



# Road Safety – A (Global) Mid-term Scorecard

Professor Ian Johnston  
Monash University  
Accident Research Centre  
Australia

**World report  
on road traffic  
injury prevention**

**2004 > 50 million  
injured/dead  
2020 > 80 million  
injured/dead**





# Where?

**Highly motorised countries**

**Prop. of  
global  
deaths**

**14%**

**Motorising countries**

**86%**

- Asia Pacific	44%
- Latin America/Carib.	13%
- Central/Eastern Europe	12%
- Africa	11%
- Middle East	6%
	<hr/>
	86%



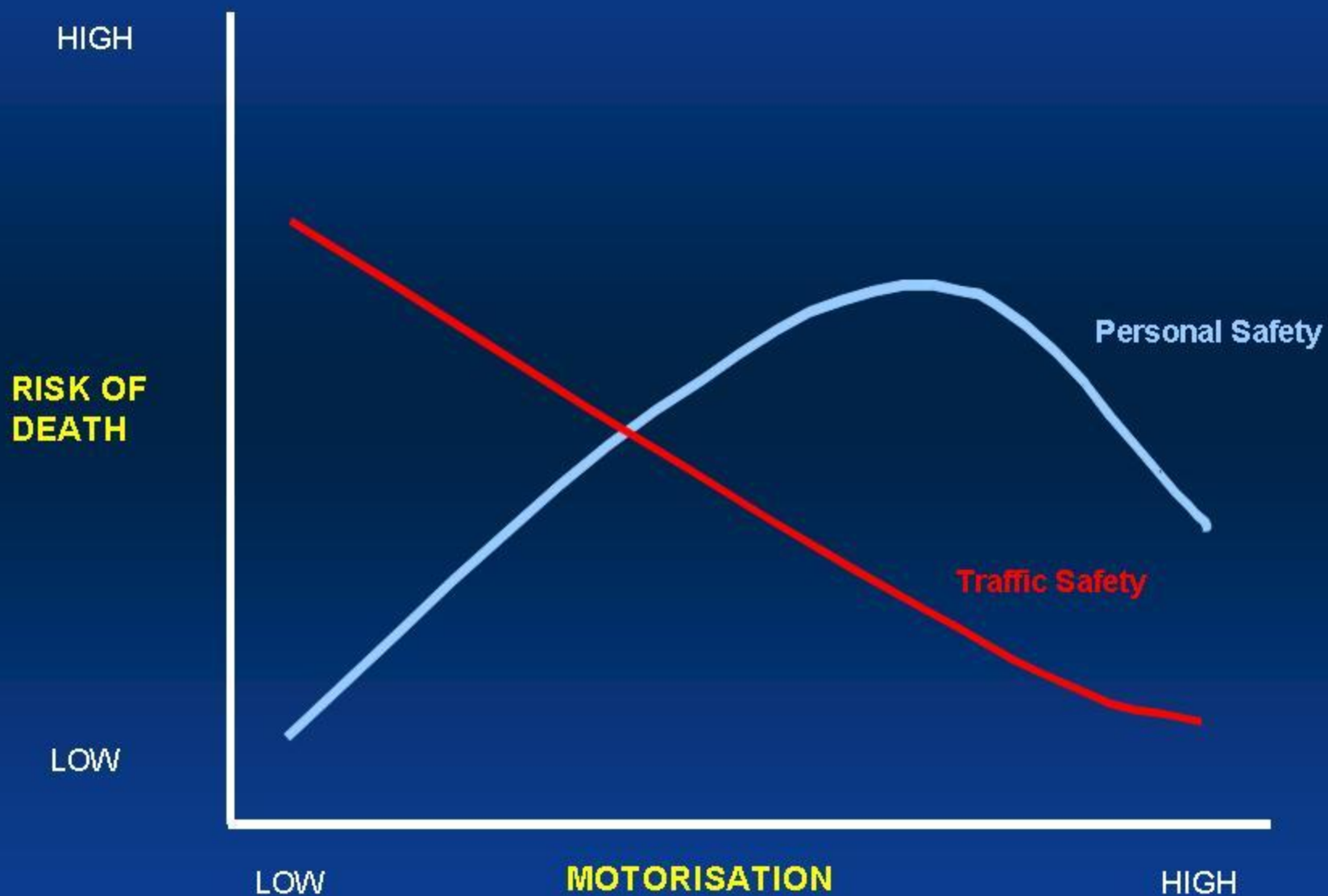
# The Forecast Change by 2020

Highly motorised countries - ↓ 30%

**BUT**

- South Asia (India) - ↑ 145%
- East Asia & Pacific (China, Indonesia) - ↑ 80%
- Sub-Saharan Africa - ↑ 80%
- Middle East/North Africa - ↑ 70%
- Latin Amer./Carib. - ↑ 50%
- Europe/Central Asia - ↑ 20%





## **World's Best Practice (2001)** **(per 100m veh/kms)**

- **Australia**                      **0.9**
- **Netherlands**                      **0.9**
- **Sweden**                              **0.8**
- **UK**                                      **0.8 (1998)**
- **USA**                                      **0.9**



# World's Best Practice (2004) (per 100,000 population)

## THE "SUN" COUNTRIES

- Sweden 5.3
- UK 5.6
- Netherlands 4.9

Vs

- Australia 7.9
- USA 14.5





Road transport is an essential service

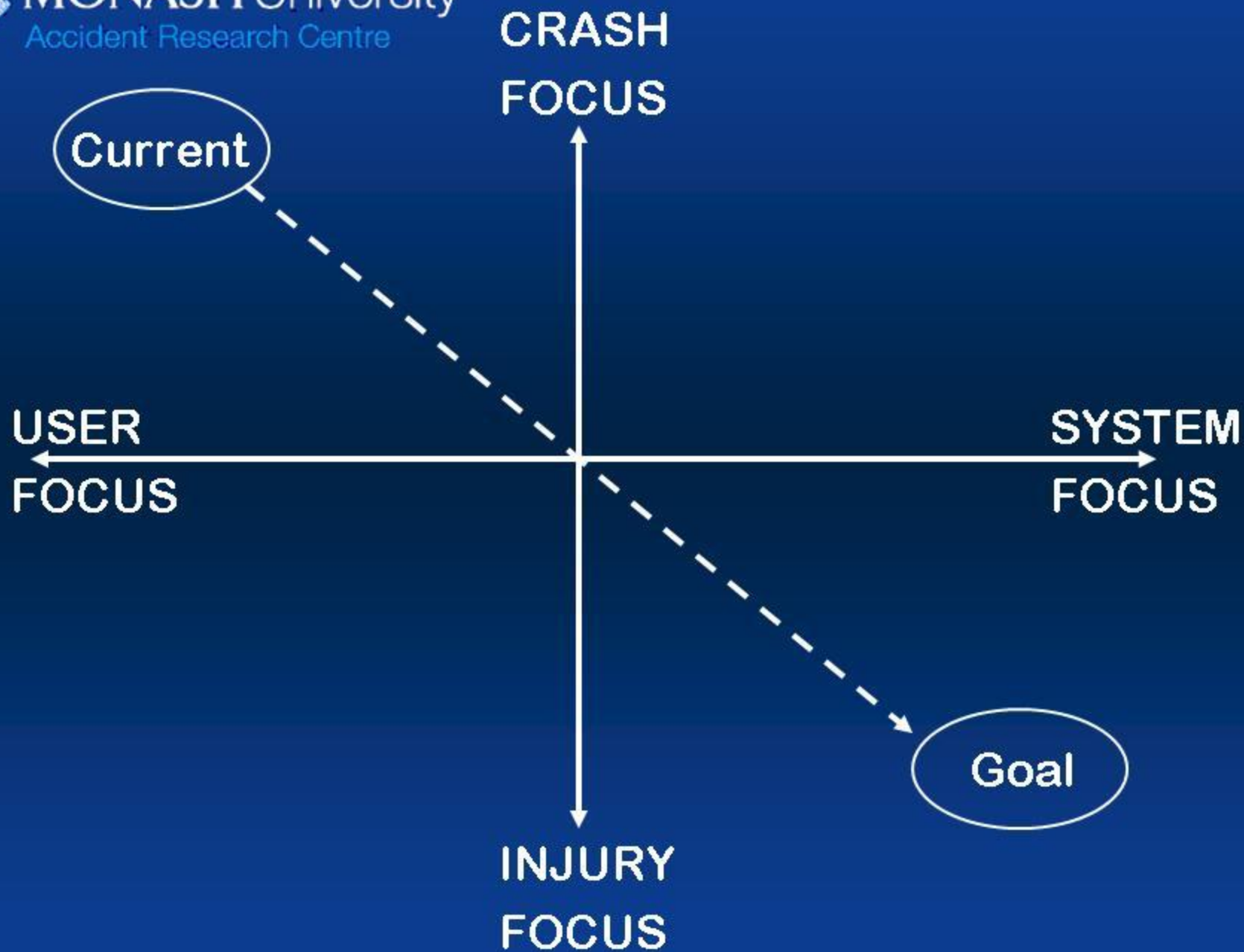
- like water
- like power



The most dangerous daily activity

- leadership
- effective management





# Overall model for safe traffic



## Safe Vehicles

NCAP \*\*\*\*\*

SBR, ESC, pedestrian protection

ISA, alcohol interlock



Safe infrastructure, rural  
(speed limits fully aligned  
with infrastructure safety)



## Safe drivers

100% speed compliance

100% seat belt use

100% sober/drug free

→ **Safe traffic** ←

Safe infrastructure, urban





# Safe Vehicle Scorecard

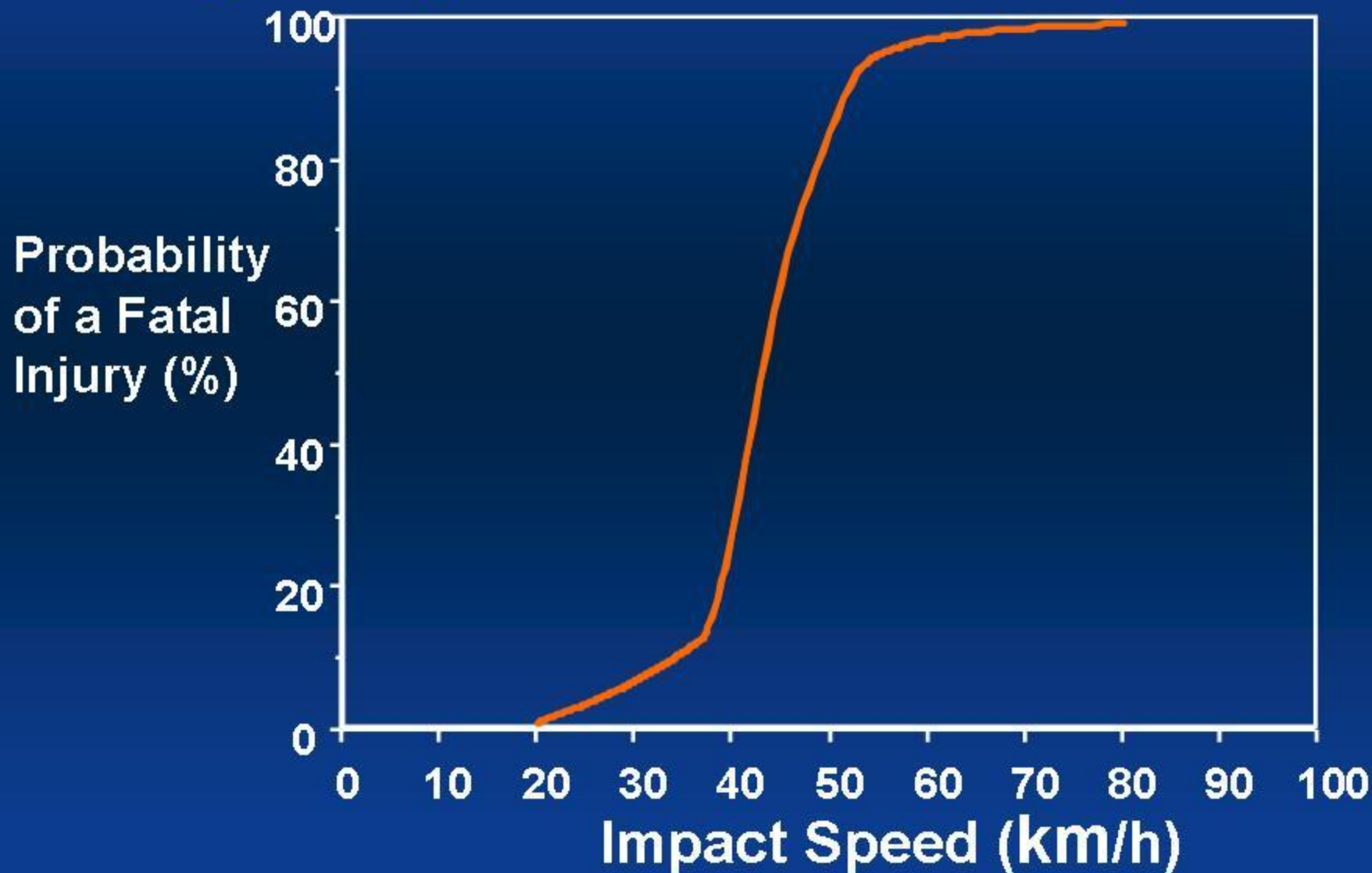
✓ crashworthiness

**BUT** with significant limits





# Probability of Fatally Injuring a Pedestrian by the Speed of the Car on Impact



# Side Impact Collisions

- Maximum tolerable speed = 30 to 50 km/h



# Run-off-Road Crashes

**Maximum  
tolerable speed  
= 30 to 50 km/h**





# Head-on Crashes



**Maximum tolerable  
speed = 70 km/h**





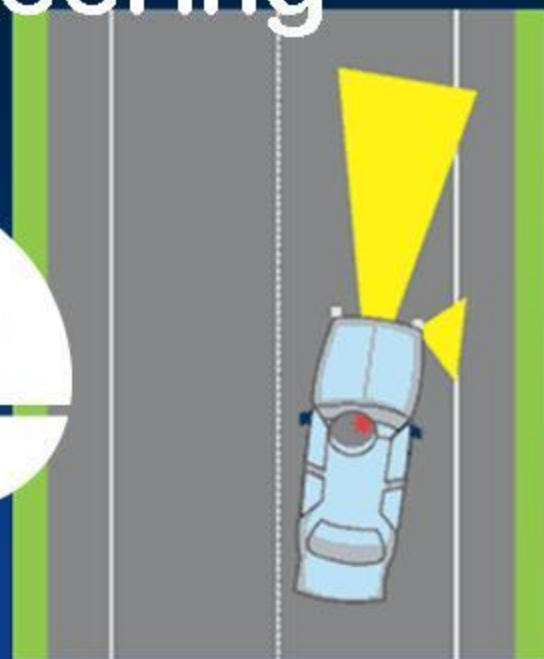
# Safe Vehicle Scorecard

? crash avoidance

✓ tyres, brakes, steering

? ABS

✓ ESP





# Whose Problem?

- manufacturers?
- regulators?
- consumers?





# Safe Road Scorecard (1)

## Urban design/operation

- poles
- intersections and human error
- speed limits (and signage)





## Safe Road Scorecard (2)

### Rural design/operation

- safe roadsides
  - : flawed clear zone concept
- speed limits (and signage)









## Whose Problem?

- infrastructure funding
- engineering mind-set
- mobility is “king”



**And how are we  
going on 5 star  
people?**





- **drink-driving?**
- **speeding?**
- **belt/helmet use?**



# The Public Health Prevention Paradox

Rose: “It is a common irony of preventive medicine that many people must take precautions to prevent illness in only a few.”

- seat belt wearing
- helmet wearing
  - motorcyclists
  - bicyclists
- speeding



When are we prepared to constrain our behaviour for the collective good?

- when the perceived cost is small

BUT we still had to be forced

- seat belt laws
- helmet laws



# We fight like hell when we see a negative for us

- bans on smoking in public places
- “speeding”



## Moderating the urban speed profile

- saves lives
- saves fuel
- reduces pollution
- does not meaningfully increase journey time



## Why, then, can't we do it?

- sectoral opposition
- institutional mindsets
- prevailing culture

We don't feel a  
**personal responsibility**  
for the road toll  
- train crash vs car crash



**We want to blame the extreme behaviours – the drunks, the boy-racers, the drugged – and we want them to be the targets of road policing**

**AND SO THEY SHOULD BE BUT ONLY WITHIN A POPULATION LEVEL PREVENTIVE STRATEGY**



## So what's missing?

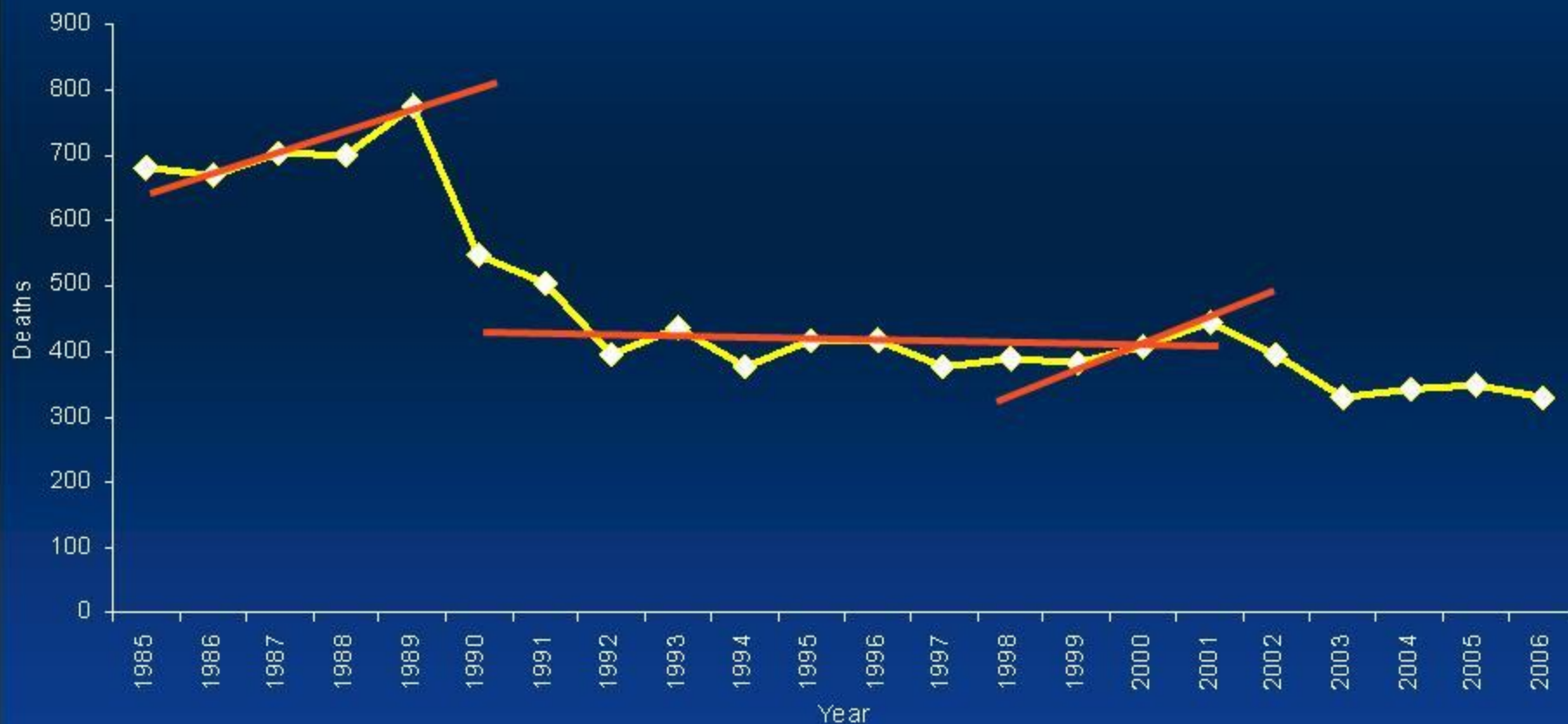
- ⇒ **Commitment**
  - from the top of government
- ⇒ **Institutional Leadership**
  - can't happen without commitment

# We need the 3 Cs much more than the 3 Es

- **Commitment**
- **Co-operation**
- **Co-ordination**



# Road Crash Deaths Victoria – last 20 years



# Immediate Antecedents (1)

- the 1989 'spike' in deaths
- the 2001 'spike' in deaths  
→ history repeats itself



## Immediate Antecedents (2)

- Progress vs Public Target
- Imminence of Election
- Lead Minister a keen cyclist

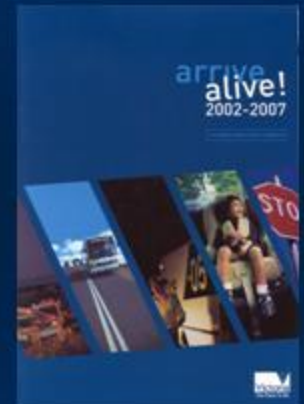




## **“Safety First”** (1996-2000)

Baseline 410 (av. ann. deaths 1993-1995)

Outcome 407 deaths in 2000



## **“arrive alive!”** (2002-2007)

Baseline 414 (av. ann. deaths 1999-2001)

Target 331 deaths in 2007

(a 20% decrease)

# Critical Success Factors

- **Planning**
  - essential but not sufficient
- **Institutional Arrangements and Leadership**
- **Supporting socio-cultural context**

**Formal, public strategy**  
containing **evidence-based**  
action plan to achieve  
**objectively derived** targets

- requires close relationship  
between researchers and policy  
makers



# Critical Success Factors - Summary

## Planning

- formal, public
- realistic (but challenging) targets
- evidence-based strategy/plans

## Institutional

- close relationship between researchers and policy makers
- shared institutional responsibility (police, injury insurer, road and traffic agency) = INTEGRATED EFFORTS
- funder = beneficiary
- history of “quick wins”
- political and bureaucratic leadership

## Community Support

- media on side
- huge public education effort