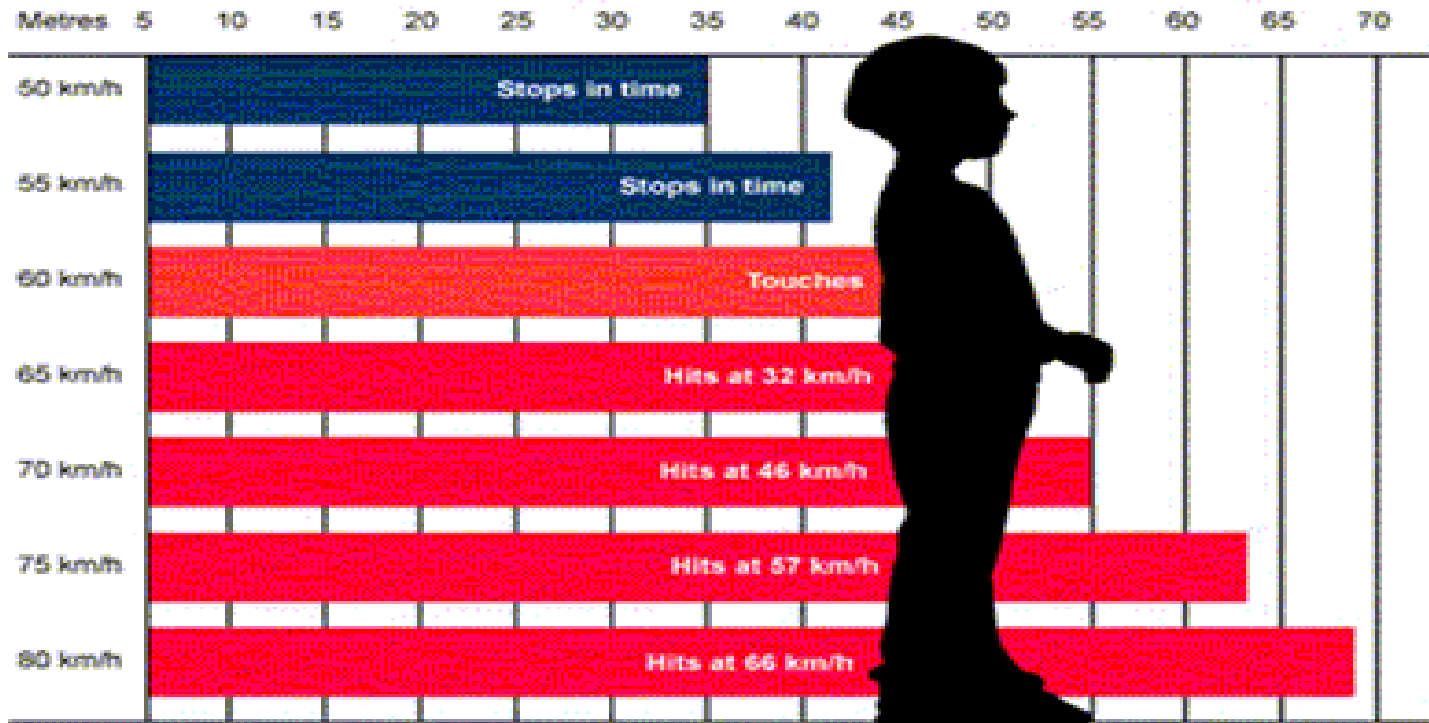
# Low-level speeding

DEPARTMENT  
OF JUSTICE

State Government  
**Victoria**

## THE FASTER YOU GO THE HARDER YOU HIT

The road is dry, you have a modern vehicle with good brakes and tyres. A child runs onto the road 45m ahead of you while you are travelling in a 60 kph zone. Will you stop in time?



# Epidemiological studies



- Epidemiological studies include:
  - case-control studies
  - comparisons of crashes and casualty rates in jurisdictions with different speed limits
  - longitudinal studies examining crash rates before and after changes in speed limits.

# Compelling evidence



- A study by the University of Adelaide for the Australian Transport Safety Bureau in 2002, shows that:
- *"...in an urban 60 km/h speed limit environment ... the relative risk of being involved in a casualty crash ... was found to approximately double for each 5 km/h increase in free travelling speed"*.

# Evidence 2



- A 2004 report by the Norwegian Institute of Transport Economics that subjected 98 separate studies on speed and accidents/casualties to a meta-analysis found that:
- *“There is a strong statistical relationship between speed and road safety. When the mean speed of traffic is reduced, the number of accidents and the severity of injuries will almost always go down. When the mean speed of traffic increases, the number of accidents and the severity of injuries will usually increase.”*

# Further evidence



- These and other studies found:
  - There is a strong statistical relationship between speed and crash rates.
  - Speeding is the number one road safety problem in most countries around the world

# Speed cameras

- Changing driver behaviour is key.
- The best way to change the behaviour of motorists who speed is through a combination of education and enforcement.
- But are cameras the best way to effect this change? The answer is 'Yes'.



# Studies of speed camera programs

- Victoria's speed enforcement program has been the subject of significant research by the Monash University Accident Research Centre (MUARC).
- MUARC has completed a number of evaluations of Victoria's camera programs and **they all conclude that speed cameras reduce road deaths and injuries.**



# Cameras as a deterrent

- Speed cameras work to reduce road trauma by deterring drivers from speeding through detection and appropriate punishment, based on accurate and reliable speed measurement.
- Speed cameras achieve speed reductions by specific and general deterrence. Ie- when drivers receive a speeding infringement they subsequently tend to drive at reduced speeds. Slower average vehicles speed translate into reduced crashes.



# 2007 MUARC report: 'Overall impact during 2001-2004 of Victorian speed-related package'



- The study evaluated the effectiveness of a speed-enforcement package which included:
  - an 50% increase in speed camera operating hours
  - a lowering of cameras' speed detection threshold
  - Reduction in the general urban speed limit from 60km/h to 50km/h
  
- Evaluation of the crash effects of the package show clear reductions in the number of casualty crashes associated with its implementation.

2003 MUARC report: ‘The interaction between speed camera enforcement and speed-related mass media publicity in Victoria ’

- The study monitored the number and severity of casualties over time and compared crashes to areas that did not have heightened speed camera activity. In areas where there were very high levels of speeding enforcement, the fatality risk was reduced by 41%.
- Conversely, where there were relatively low levels of speed camera fines, in following months the fatality risk increased by 44%.



# 2003 MUARC report ‘Speed Enforcement Research: Principles Learnt and Implications for Practice’



- The study found:

*“All types of speed enforcement examined by MUARC have led to at least some positive impact on either casualty crash frequency, crash severity or driver behaviour. In most cases, this effect has been significant.”*

## 2003 MUARC report 'Scientific basis for the strategic directions of the safety camera program in Victoria'

- The introduction of various speed enforcement technologies from the 1980s onwards in Victoria has significantly reduced crashes, deaths and injuries.
- Signed, fixed speed cameras are a cost-effective means of addressing specific areas where crashes occur and the use of unsigned, mobile cameras reduce speeding across the entire road network rather than just where a camera is known to be located.



# Conclusions

- These findings strongly support the continued use of speed cameras. These studies are publicly available. You can download them for free.
- This type of evidence is why the government is unashamedly tough on speeding.
- We could have chosen to ignore the evidence and have enforced speeding at some arbitrary level above the set limit – say 10% - but more people would be killed and injured as a result.



# Conclusions

- Instead, the Victorian Government has continued its history of developing and implementing research-based road safety initiatives and as a result Victoria one of the safest places in the world to drive.
- Road safety is fundamentally a numbers game. Seemingly small reductions in speed – just a few kilometres per hour – when applied across Victoria’s 3.4 million registered drivers can make a huge difference.

