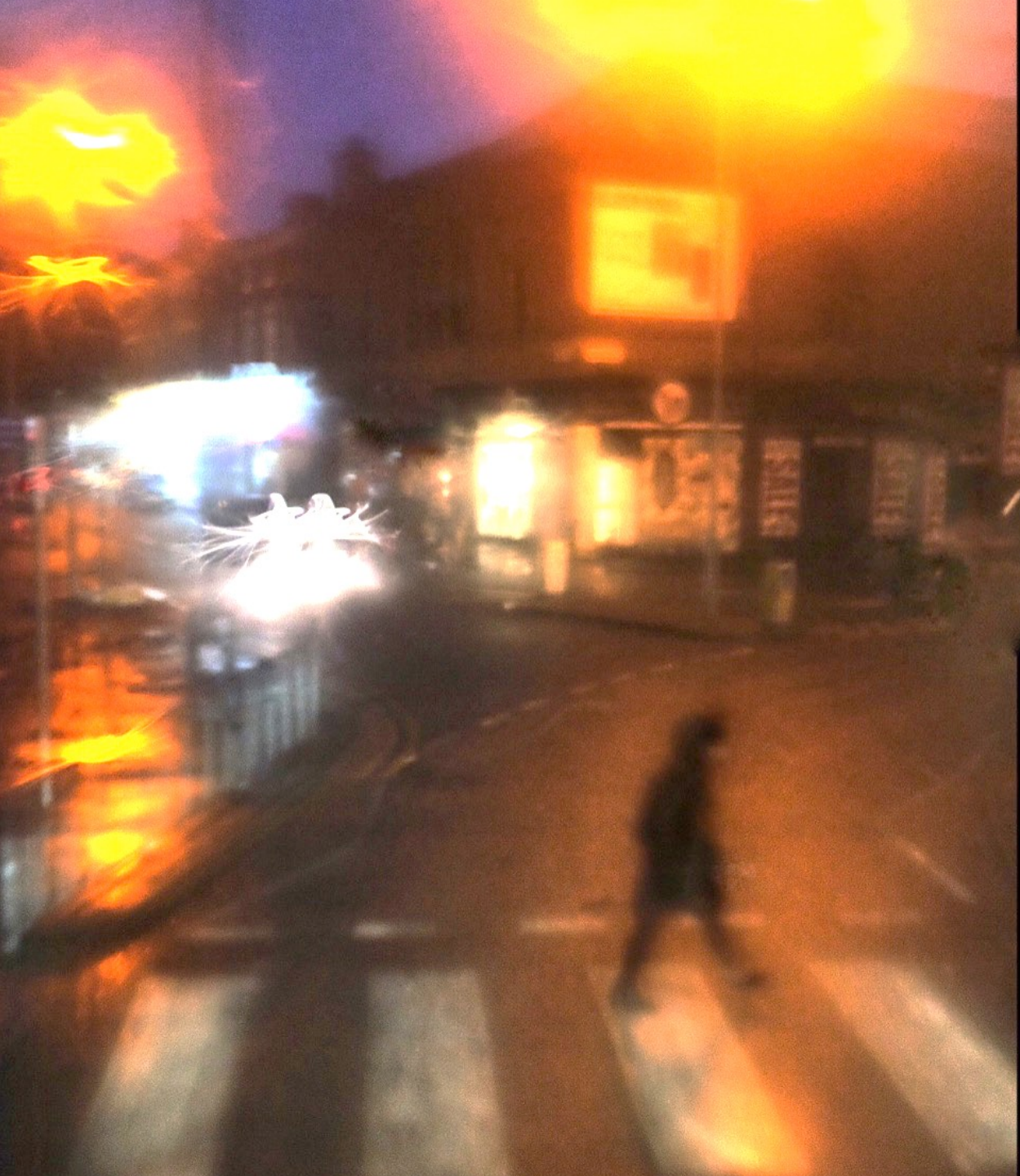
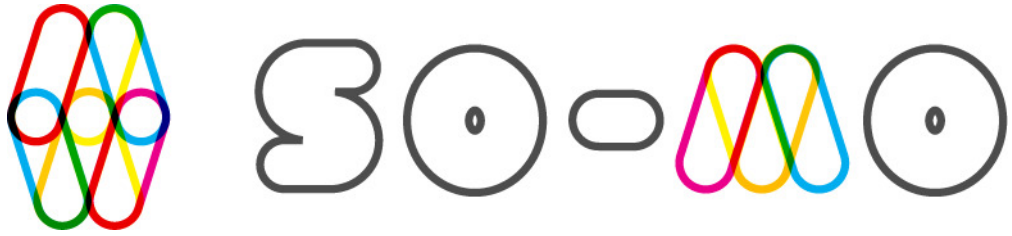


A Nudge in the Right Direction?

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We focus on changing behaviours, using behavioural science and innovation based methodologies.

Our portfolio includes; government, education, along with a number of transport related projects.

who we've helped

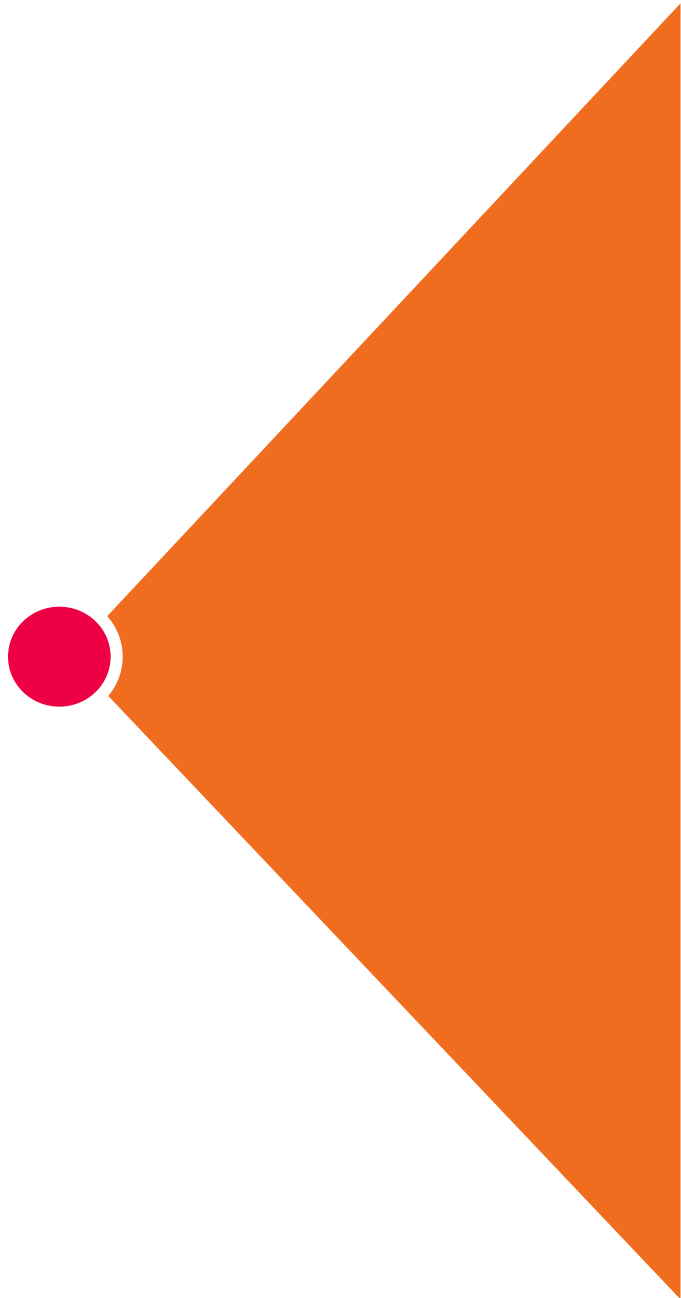


as seen in



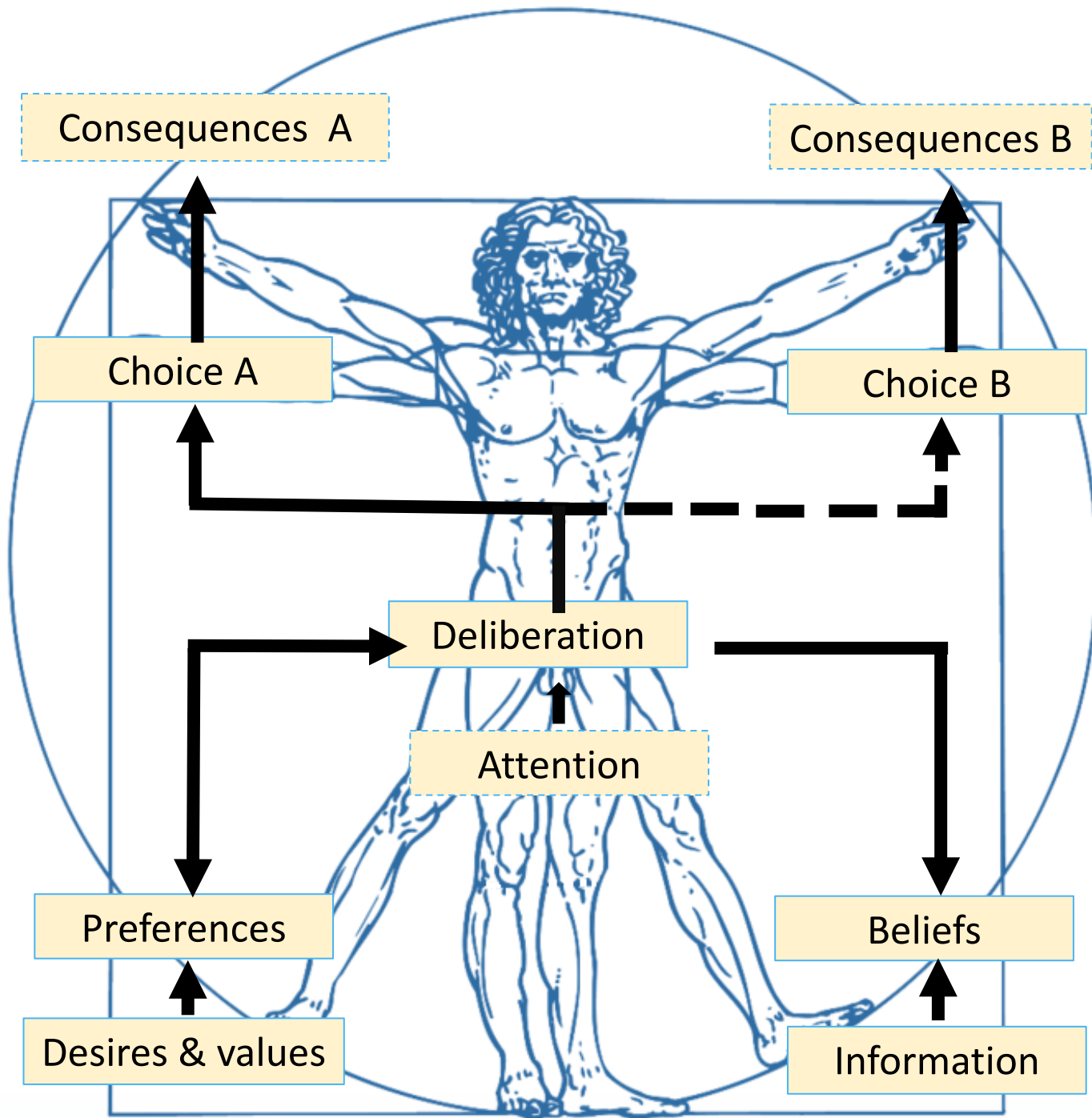
I'll be talking about...

- Where traditional approaches to road safety fall down
- How to identify a behavioural problem
- Why behavioural insights and nudging should become standard practice in road safety

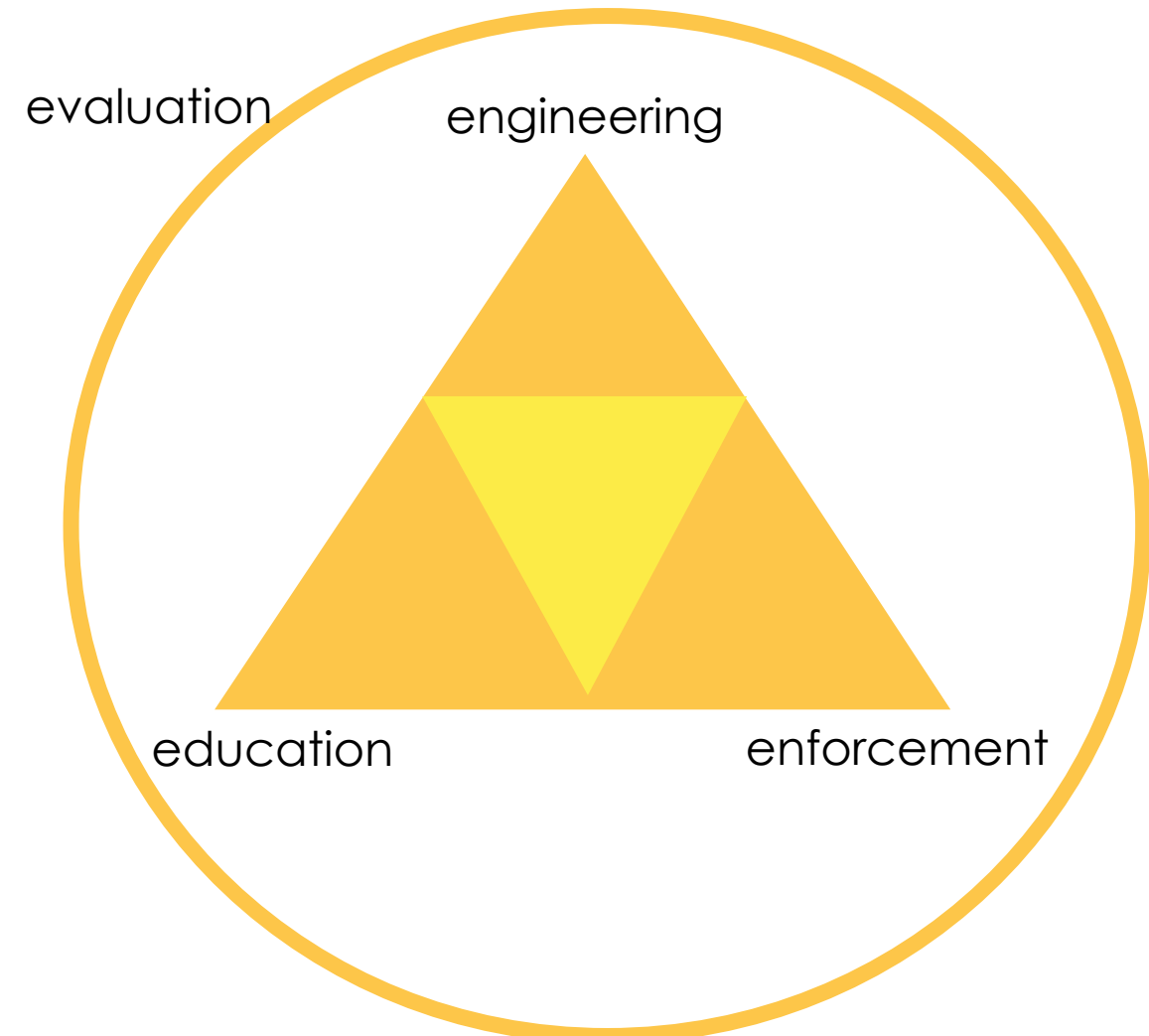


Where
traditional
approaches to
road safety fall
down

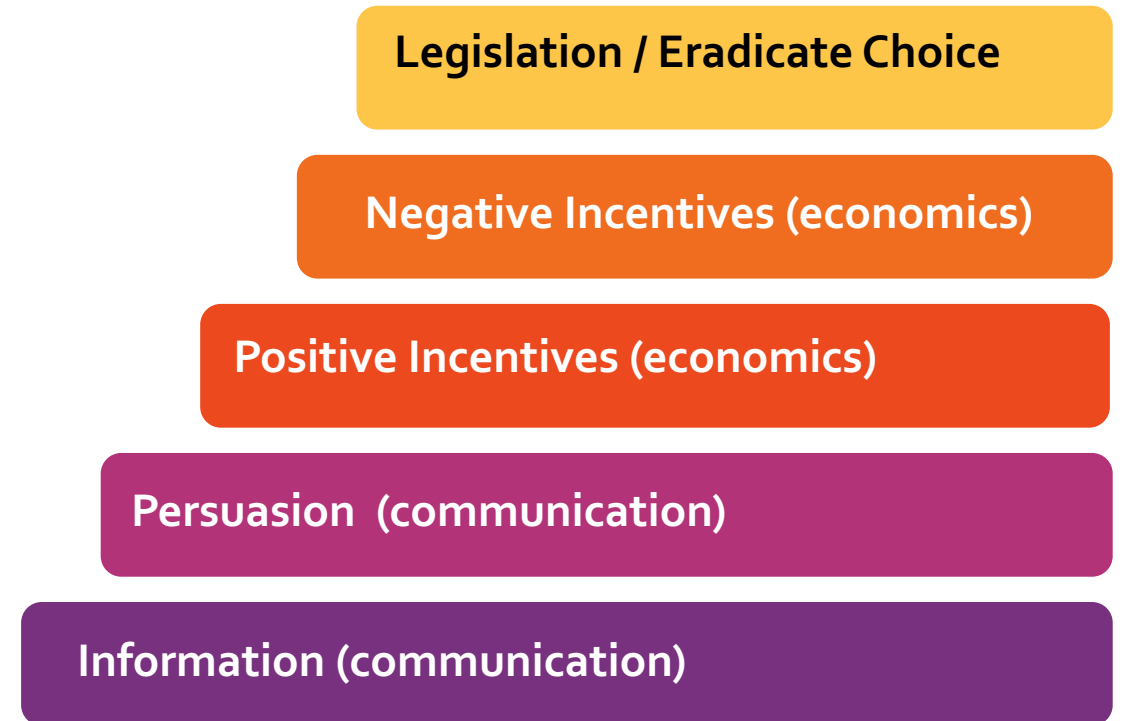


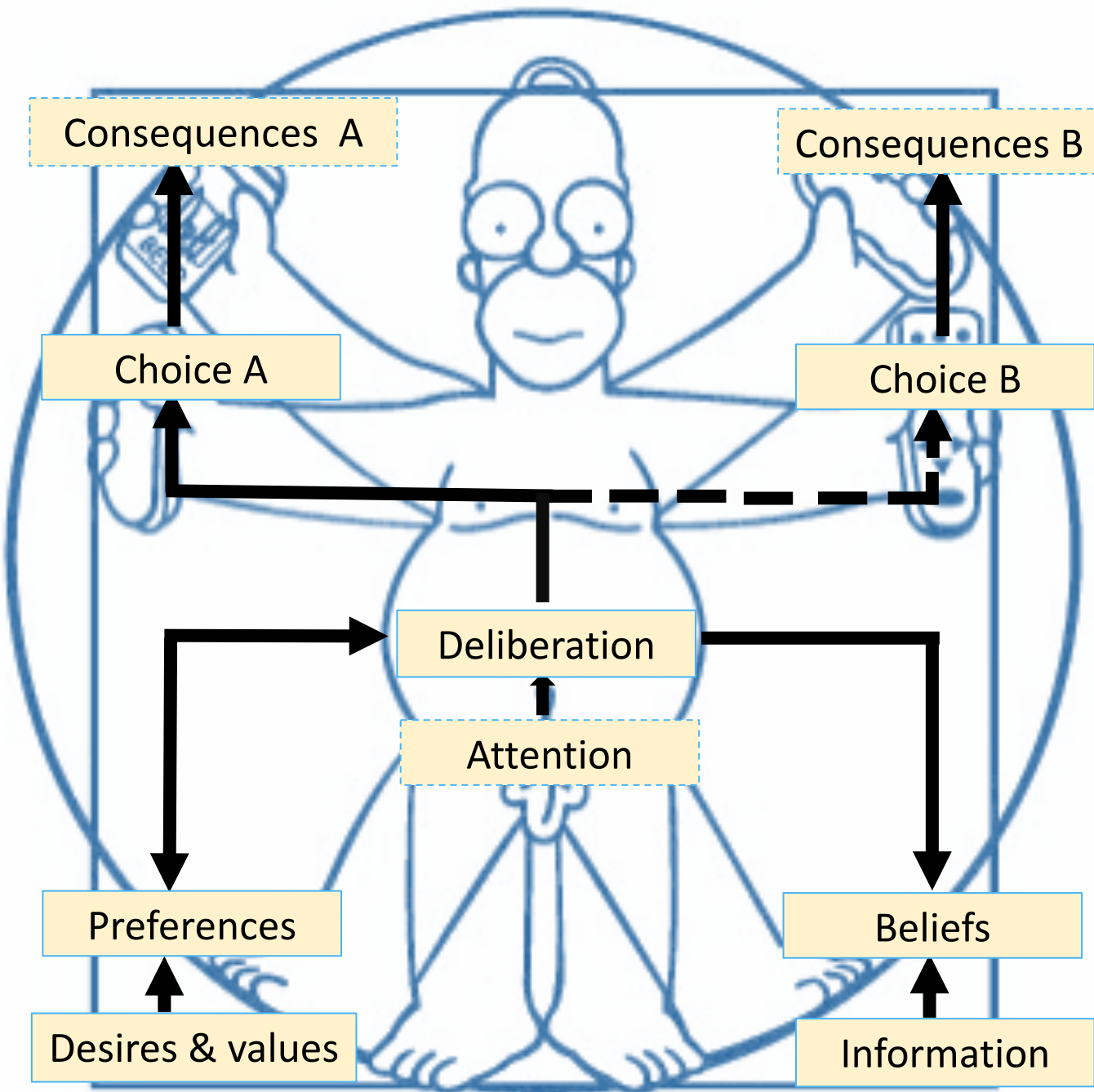


4 E's



Intervention ladder





Behavioural problems in the real world...



Source: BlogSpot

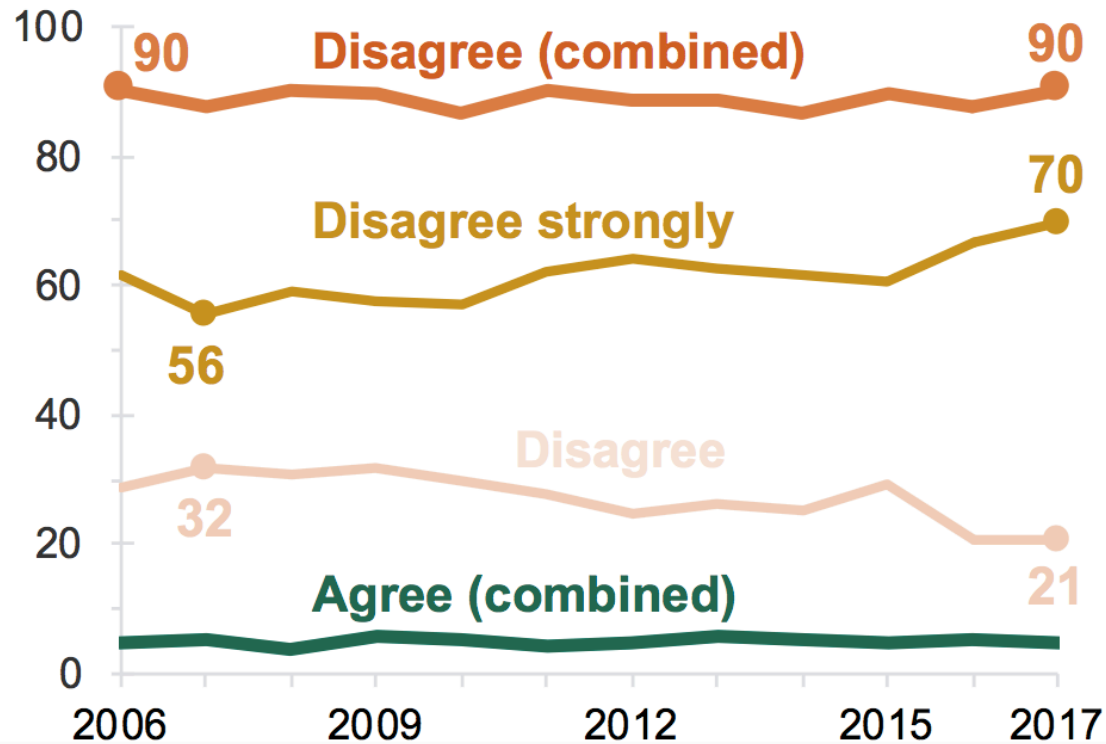


Source: scepter



Attitudes do not necessarily determine behaviour

“It is perfectly safe to talk on a hand-held mobile phone while driving”



British Social Attitudes Survey 2017: Public attitudes towards transport

Mobile phone use: a growing problem of driver distraction



Distracted driving is a serious and growing threat to road safety. With more and more people owning mobile phones, and the rapid introduction of new “in-vehicle” communication systems, this problem is likely to escalate globally in the coming years. However, to date there is insufficient evidence on the risks associated with different sources of distraction, and what interventions can be put into place to reduce their impact upon road traffic crashes.

Mobile phone use:

There are different types of driver distraction, but the use of mobile phones while driving is of primary concern to policy-makers. Evidence suggests that this behaviour is increasing rapidly as a result of the exponential growth in the use of mobile phones more generally in society. Nonetheless, mobile phone use may be considered as one example of the broader problem of driver distraction.

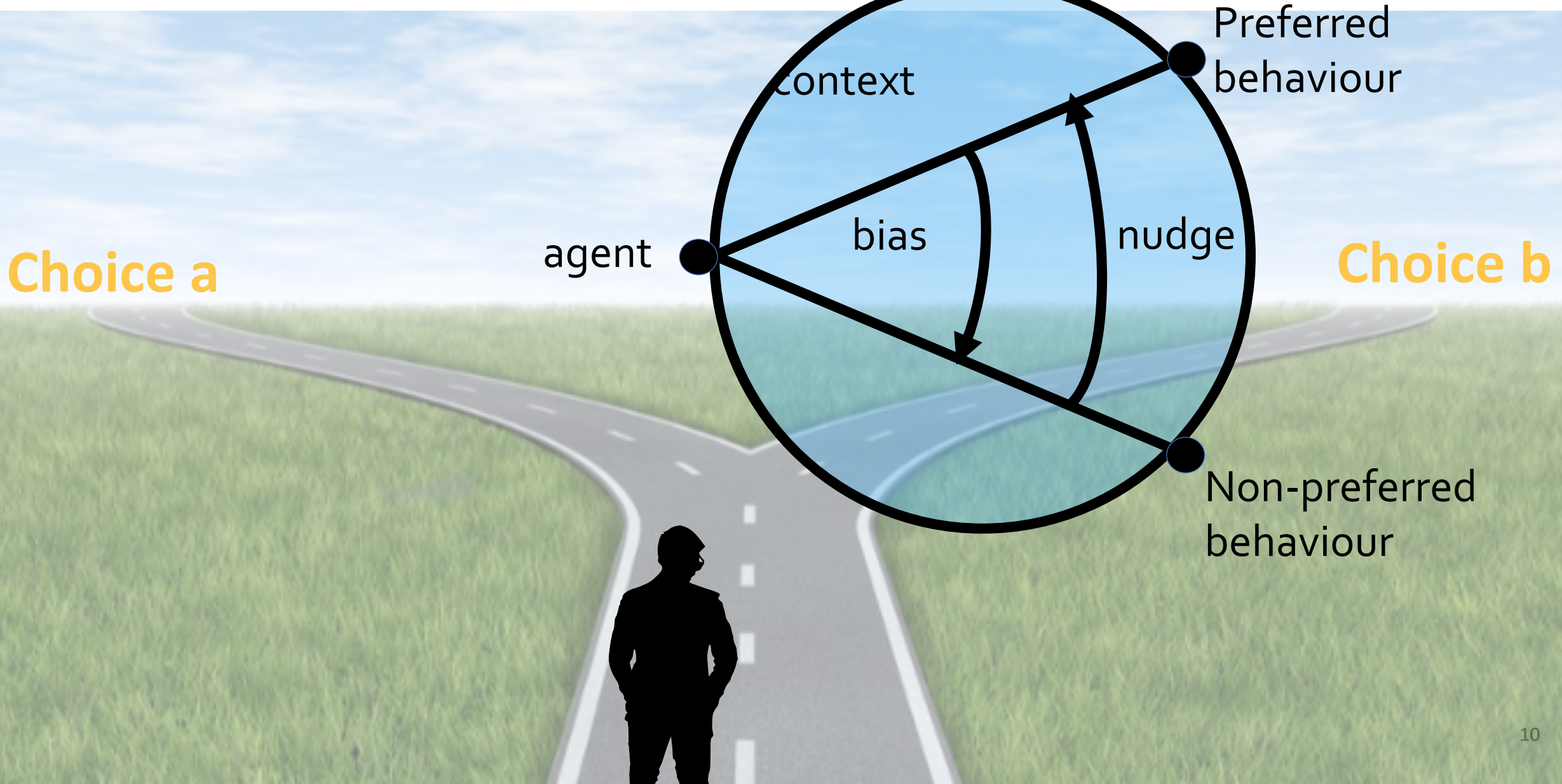
on driving behaviour. Evidence shows that the distraction caused by mobile phones can impair driving performance in a number of ways, e.g. longer reaction times (notably braking reaction time, but also reaction to traffic signals), impaired ability to keep in the correct lane, and shorter following distances. Text messaging also results in considerably reduced driving performance, with young drivers at particular risk of the effects of distraction resulting from this use.

Effects of mobile phone use on crash risk:

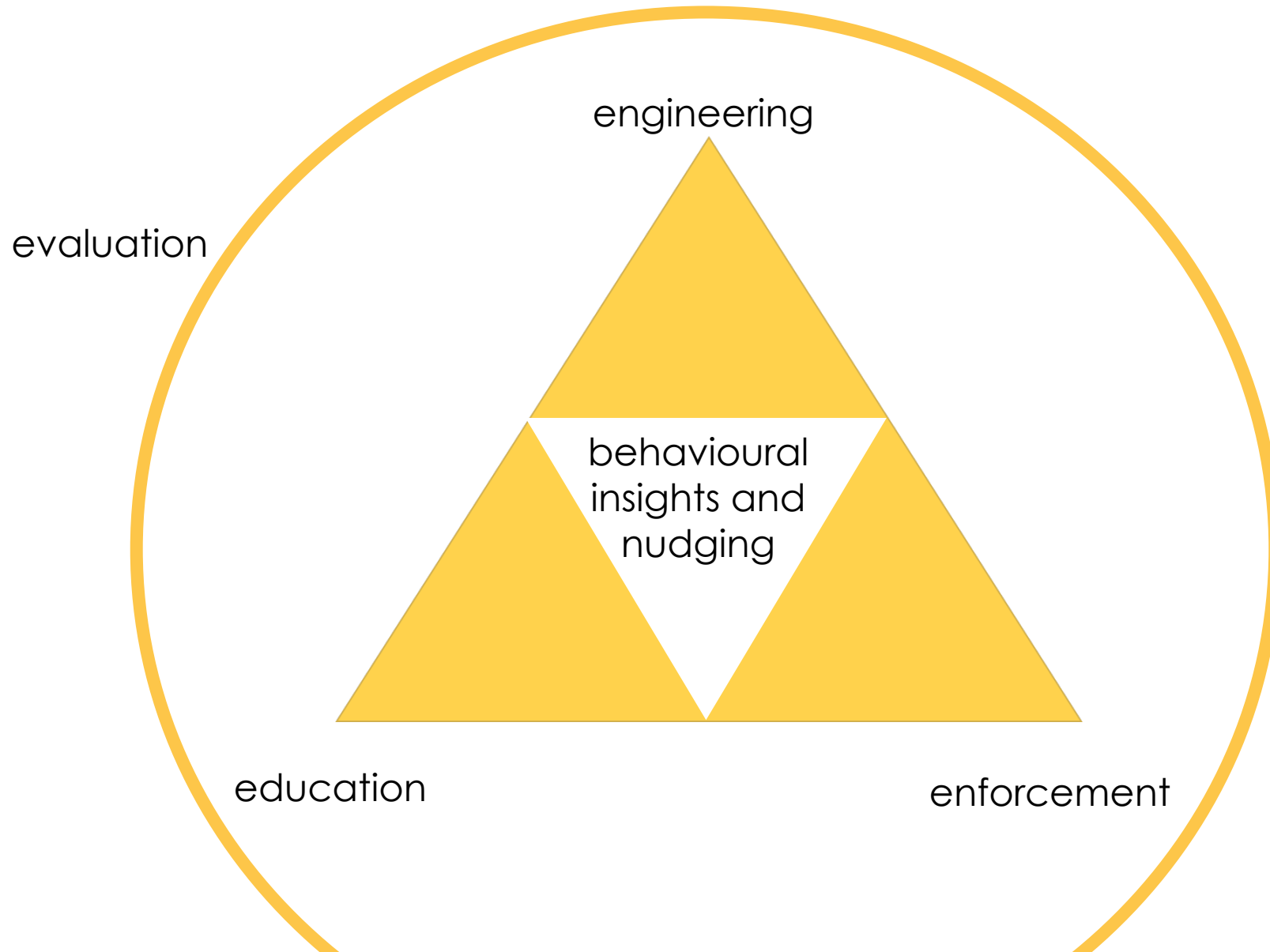
Studies suggest that drivers using a mobile phone are approximately four times more likely to be involved in a crash than when a driver does not use a phone. At the time of writing, there is no conclusive evidence to show that hands-free phoning is any safer than hand-held phoning, because of the cognitive distraction involved with both types of phones.

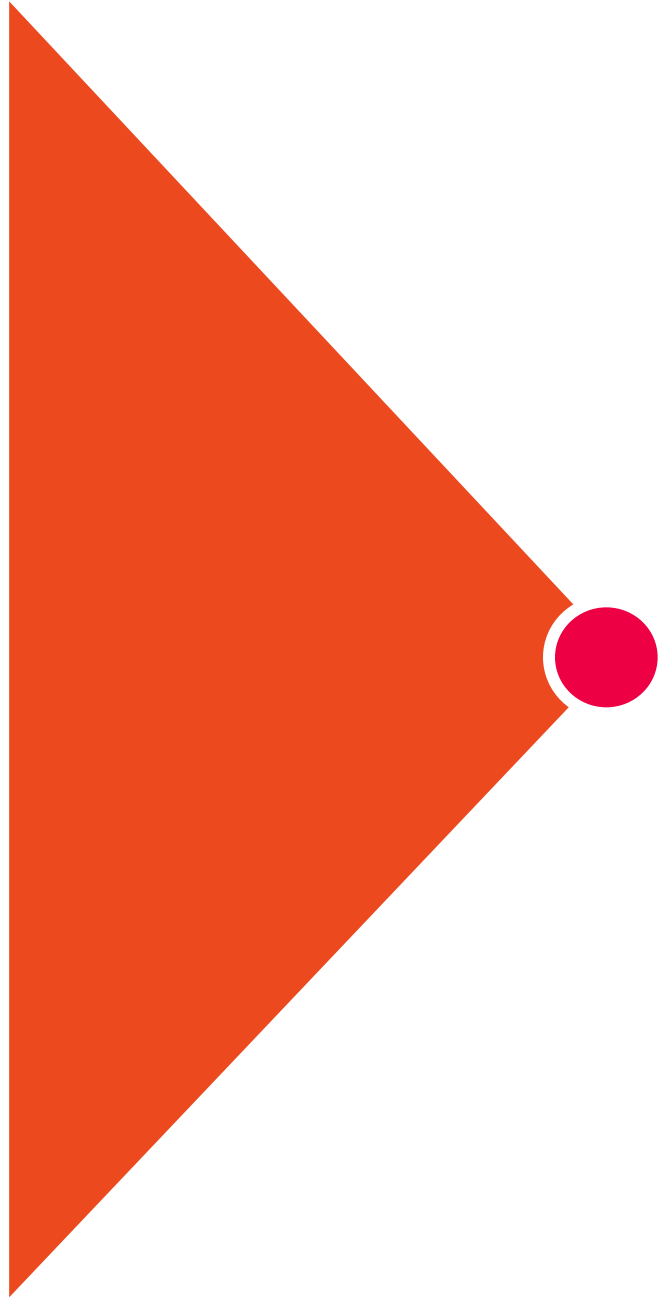
WHO 2011 - 2020

Cognitive bias



Should we be adding a 5th component?

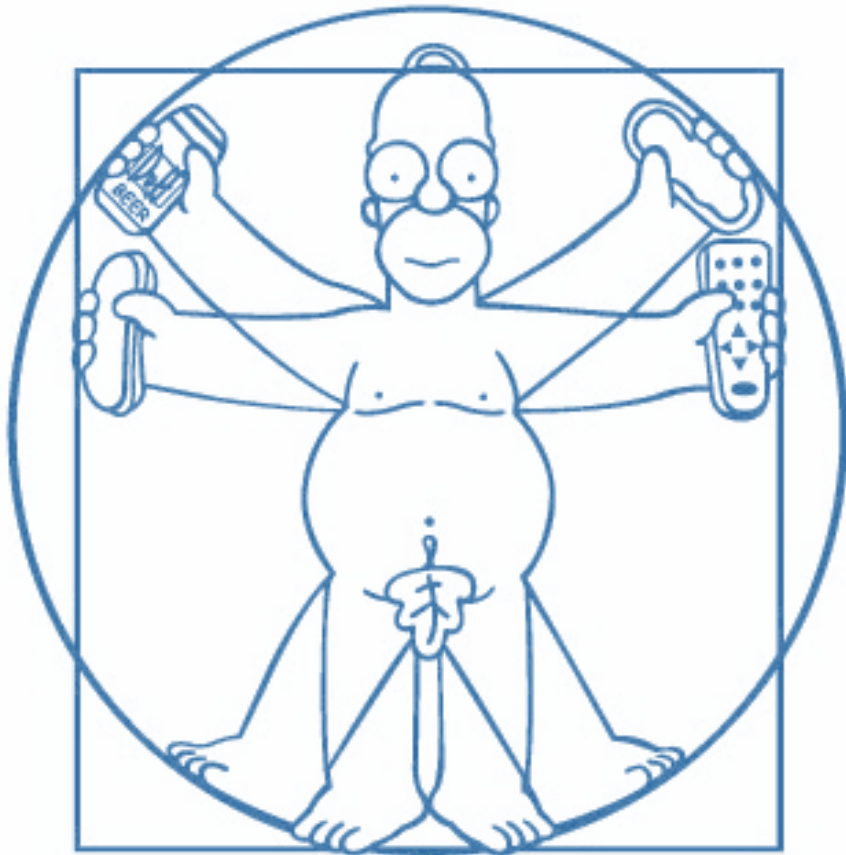




How to identify a behavioural problem



Diagnosing a behavioural problem



A behavioural problem is a behaviour that occurs despite people having good reasons to act otherwise, as judged by themselves.

Hence it is different from problems that stem from:

- Lack of information,
- Lack of the right attitudes,
- Lack of incentive, and
- Inconsistent or regulatory shortcomings.

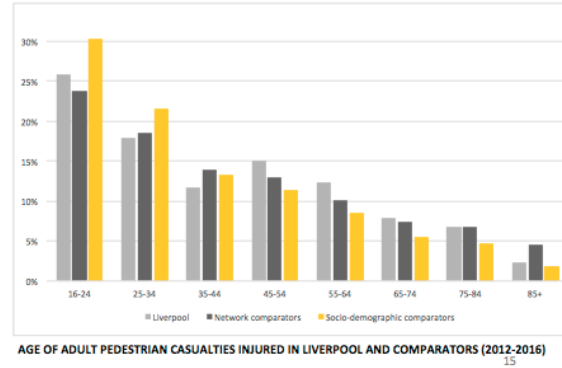
Data will only give you a partial answer.....

Who

- peak in casualties aged 16 to 24 years old (26%)
- Both pedestrian casualties AND the related drivers are much more likely to be male

Pedestrian casualties	Drivers
59% of all pedestrians casualties are male	65% male 19% female 16% unknown

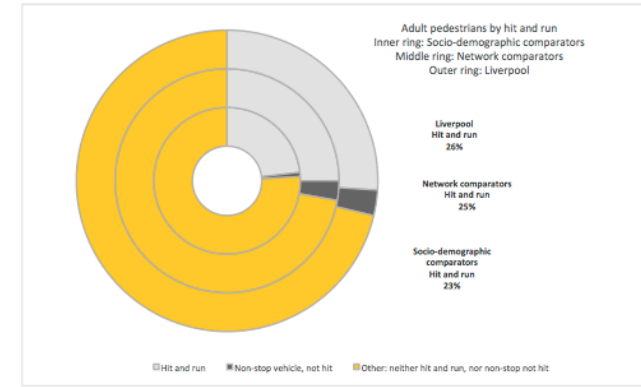
Both driver and pedestrian profiles demonstrate that males aged between 16-35 are far more likely to be involved in a collision than their female counterparts



How

vehicle profile

- majority of pedestrian are hit by a car (69%)
- over 50% of vehicles are traveling straight ahead at the time of collision.
- 26% of collisions are recorded as hit and run



When

Times of day, days of the week and seasonal trends

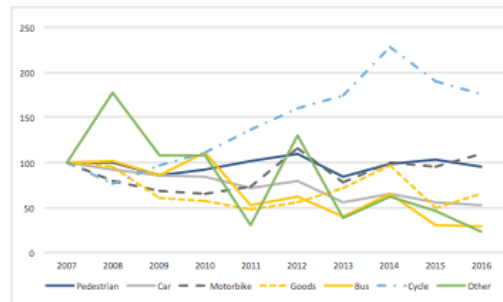
Collisions involving adult pedestrians have not got any worse over the last 10 years but they certainly haven't got any better! They account for around 16% of all collisions and, out of all casualty types pedestrian casualties represent the highest percentage of people killed or seriously injured (KSIs) on the road (38%).

Unsurprisingly, collisions peak at around 5pm with the fewest casualties occurring in the early hours of the morning. This does not mean that collisions involving pedestrians are only a daytime issue; collisions occurring between the hours of 6pm and 6am account for 40% of all adult pedestrian casualties.

As with most urban areas we see a peak on Fridays. More interesting is the increased risk of collision which occur on Sundays, when 14% of pedestrians in Liverpool are injured (compared to 10% for the network and 11% for the socio-demographic authorities).

54% of the adult pedestrians injured on Sundays were involved in collisions between 6pm and 3am, which indicates that the night time economy may have a significant part to play.

In terms of seasonal trends in Liverpool, there are peaks in November, December and January, with the majority of collisions occurring in good weather.



Trends by casualty type in Liverpool, 100-based compared to 2007 (2012-2016)

Where

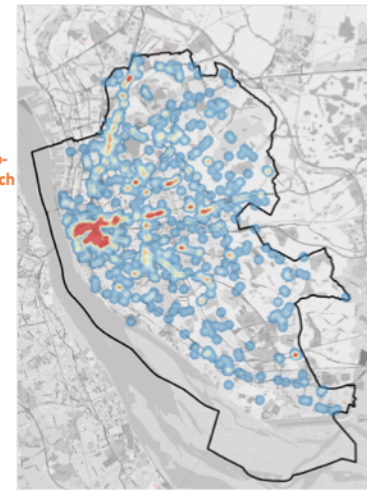
20% of all collisions involving pedestrians occur on a dual carriageway. This is twice the rate for both network and socio-demographic comparators, which fall at around 10%.

Where?

- City Centre
- Arterial Roads
- Small number of Outliers

When?

- Eve Rush Hours
- Friday
- November / December



Day only



Night only

Heat map showing where collisions in Liverpool occur (all types)¹⁰

Theme 1

Liverpool: Taxi Drivers and the Night-time Economy

Legislation (law)/ elimination of choice

Negative Incentives (economics)

Positive Incentives (economics)

Persuasion (communication)

Information (communication)

What, When, Where, How

- Collisions involving taxis account for a significant minority of collisions in Liverpool (14%)
- Spike in collisions at the weekend (10pm – 6am)
- Hot spots: aligned with the night-time economy
- Speeding is not an issue but police reporting increased substance misuse (cocaine) amongst some taxi drivers.

Diagnosis: Fatigue caused by Failures in the Market Economy

Legislation / elimination of choice

Negative Incentives (economics)

Positive Incentives (economics)

Persuasion (communication)

Information (communication)

Detailed analysis: Why

- Changes to licensing laws mean that pub and club opening hours are extended
- De-regulation of taxis has dramatically increased market pressures in Liverpool -Taxi drivers report having to work 3-times as many hours to earn the same living as they were making 10 years ago
- Drivers are potentially using cocaine to combat fatigue
- Driving whilst fatigued can be as dangerous as drunk driving (university Utrecht)

Theme 2: Arterial Routes



Legislation (law)/ elimination of choice

Negative Incentives (economics)

Positive Incentives (economics)

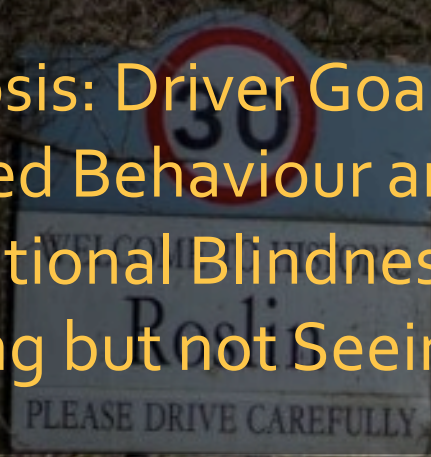
Persuasion (communication)

Information (communication)

Analysis: What, Where, When, How

- Adult pedestrians in Liverpool are more likely to be involved in collisions on major arterial routes than pedestrians in other areas (39%)
- Problem concentrated around high streets
- Drivers and pedestrians from the same socio-demographic groups (experiencing higher than average levels of deprivation)
- Speeding is not a factor

Diagnosis: Driver Goal-Oriented Behaviour and Inattentional Blindness
'Looking but not Seeing'



Behavioral Analysis: Drivers and pedestrians

DRIVERS

- Not attending to pedestrians (inattentional blindness)

PEDESTRIANS

- Not using available safe places to cross
- Both goal directed – A to B as effectively as possible

ENVIRONMENT

- No cues to alert drivers to change of usage (unlike in more rural areas)
- Crossings are designed to blend in – not salient

Using Behavioural Science to Correct Inattentional Blindness



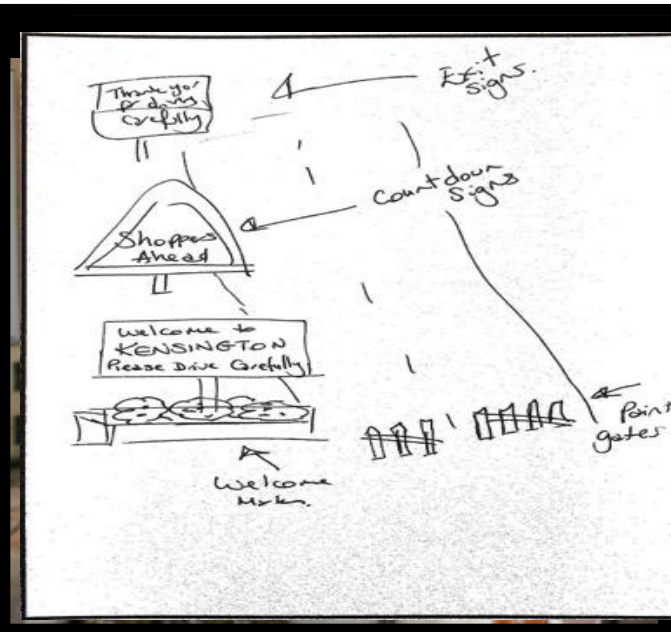
1. Optical illusions



3. Emotional resonance
"Sorry mate, I didn't see you"



4. Roadside visual cue



5. Change norms



FEASIBILITY 68%
SUITABILITY 55%
SCALABILITY 68%
LONGEVITY 33%

5. Increase visibility

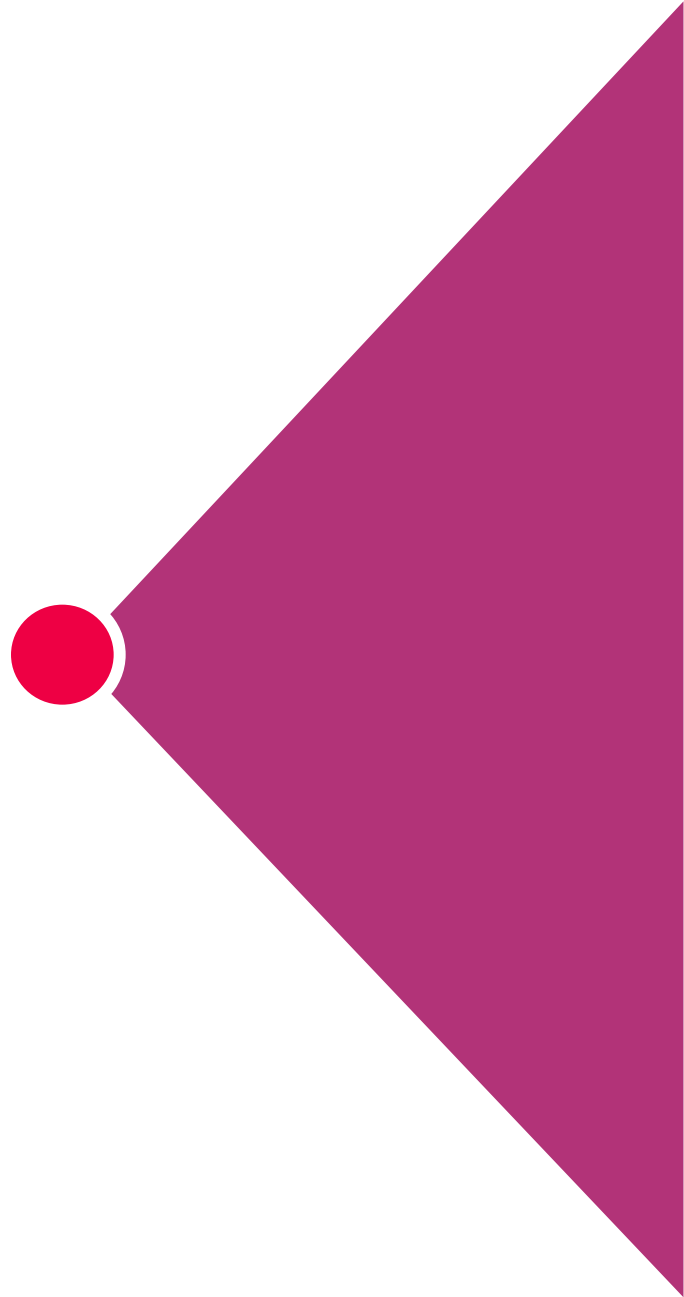
Saliency and cues:



Lake Shore Drive and Oak Street in Chicago



- **Problem** : Tight turn makes it one of the city's worst collision hotspots in the city
- **Diagnosis** : Behavioural problem
- **Nudge** : White lines perpendicular to traveling cars which get progressively narrower as drivers approach the sharpest point of the curve, giving them the illusion of speeding up, and nudging them to tap their brakes.
- **Result** : According to an analysis conducted by city traffic engineers; there were 36% fewer crashes in the six months after the lines were painted, compared to the same 6-month period the year before



Why BI and nudging should become standard practice



Why BI & nudging should become standard practice

- Traditional approaches to road safety fall down
Behavioural insights allow you to understand why people behave the way that they do – even when those behaviours seems irrational
- It helps you to tailor your solution to the problem
Correctly diagnosing the problem ensures you get value from your intervention (opposite of the scatter gun approach)
- Behavioural insights and nudging should become standard practice for road safety practitioners
Because behavioural problems respond well to nudging and big problems do not always require big solutions



**Thanks
for Listening !**

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