Creating a Traffic Safety Culture for a Safer Society
The Tenth Global Interactive Forum on Traffic and Safety (GIFTS)

Why crashes happen and how to create a Traffic Safety Culture

Nicola Christie

Professor of Transport Safety UCL

Why Focus on Safety Culture?

Safety culture reflects how safety is managed in a society.

It involves shared beliefs, attitudes, values, and perceptions.

Understanding safety culture can help reduce the rate of incidents.

The Influence of Safety Culture

SAFETY CULTURE SHAPES EMPLOYEE ACTIONS AND ATTITUDES TOWARDS SAFETY.

A POOR SAFETY CULTURE IS LINKED TO INCIDENTS

First research on safety culture

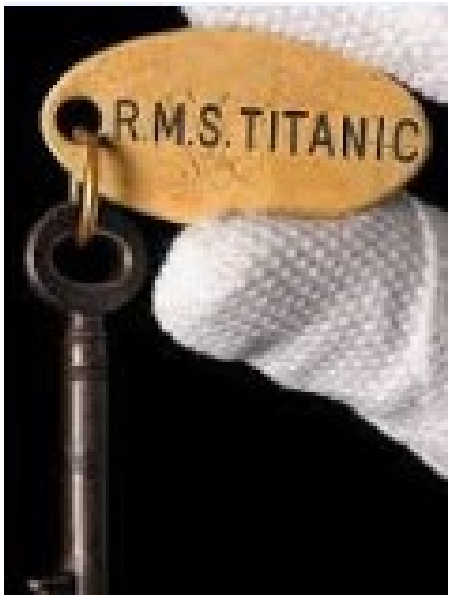
At organizational or workplace safety

Referred to employers and employees

Can be described in terms of a level of maturity

Incidents that revealed poor safety culture

- Deepwater Horizon Oil rig
- "There was not a culture of safety on that rig"



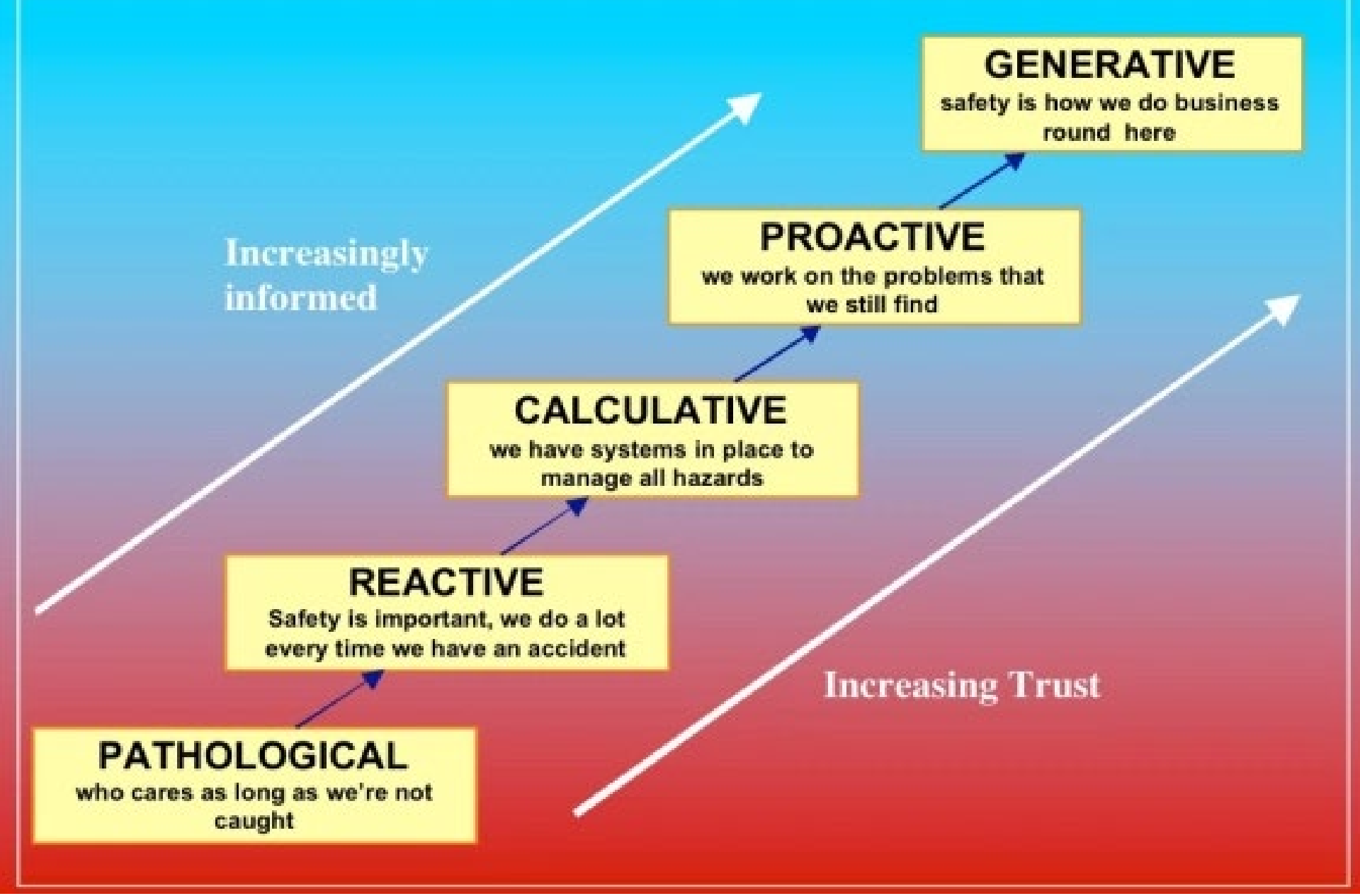


The Titanic ‘unsinkable’

- The key to the binoculars case left behind.
- Without the binoculars, the lookouts had to rely on their eyes, and only saw the iceberg when it was too late.

Titan

- The Titan submersible, operated by OceanGate Expeditions, imploded while attempting to explore the Titanic wreckage in June 2023
- Very poor safety culture



Hudson 2001https://m3rsms.com.au/wp-content/uploads/2015/09/Hudson-Long-Hard-Winding-Road-safety-culture-article1.pdf

Five components of safety culture

Leadership: Leaders take tough actions, and everyone knows their stance on managing risks—whether they take or avoid them.

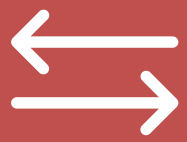
Respect: Individuals and the dangers they face are respected. Experts, regardless of rank, are heard, fostering openness about errors and near misses.

Mindful: Everyone stays alert and prepared for the unexpected

Just and fair: Clear, agreed-upon boundaries between acceptable and unacceptable behaviour, with understood consequences.

Learning: The culture adapts, implementing reforms based on lessons learned, even when costly or challenging.

What is Traffic Safety Culture?



Traffic safety culture refers to the collective values, beliefs, attitudes, and behaviours that shape how individuals and groups approach safety on the road.

It encompasses views on traffic laws, the importance of safety, and the behavioural norms of drivers, pedestrians, and other road users.

Key Components of Traffic Safety Culture

1. Beliefs and Attitudes: Risk perception, attitude towards safety measures, and social norms.

2. Behaviours: Compliance with traffic laws and safe practices by drivers, pedestrians, and cyclists.

3. Organizational Influence: Government policies, educational programmes, and community/media influence.

4. Environmental Factors: Road conditions, design, and use of safety technology.

Importance of Traffic Safety Culture

Reducing collisions and casualties: Promotes safe driving behaviours.

Promoting Responsible Behaviour: Encourages consideration for the safety of others.

Economic Benefits: Lowers healthcare costs and economic loss due to crashes.

Quality of Life: Contributes to safer and less stressful road environments.

Different levels of traffic safety culture maturity

Many of the best performing countries have a tradition of national road safety policies and targets

These reflect the political will of a government to act

Often reflected in strategies, vision statements and casualty reduction targets

Examples of why political will matters

- In July 2002, French President Jacques Chirac declared road safety one of his four main priorities.

- In 2000, there were 15 people killed per billion vehicle kilometres driven and 14 per 100 000 inhabitants

Road safety measures introduced in France

Measures (2000 -2010) in road safety included:

- Permanent automated speed cameras were introduced in 2003.
- A national council on road safety was established
- Probationary licences were introduced in 2004.
- A driver caught exceeding the maximum BAC level would lose six demerit points out of 12 (or six out of six for drivers during probation).

Impact of road safety measures introduced in France

- Deaths reduced by half by 2010.
- 75% of the improvement to a reduction in average speed
- 11% to improved vehicle safety.
- At the same time, traffic was up 7%

ELSEVIER

Transportation Research Procedia

Volume 72, 2023, Pages 1669-1676

Differences in road safety 'logics' between high income countries (HICs) and low income countries (LMICs)

Wouter Van den Berghe [a] ✉, Nicola Christie [b]

https://doi.org/10.1016/j.trpro.2023.11.639 ↗

Developing a safety culture depends on context

Can't 'cut and paste' policies in high income countries to low income countries

India

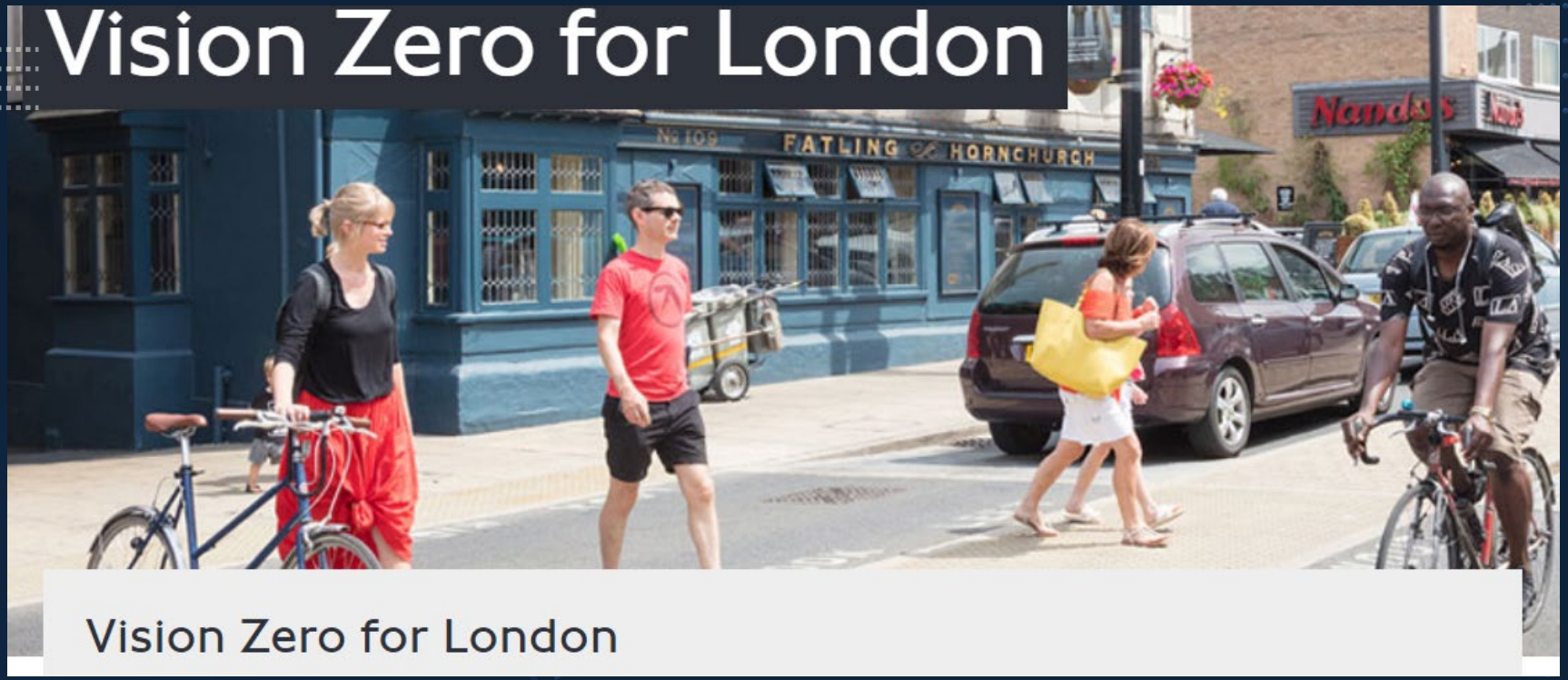
Low level of traffic safety culture maturity

- Informal rules govern roads
- Invisible burden on the poor
- Road safety efforts hampered by poor data
- Cultural attachment to the car
- Progress started

It’s all about governance

- Countries that have a good road safety performance have good governance demonstrated through policies and dedicated resources

Vision Zero for London



Vision Zero for London

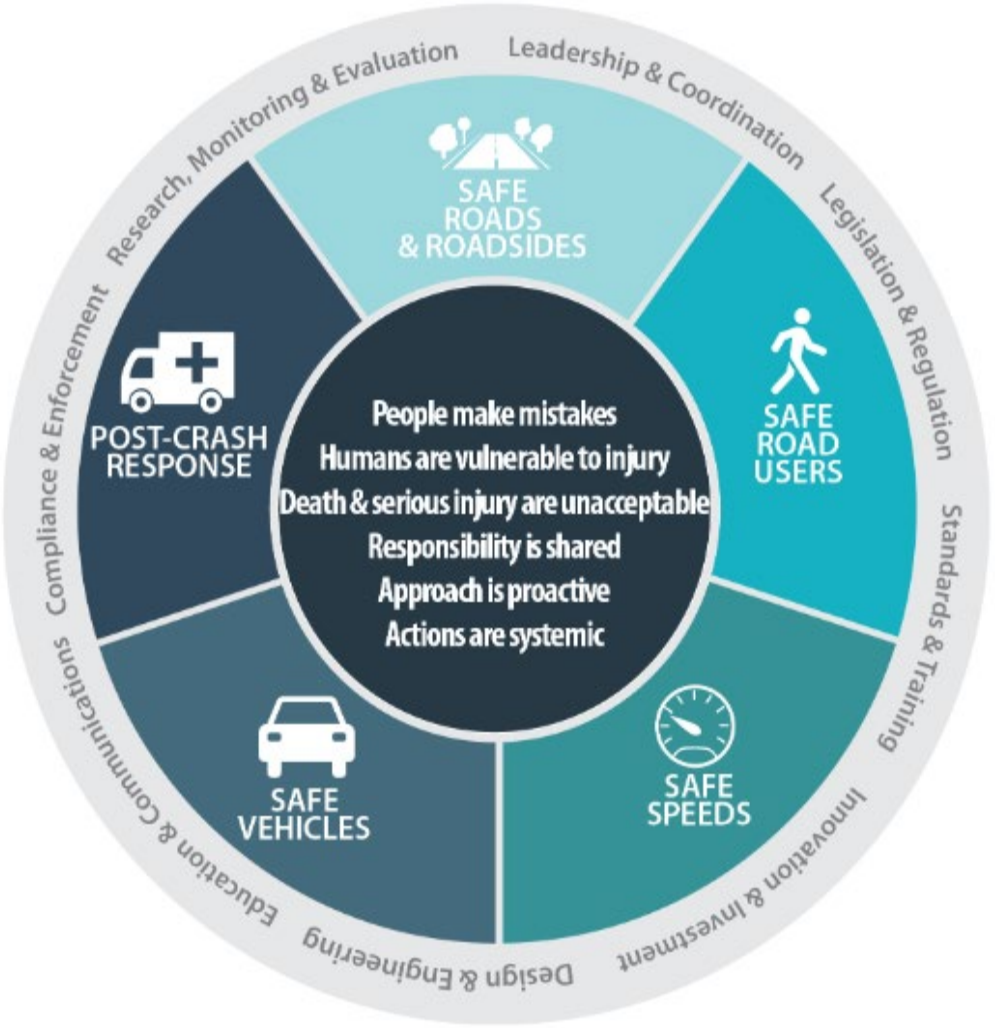
Leadership through policy

- Vision Zero
- Sustainable Safety
- Safe systems

Vision Zero

- https://visionzeronetwork.org/about/what-is-vision-zero/

Safe System



Source: Agilysis, 2022 (based on models by Commonwealth of Australia, 2022; Parliamentary Advisory Council for Transport Safety & Loughborough University, 2017; NZ Transport Agency, 2016; Canadian Council of Motor Transport Administrators, 2016

Road Safety Targets UK

For almost three decades we had road safety target (1983-2010),which led to substantial reductions in death and injury

However, in 2010, policy changed, and targets were abandoned.

Since then, road fatalities 'broadly stable' but not falling

UK long tradition of managing traffic safety

All injury prevention starts with good data

Understanding the ‘epidemiology’ of crashes

Who, what , when and where and why

The fatal four

Texting/emailing and reading on a hand-held phone

Aggressive Driving Behaviours

- Red light running
- switching lanes quickly
- driving closely behind other vehicles
- Speeding

Impairment: fatigue

Impairment: alcohol

Impairment: recreational drugs

Impairment: prescription drugs

Changing culture is about changing behaviour

Government levers to change behaviours

Regulation & enforcement

Limits choice by force

Encouragement/ Incentives

Limit choice by cost & reward

Information & education

Maintains choice; Informs & persuades

'Nudging'

Maintains freedom of choice, makes *good* choices easier to make

Behaviour change

Need to have a clear idea what motivates compliance

- Multiple motivations
  - Fear of causing death
  - Fear or threat of losing licence and impacts on family & employment & social status (shame)
  - Fear of having to pay fine

  - Motivation to conform or not (influence of peers, others, attitude to authority/risk taking)
  - These may vary with different segments of the population

Government monitors compliance and reports on enforcement activities

- Seat belt wearing rates
- Levels of mobile phone use whilst driving
- Drink driving
- Drug driving
- Speed compliance

Strategies to Strengthen Traffic Safety Culture

- Education and Awareness Campaigns: Educating the public on the consequences of risky behaviour.
- Creation and Enforcement of Traffic Laws: Consistent enforcement to deter risky behaviours.
- Community Engagement: Involving communities in local safety initiatives.
- Role Modelling: Encouraging safe behaviour from public figures and parents.
- Feedback and Reporting Systems: Providing platforms to report unsafe conditions.

PACTS

Parliamentary Advisory Council for Transport Safety

Need capacity

- Dedicated casualty reduction expertise
  - Transport planners and engineers
  - Educators and trainers
  - Enforcers
  - Advocates

Measure and monitor progress

Identify % of drivers believing that the behaviour is dangerous

Perceived Social disapproval -Whether their friends or families would disapprove of the behaviour

Their perceived likelihood of getting caught

Their support for legislation

How much they have engaged in the behavior

Interventions

- Need to be holistic and ‘system’ wide
  - Multifaceted
  - Multiagency
  - Evaluated

Speed


Average
speed


When it rains
it kills.
Slow down.
Last year 2,918 people were killed or seriously injured when driving in the rain.
highways
england


YOUR
SPEED


50
Pledge
to drive safely


40
GOOGLE

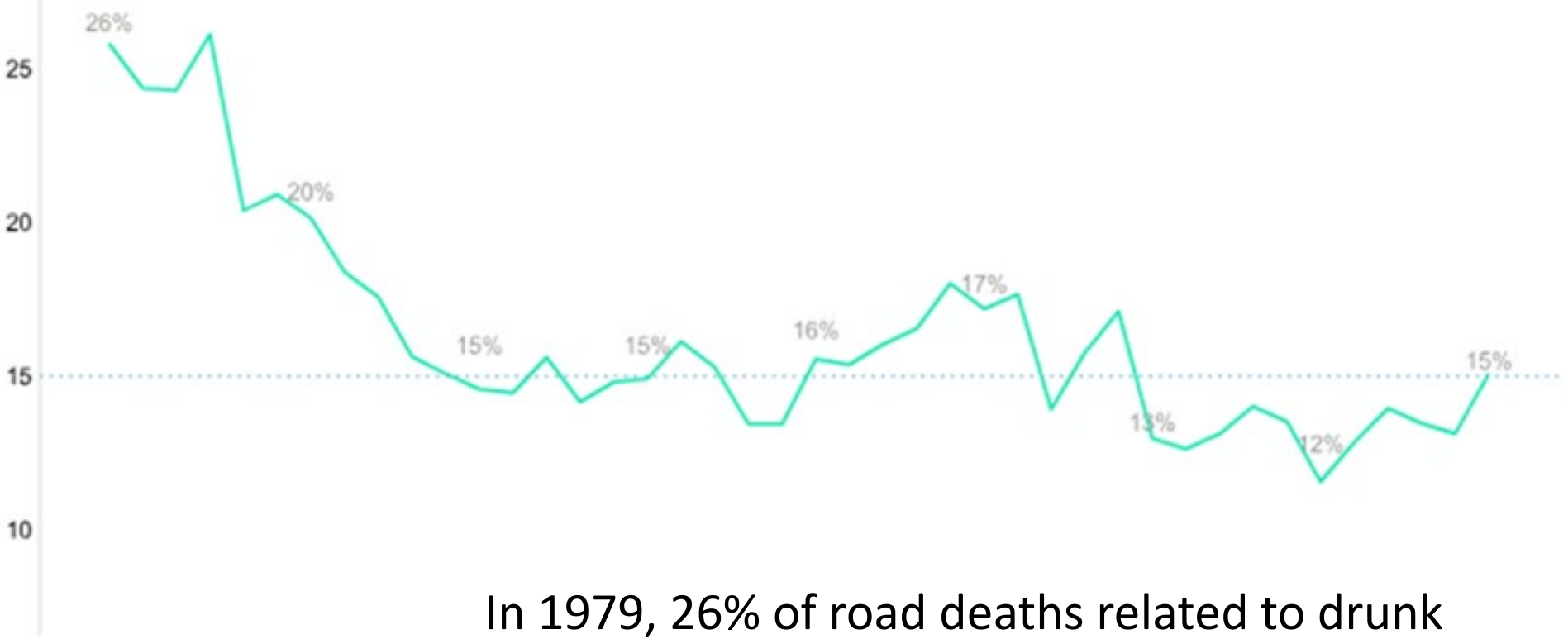

60


National
Speed
Awareness
Course

Drink driving

- Strong public support for drink-driving laws
- Majority support for harsher penalties e.g. being banned from driving and tougher limits including a zero-alcohol limit
- tough penalties;
- High levels of enforcement;
- Media campaigns (especially those featuring the effects of losing one's license);
- Tackle the norm of socialising with drinks; and social pressure not to drink when driving.

Drink driving measures



Drink-driving in road deaths has fallen over time.

In 1979, 26% of road deaths related to drunk driving.

This had fallen to 15% by 1989.

Drink-drive deaths has varied between 12% and 18%.

In 2020, the rate was 15%.

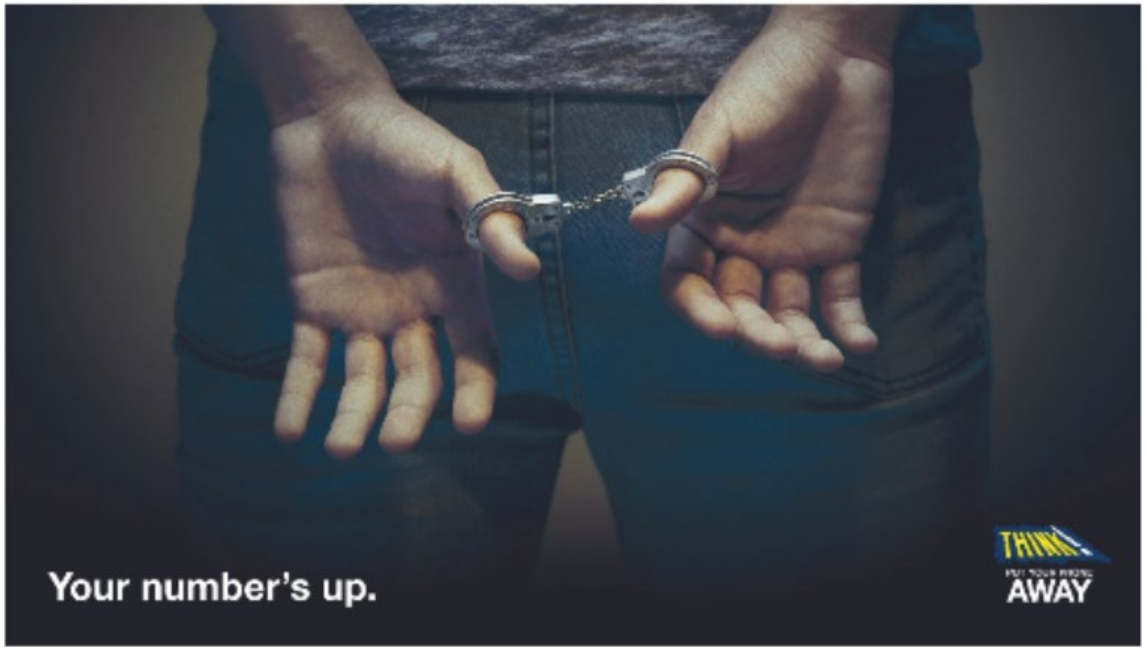
Distraction – mobile phones used while driving described as an epidemic

2018 –harsher penalties

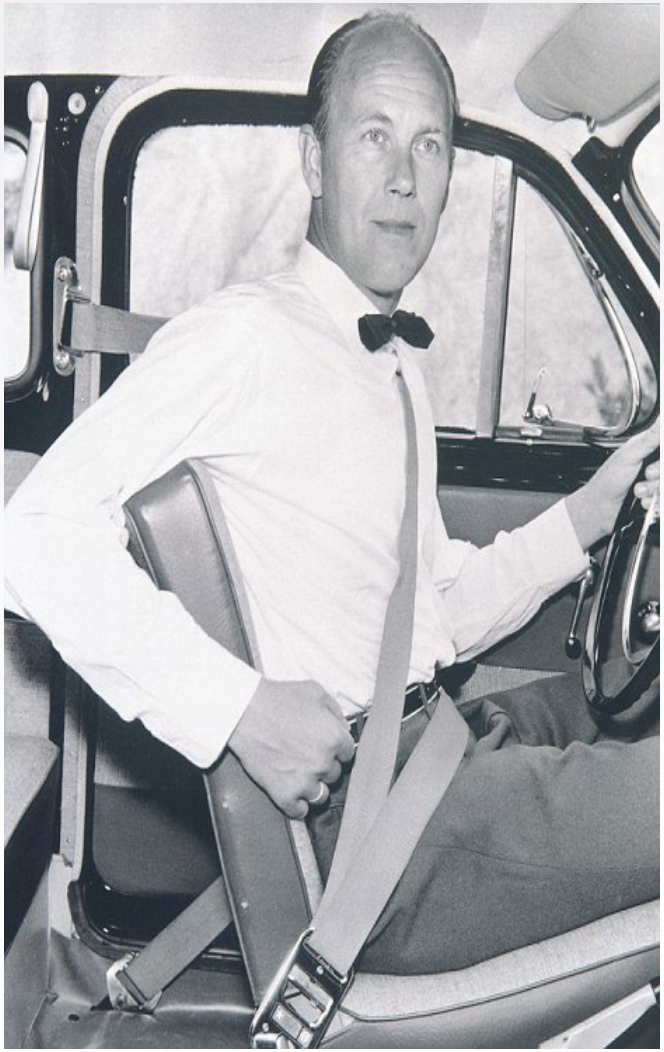
- Newly qualified drivers will lose their licence if caught using a handheld mobile phone at the wheel,
- Penalty points and fines for using a phone while driving will double, to six points and £200,
- Drivers can have their licence revoked if they accrue six points within two years of passing their test.
- Those caught using their mobile twice, or who accrue 12 points on their licence, will face magistrates' court, disqualification and fines of up to £1,000.

Mobile phone media campaigns

Mobile phones



Seatbelts– a 60-year journey



- 3-point seatbelt invented in 1959 (Volvo's Nils Bohlin)
- DfT promoted seatbelt use since 1973
- Seatbelt law 1983, 1989, 1991

Seat belt compliance

- **Pre 1983**: 40% drivers/front seat passengers observed wearing seatbelts (observational survey)

- **1983 law**
  - immediate 25% reduction in driver fatalities
  - 29% reduction in fatal injuries among front seat passengers.

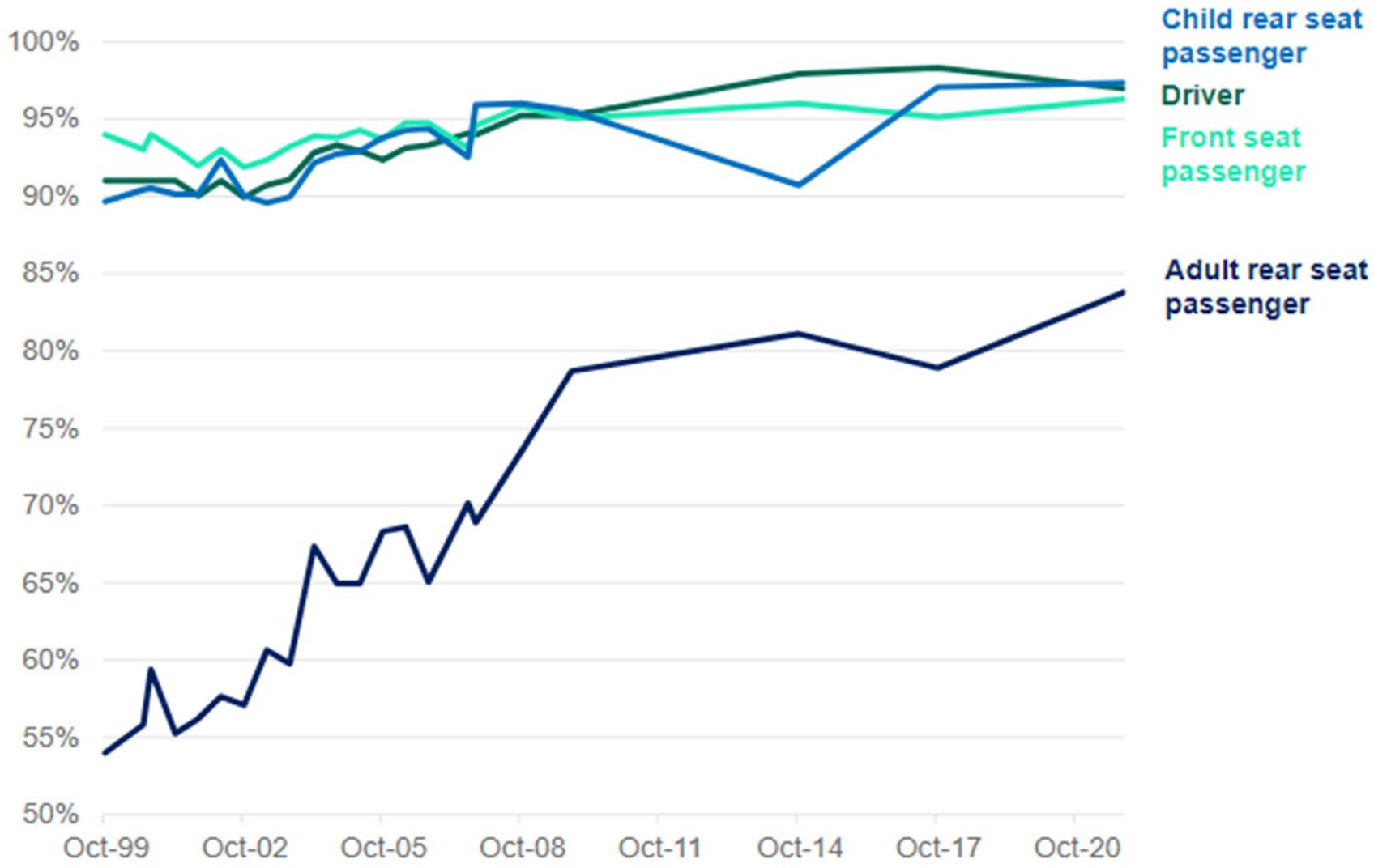
- **Post law:** Seat belt wearing 95% and has remained at 90-95% in observational surveys since

Seat-belts behaviour change

- Behaviour change can be attributed to:
- clear and unambiguous legislation;
- clearly evident benefits;
- high quality media campaigns preceding and accompanying the legislation

‘Clunk-Click’ campaign.

Seat belt wearing rates



New challenges for seat belt non-compliance

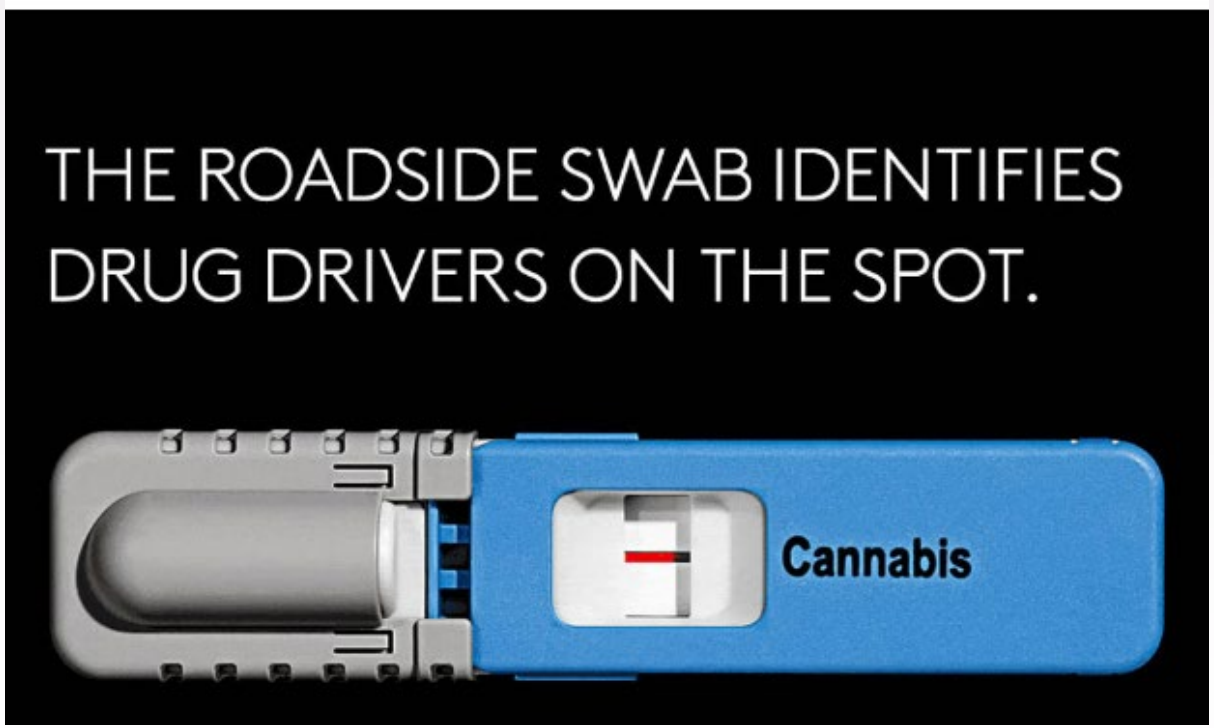
- Rates differ by population groups e.g. deprived areas
- Evidence on smaller hard to reach groups and cultural, habitual behaviours are very challenging to change.
- Use evidence of risk, collisions and social/cultural practices to target groups.
- Need to start with awareness raising and education.

Drug drive law (since 2015)

- a zero-tolerance approach to 8 drugs most associated with illegal use (e.g. cocaine, cannabis, LSD)
- a road safety risk-based approach to 8 drugs most associated with medical uses
- a separate approach to amphetamine that balances its legitimate use for medical purposes against its abuse

Drug drive media campaigns

Roadside drugs test used by police



Traffic safety culture – new challenges

Tesla Autopilot feature was involved in 13 fatal crashes, US regulator says

Federal transportation agency finds Tesla's claims about feature don't match their findings and opens second investigation

- Autonomous and connected vehicles – reliable and safe from software failure or cyber attack?

Challenges to traffic safety culture: micromobility -e-scooters

Illegally ridden e-scooters account for over half of collision casualties

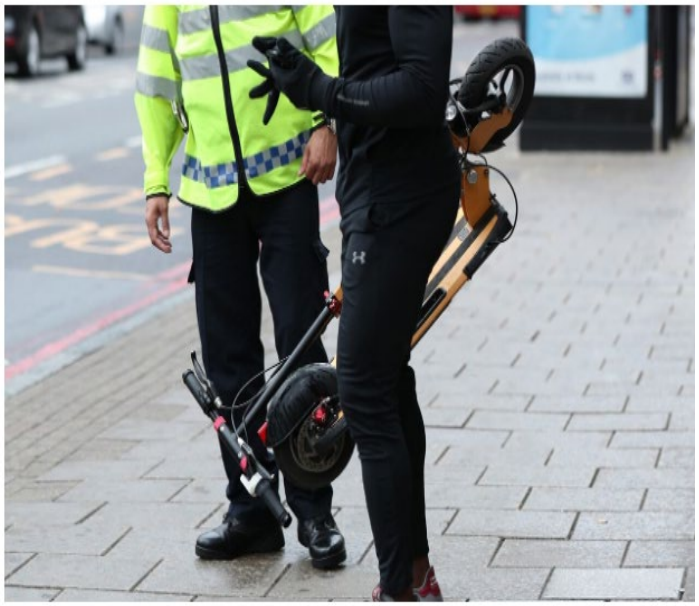
The Department for Transport figures sparked calls from road safety campaigners for a crackdown on the 'wild west misuse' of the vehicles

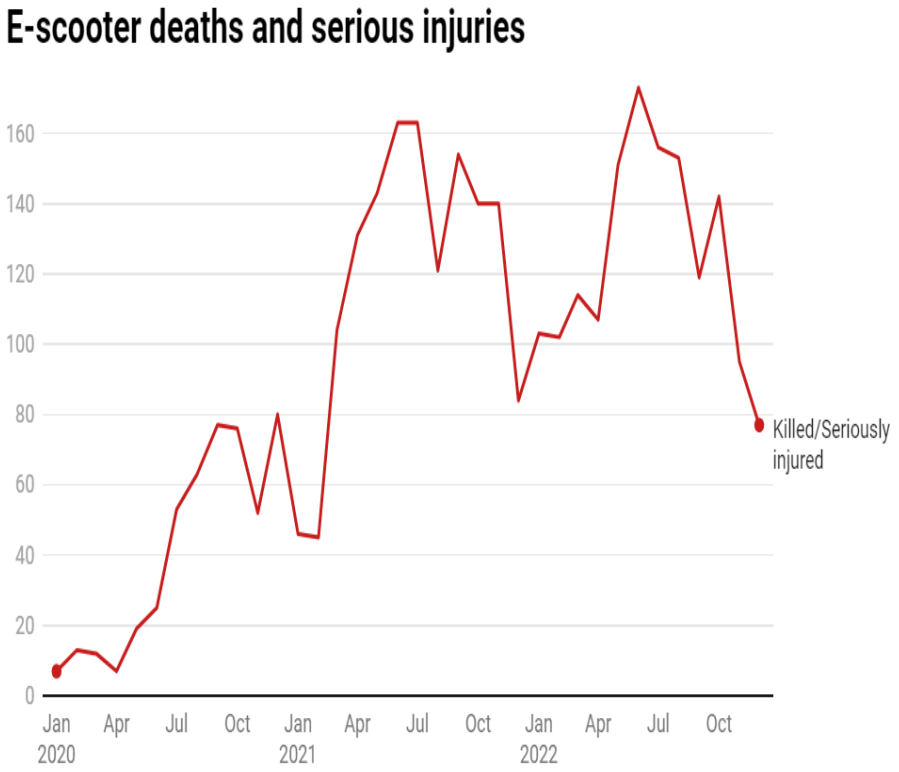
Telegraph Reporters

Related Topics
Electric scooters, Roads, Department for Transport, Road accident

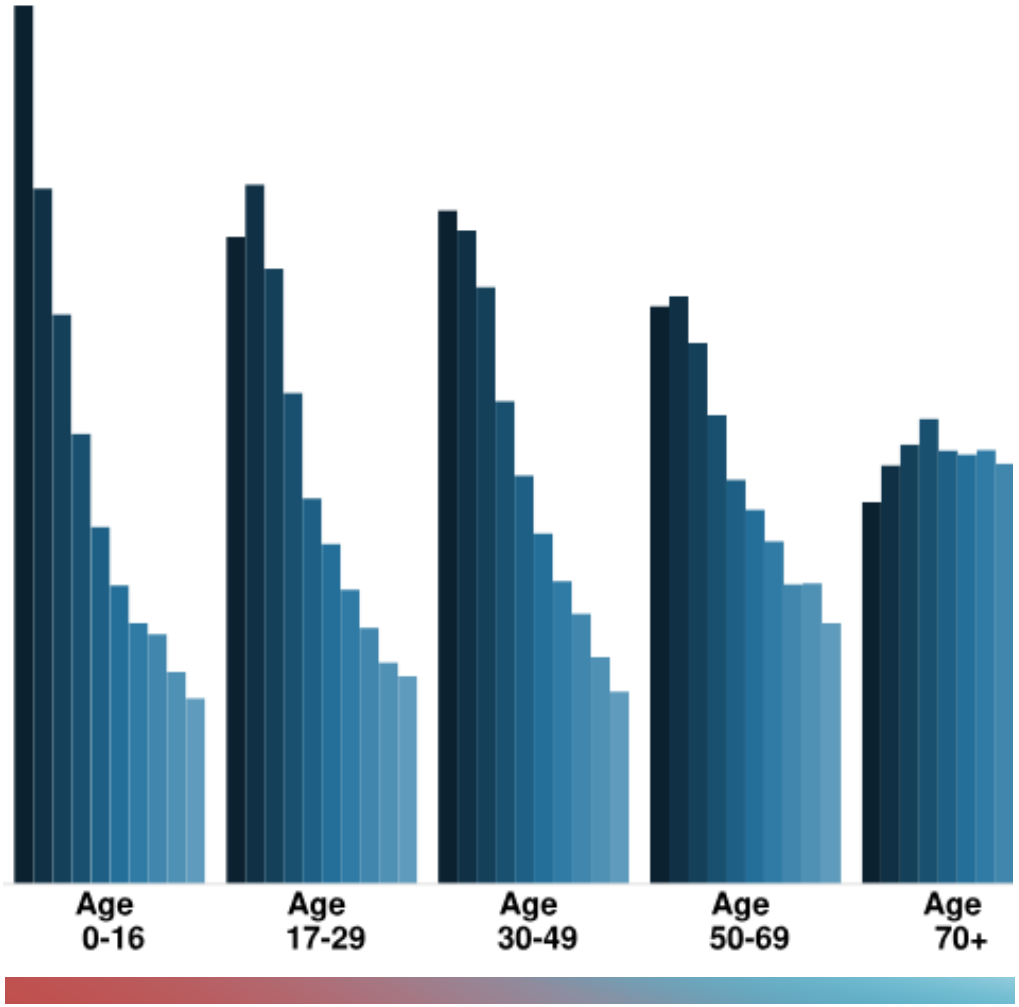
06 January 2024 4:28pm GMT

46





Challenges to traffic safety culture: Poverty and road crashes



- More road crashes in poor areas (darker blue most deprived areas)
- ‘Invisible’ if no data -if its not measured it doesn’t matter ?
- Needs a targeted approach
- Few countries monitor this!

Pedestrians Dept for Transport – England 2023

Challenges to traffic safety culture: electric vehicles

Heavier, faster, quieter- impacts on safety for pedestrians?

Sport Culture Lifestyle

Travel Health & fitness Women Men Love & sex Beauty Home & garden Money Cars

This article is more than **5 months old**

Electric cars more likely to hit pedestrians than petrol vehicles, study finds

Electric and hybrid vehicles are quieter than cars with combustion engines, making them harder to hear, especially in urban areas

Challenges to safety culture: e-commerce and the gig economy

- Delivery riders and drivers rushing around
- Business models that reward fast delivery
- Trade–offs - profit over safety

What is the gig economy?

- Workers get work through a digital platform and get paid per gig or delivery

Low socioeconomic work – the gig economy

- Precarious
- Low paid
- Health and safety risks

Motorcyclists are one of the most vulnerable road users

Motorcyclists are 50 times more likely to die in a crash than car drivers

ELSEVIER

Safety Science

Volume 158, February 2023, 105991

Delivering hot food on motorcycles: A mixed method study of the impact of business model on rider behaviour and safety

Nicola Christie ✉, Heather Ward ✉

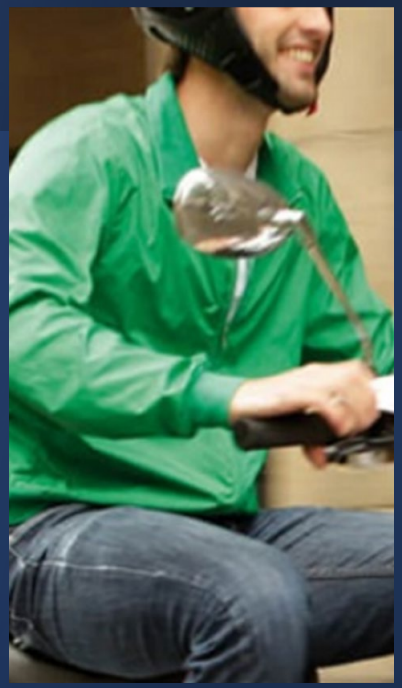
Show more

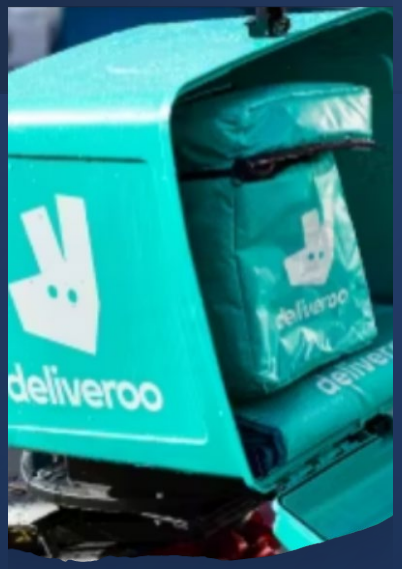
https://doi.org/10.1016/j.ssci.2022.105991 ↗

Compared to riders employed by restaurants App based delivery riders significantly more likely to speed, be distracted by their phone, go through red lights, weave in and out of congested traffic




They are paid more to go out in bad weather, they are less likely to wear protective clothes and more likely to report carrying heavy loads



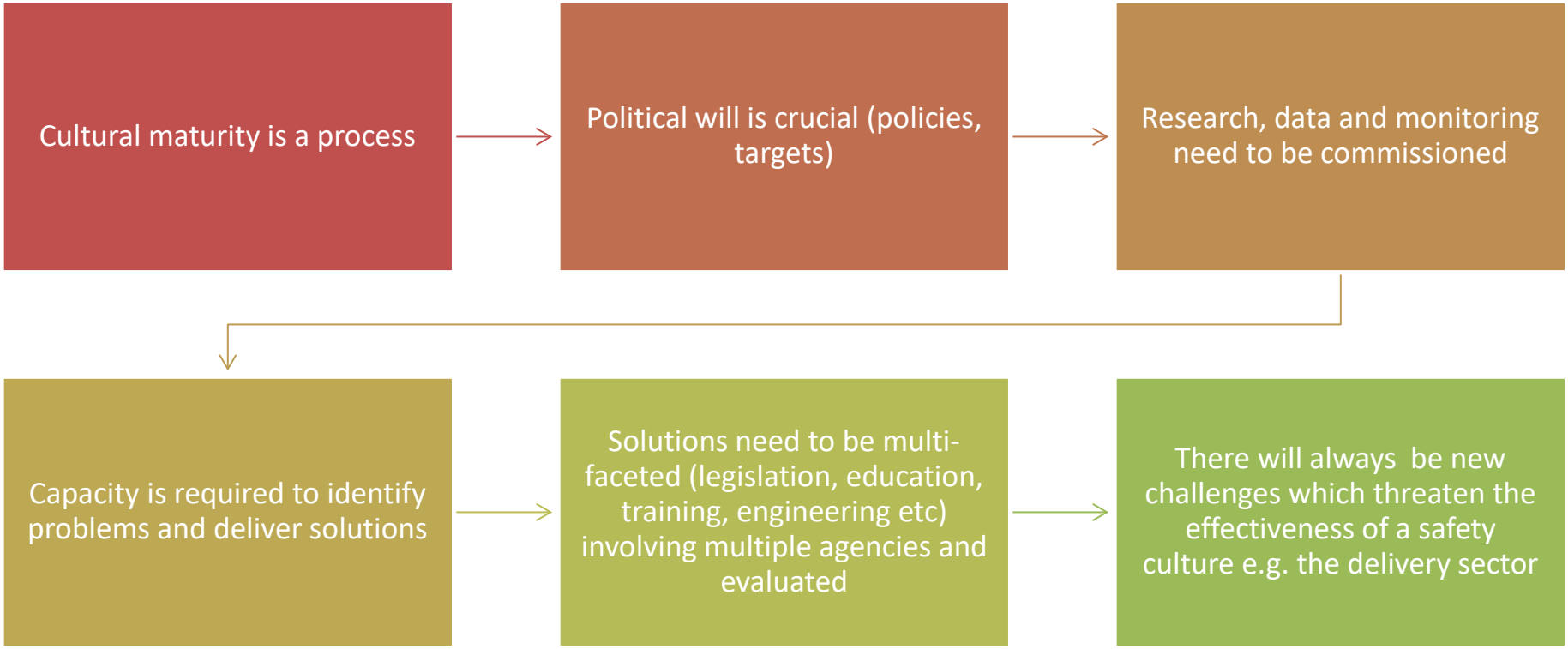


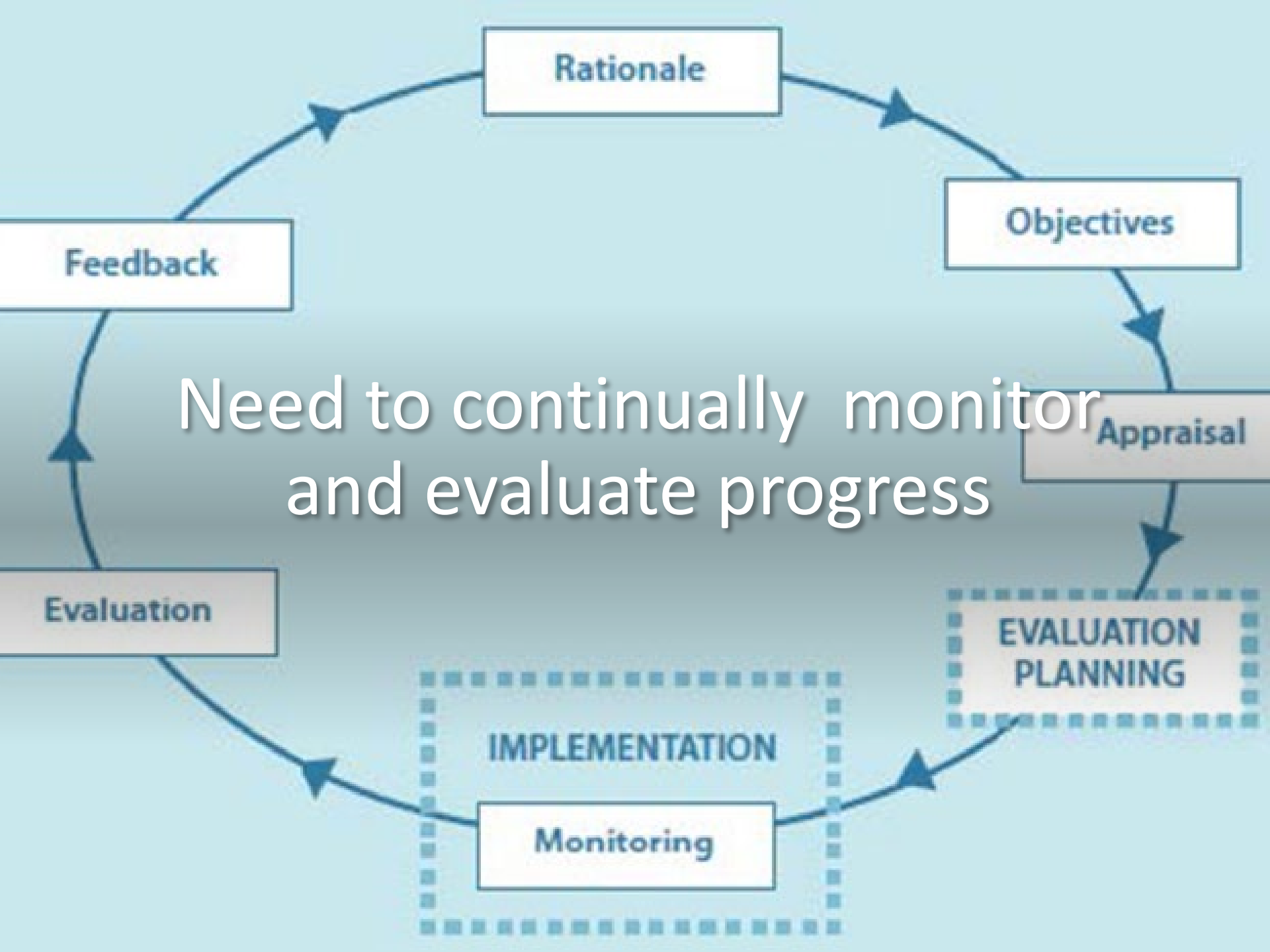
Violations and crashes

- More likely to report being stopped by the police, have penalty points on their licence and be involved in crashes

The gig economy – a perfect storm of risk factors

Developing a traffic safety culture is a process



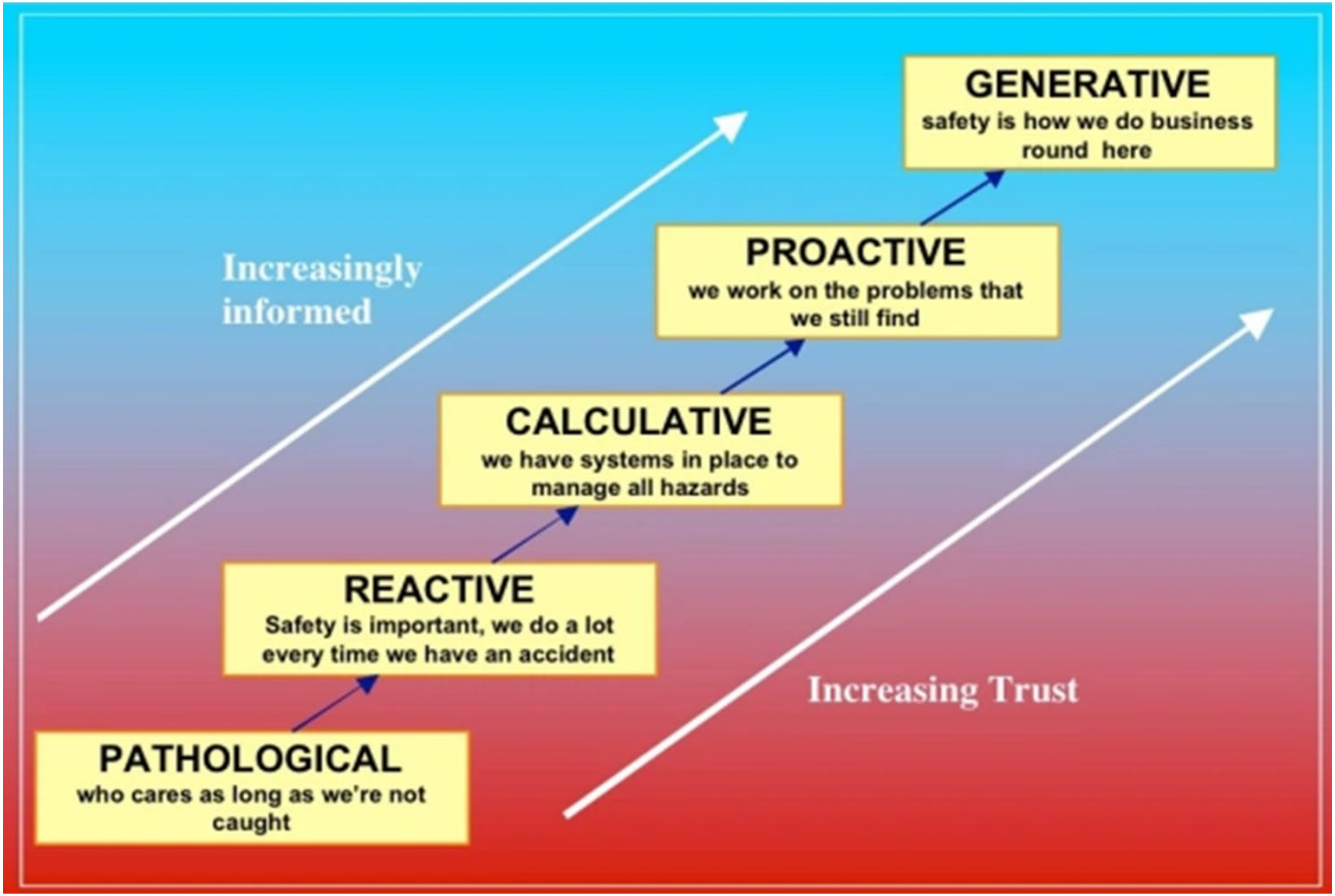


Need to continually monitor and evaluate progress

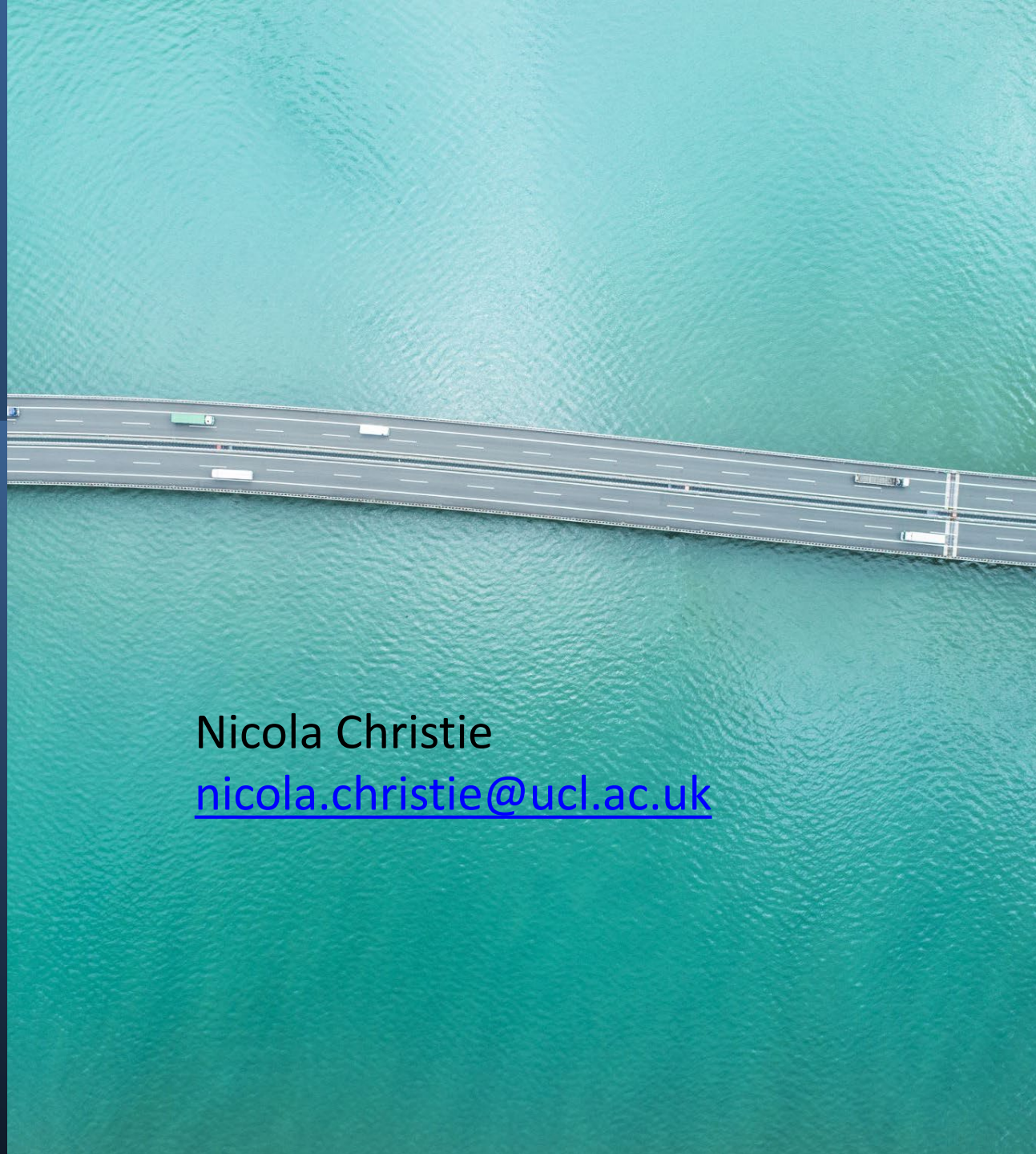
Conclusion

- By fostering a strong traffic safety culture, societies can work towards creating safer roads, reducing collisions and ultimately save lives and create a better society
- Everyone's participation, from policymakers to individual road users, is crucial for building a culture of safety.

Aspire to a generative safety culture



Thank you to IATSS for inviting me and to the audience for listening!



Nicola Christie
nicola.christie@ucl.ac.uk