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PRACTICE OF INTERVENTION DESIGN

TANYA FOSDICK & DAN CAMPSALL

EXAMPLES OF MDT

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Adult Pedestrians

- Project Manager
- Analyst
- Behavioural Scientist
- Engineer
- Police
- Evaluation Specialist

DriveStart

- Programme Manager
- Research Team
  - BCT Coding
  - Evaluation Design
- Delivery Team
  - RSOs
  - Youth Workers
  - ADIs
- Commercial Supporters

RideFree

- Project Sponsor
- Data Analyst
- Research Team
- Industry Specialists
- Police
- Delivery Teams
- Designers
  - eLearning, website, branding, marketing
- Trainers

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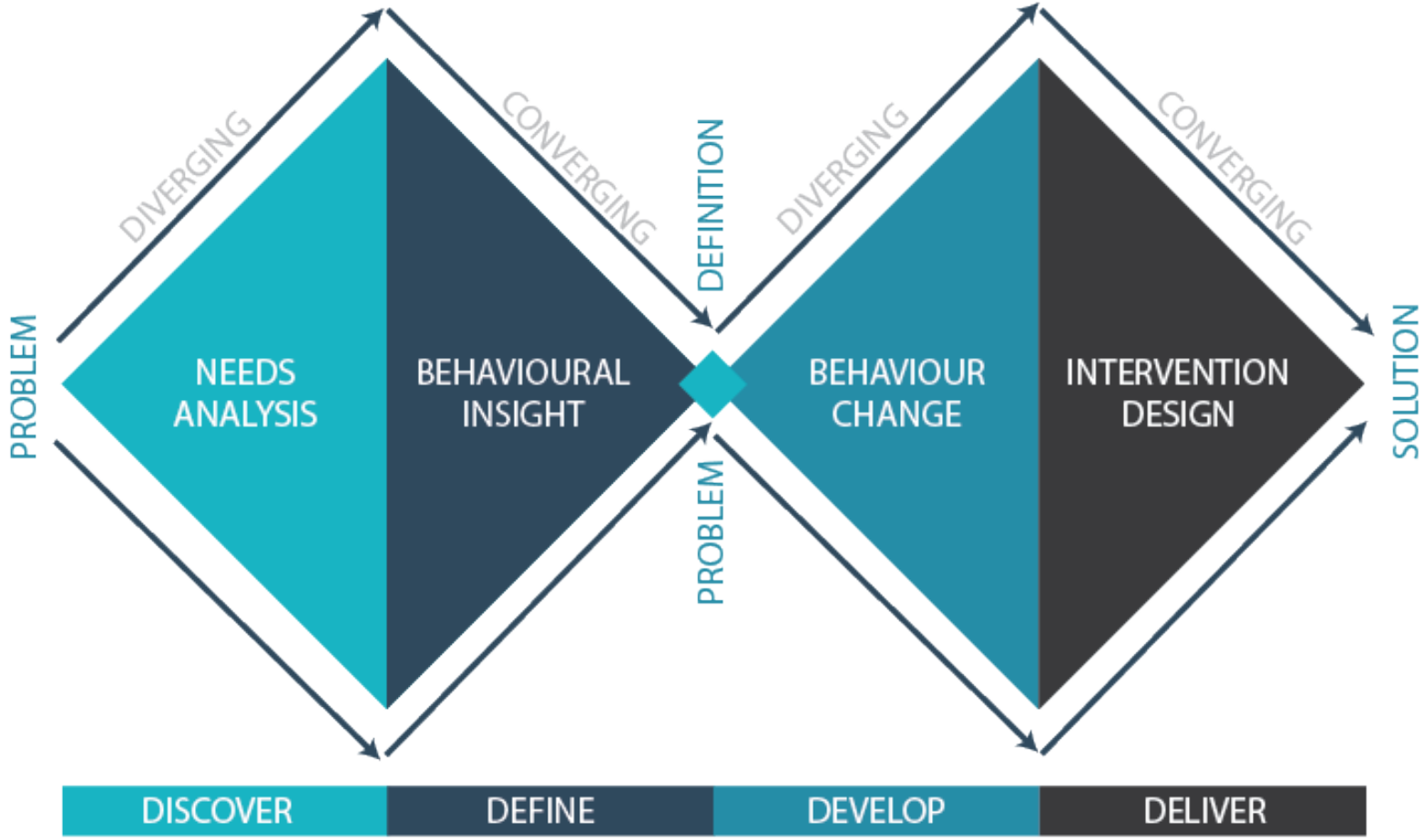
DIVERGING
CONVERGING
DIVERGING
CONVERGING
PROBLEM
DEFINITION
PROBLEM
SOLUTION
NEEDS ANALYSIS
BEHAVIOURAL INSIGHT
BEHAVIOUR CHANGE
INTERVENTION DESIGN
DISCOVER
DEFINE
DEVELOP
DELIVER
STATS19
Academic Research
MOSAIC
Other Data
Segmentation
Personas
COM-B
Intervention Functions
Policy Categories
BCTs
Logic Model
Pilot Programme
Evaluation Framework

WHAT EVIDENCE ARE WE LOOKING FOR?

*that attempt to control for trend or group differences

The diagramme opposite shows a hierarchy of evidence (adapted from Greenhalgh, 1997). Look for the best available evidence from the top of the pyramid if it available.

Aim for the best evidence available looking for risk factors associated with the end measure (typically collisions).

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USING RIDEFREE AS AN EXAMPLE

- This process is one we've used for many interventions and in training
- Talk through one example: RideFree

- Approach by an England region, who wanted to work together to focus on motorcycle casualties
- Asked four questions:
  - What do we know about the data?
  - What is everybody currently doing?
  - Do we know what is and isn't working?
  - Who can help us?

SERVICE DELIVERY REVIEW

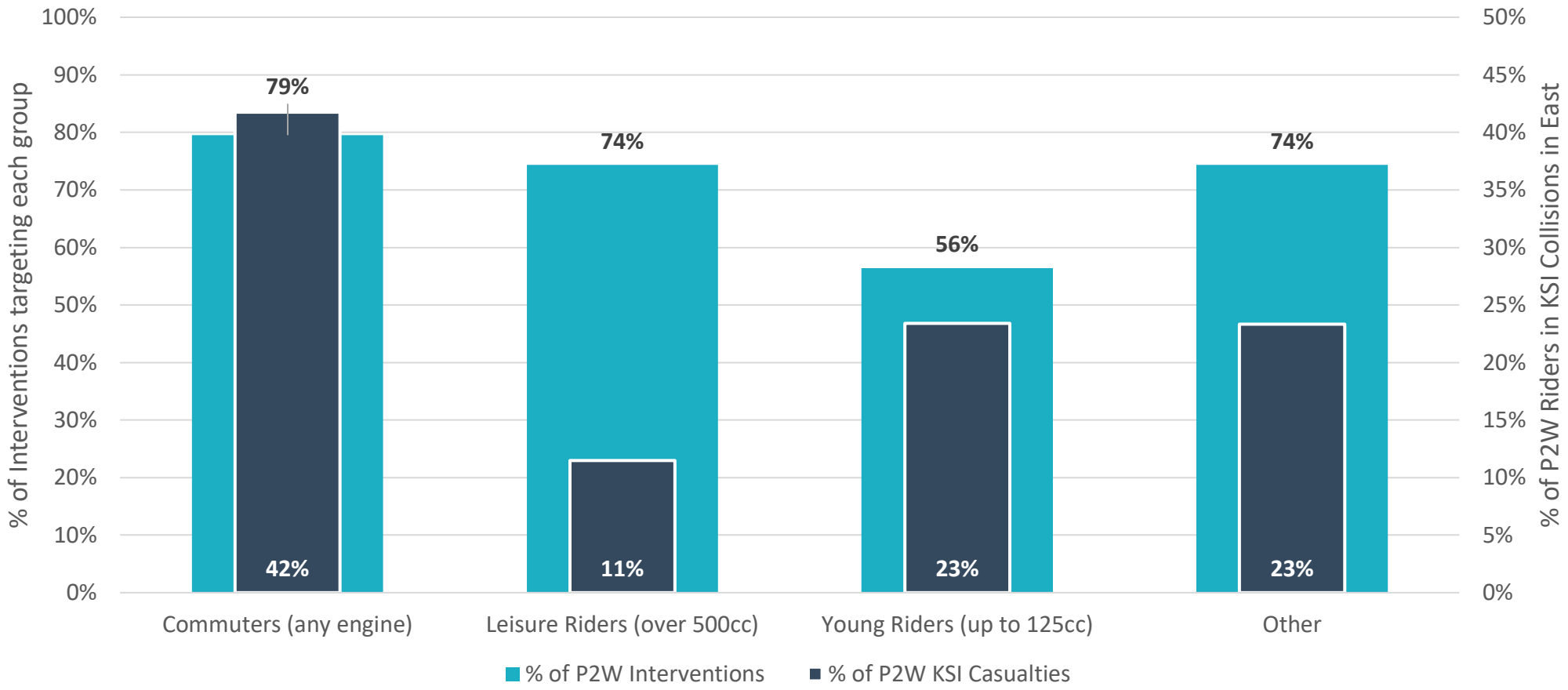
- Questionnaires to partners –

- What's being delivered to motorcyclists?
- What do these interventions hope to achieve?
- How was the problem identified?
- Who delivers it and for how much?
- Has it been evaluation and what were the results?

MOTORCYCLE SERVICE DELIVERY REVIEW

- 39 different interventions delivered across East
- Ranging from magazines & websites to training, assessments and enforcement
- Many focused on advice and changing attitudes
- Mismatch between intervention target audience and casualty groups:
  - young riders under-represented as target audience
- Many interventions not evaluated
- There was no consistent regional message
- There are clear opportunities for collaboration

TARGET GROUPS FOR INTERVENTIONS



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NEEDS ANALYSIS (TITCOMB, ARIZONA)

- The process of identifying and evaluating needs in a community or other defined population of people.
- The identification of needs is a process of describing “problems” of a target population and possible solutions to these problems.
- A need has been described as:
  - A gap between “what is” and “what should be” (Witkin et al., 1995)
  - “A gap between real and ideal that is both acknowledged by community values and potentially amenable to change” (Reviere, 1996)
  - May be different from such related concepts as wants (“something people are willing to pay for”) or demands (“something people are willing to march for”) (McKillip, 1987)
- Needs analysis focuses on the future, or what should be done, rather than on what was done.

Rider types

Age	Up to 50cc	50-125cc	125-500cc	500cc+
Under 20	8%	11%	1%	1%
20-24	2%	11%	3%	4%
25-29	1%	5%	1%	5%
30-39	1%	4%	2%	7%
40-49	1%	3%	2%	10%
50-59	0%	2%	2%	9%
60+	0%	1%	1%	3%

Weekdays

Weekends

31%

Young Riders

38%

Commuters

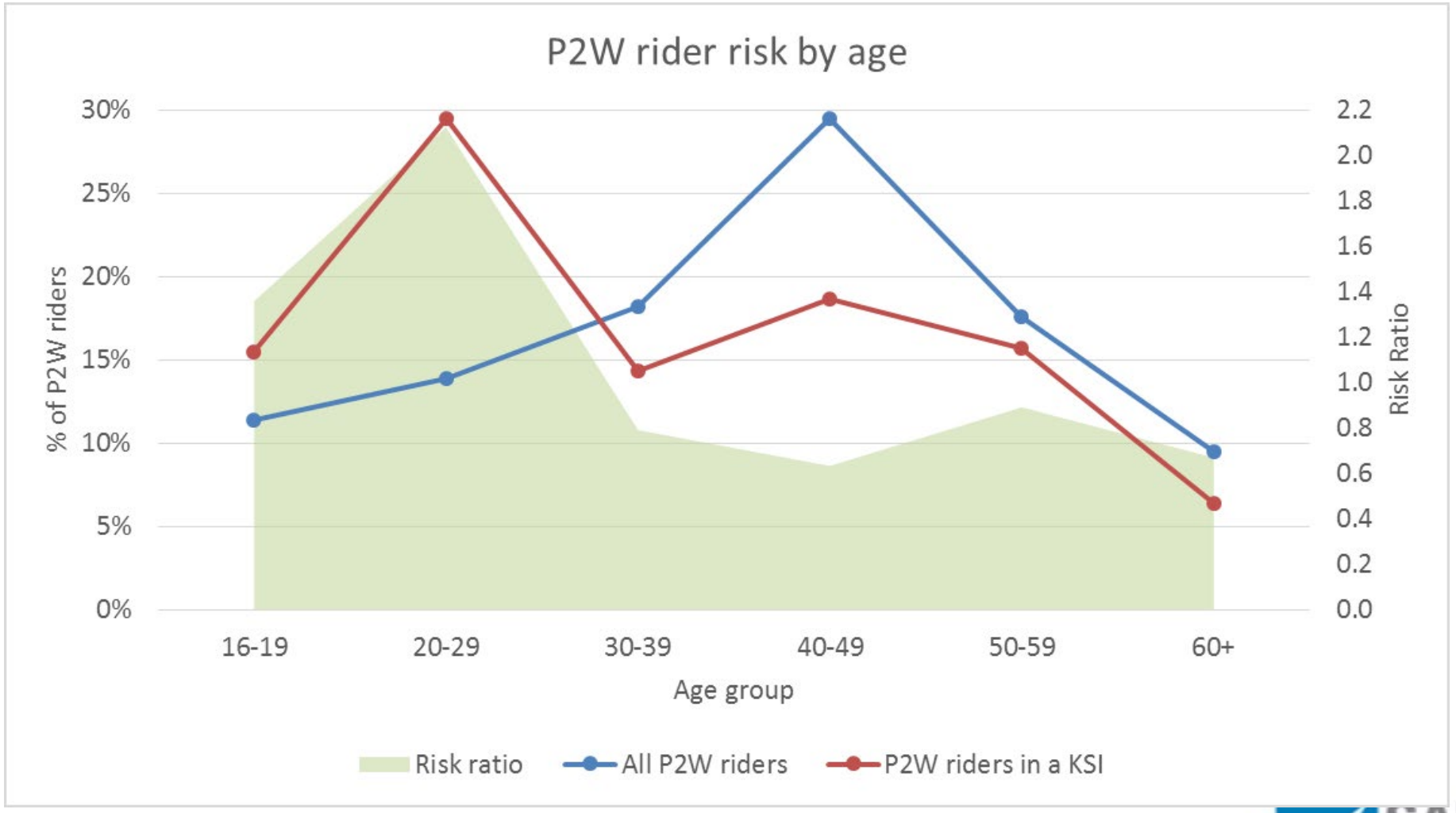
9%

Leisure Riders

SAFERESSEX roads partnership

Why young riders

All riders: 23-29% of KSI but 0.6% of private motorised traffic



SAFERESSEX roads partnership

DISCOVER

- 90% Male
- Seasonal effect – September peak
- Dependency – commute / access to education
- Sales of small bikes in rapid decline
- Collisions occur close to home
- More deprived communities (based on IMD)
- Some ‘rural effect’
- Close following, filtering, right turns & failure to give way
- 48% of all collisions at urban junctions
- 62% of Contributory Factors attributed to rider

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LITERATURE REVIEW

- Conspicuity (two-fold)
  - Visibility of rider (clothing, light configurations, road positioning, speed)
  - Driver perception (distractions, failing to look long enough, failing to detect speed, 'inattentional blindness', experience)
- Young rider behaviours
  - Non-usage of protective clothing (beliefs about benefits)
  - Social norms – demonstrate speeding is not the norm
  - 'Car aspirants' – limited information can make them significantly more risk-conscious – high educability
- PPE
  - Demonstrable benefits from helmets and protective clothing

DISCOVER

LESSONS FROM OTHER INTERVENTIONS

STRENGTHS	WEAKNESSES
• Benefit of incentivised scheme • Comprehensive training continuum • Sensitised to risk • Tailored approaches (local roads/delivery riders) • Appeal to BAME audience • Engaging activity • Audience 'priming' • Peer-led • Segregated infrastructure	• Inconsistent delivery • Incentivisation? (requiring funding) • Enabling environment • Limited impact • Parental understanding & engagement • Evaluation • Measurability • Isolating the right audience • Road conditions • Model for telematic insurance & scale of market
OPPORTUNITIES	**THREATS**
• Post-CBT training – recruitment through trainers • Trainers that 'get it' • Ability to 'normalise' training • Motorcycle show attendees • Selecting an appropriate delivery agent • Social influencers • Incentives for parents	• Wider content/system – economy and education • Financial & time 'limit' • 'Culture' • Sustainable in the system • Alienation

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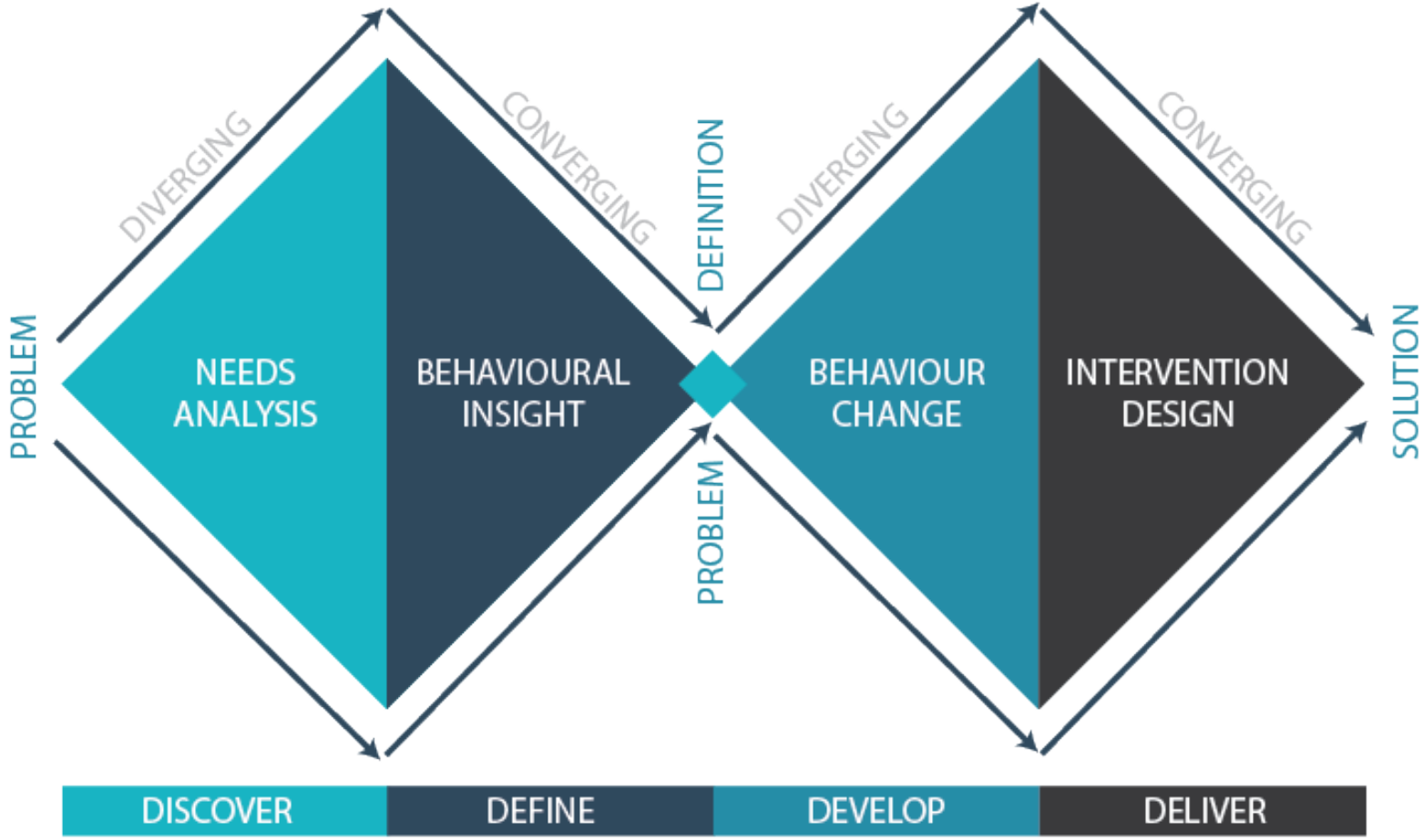
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BEHAVIOURAL INSIGHT

- Who & what do we want to change?
- Personas
- COM-B

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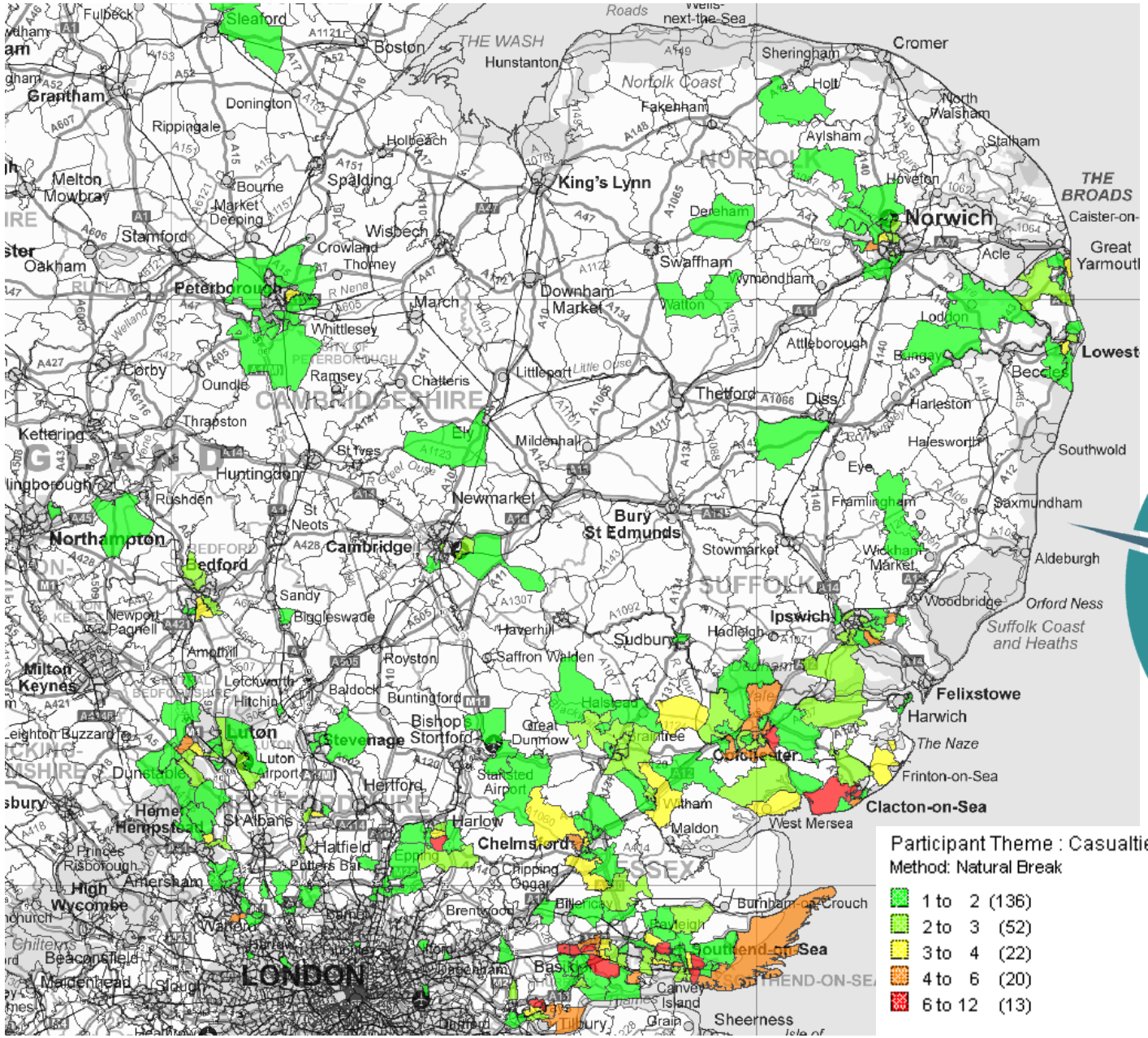

DEMOGRAPHIC
GEOGRAPHIC
BEHAVIOURAL
PSYCHOGRAPHIC

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Home postcode analysis

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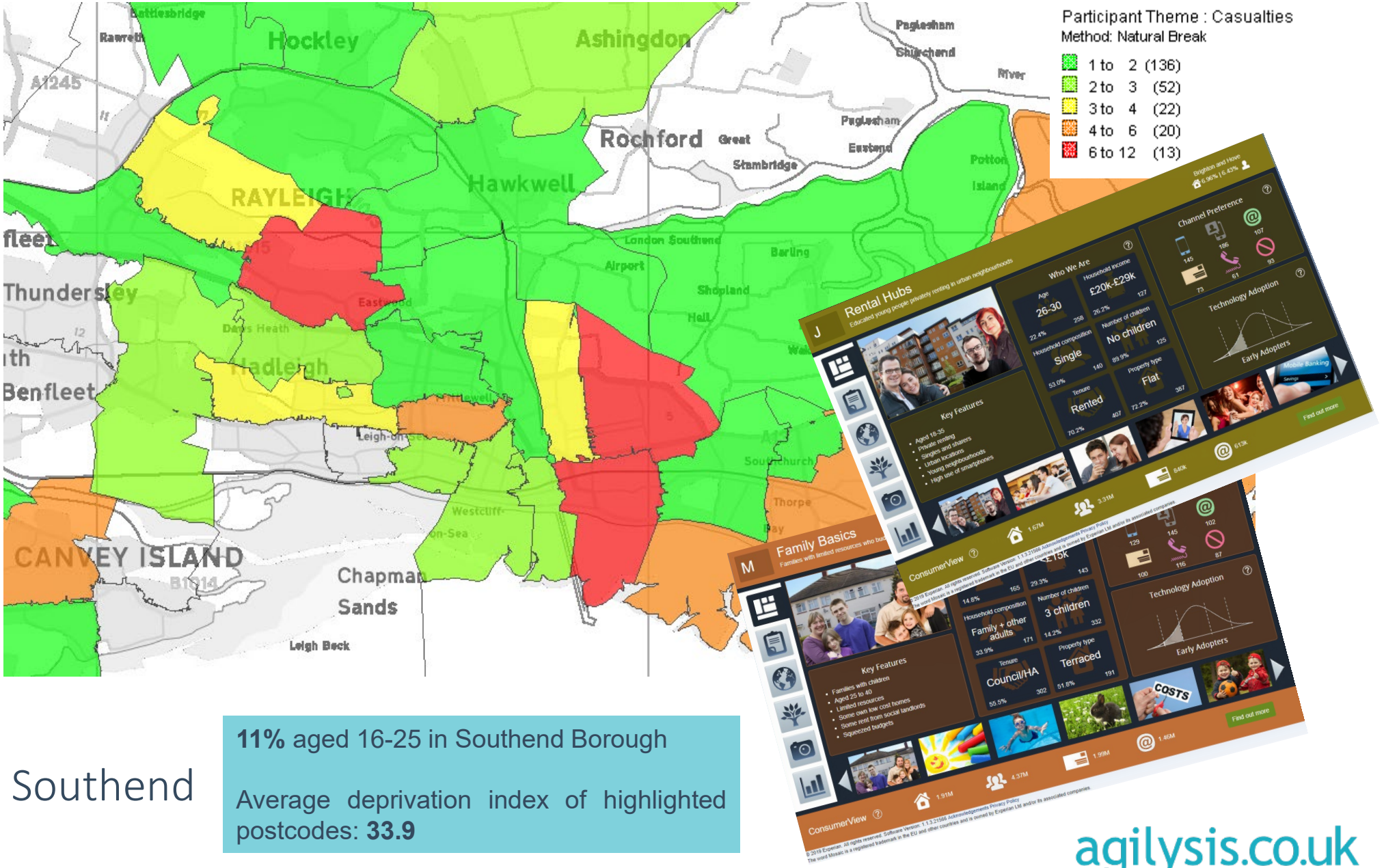

Southend

11% aged 16-25 in Southend Borough

Average deprivation index of highlighted postcodes: **33.9**

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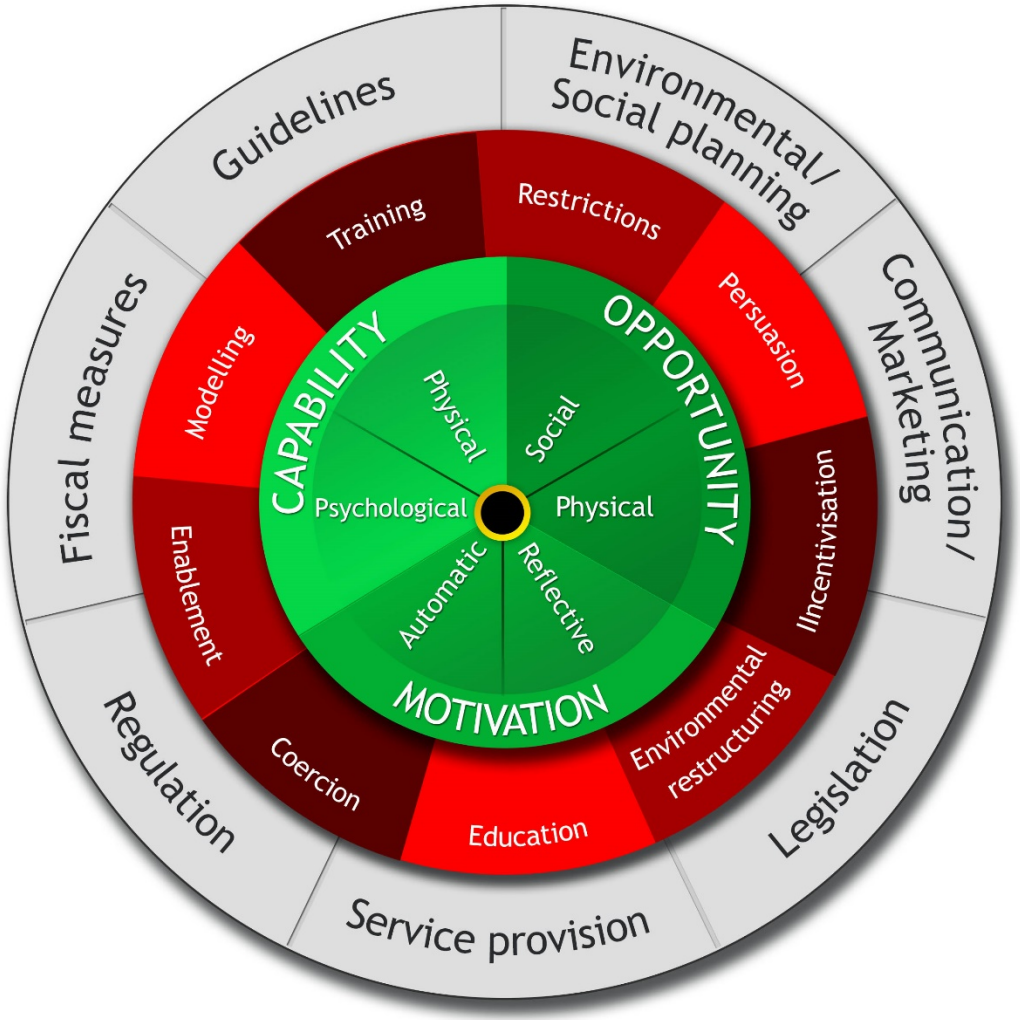
WHY PERSONAS?

- “A social role or a character”
- Create a bridge between disciplines
  - Underpinned by high quality analysis
  - Accessible to creative professions
- Create a consistent reference point for campaign development

STEPS IN CONCEPT DEVELOPMENT

Step 1	Specify the behavioural target
Step 2	Identify what needs to change to achieve this
Step 3	Identify intervention functions
Step 4	Identify policies to achieve this
Step 5	Identify behaviour change techniques
Step 6	Flesh out the intervention



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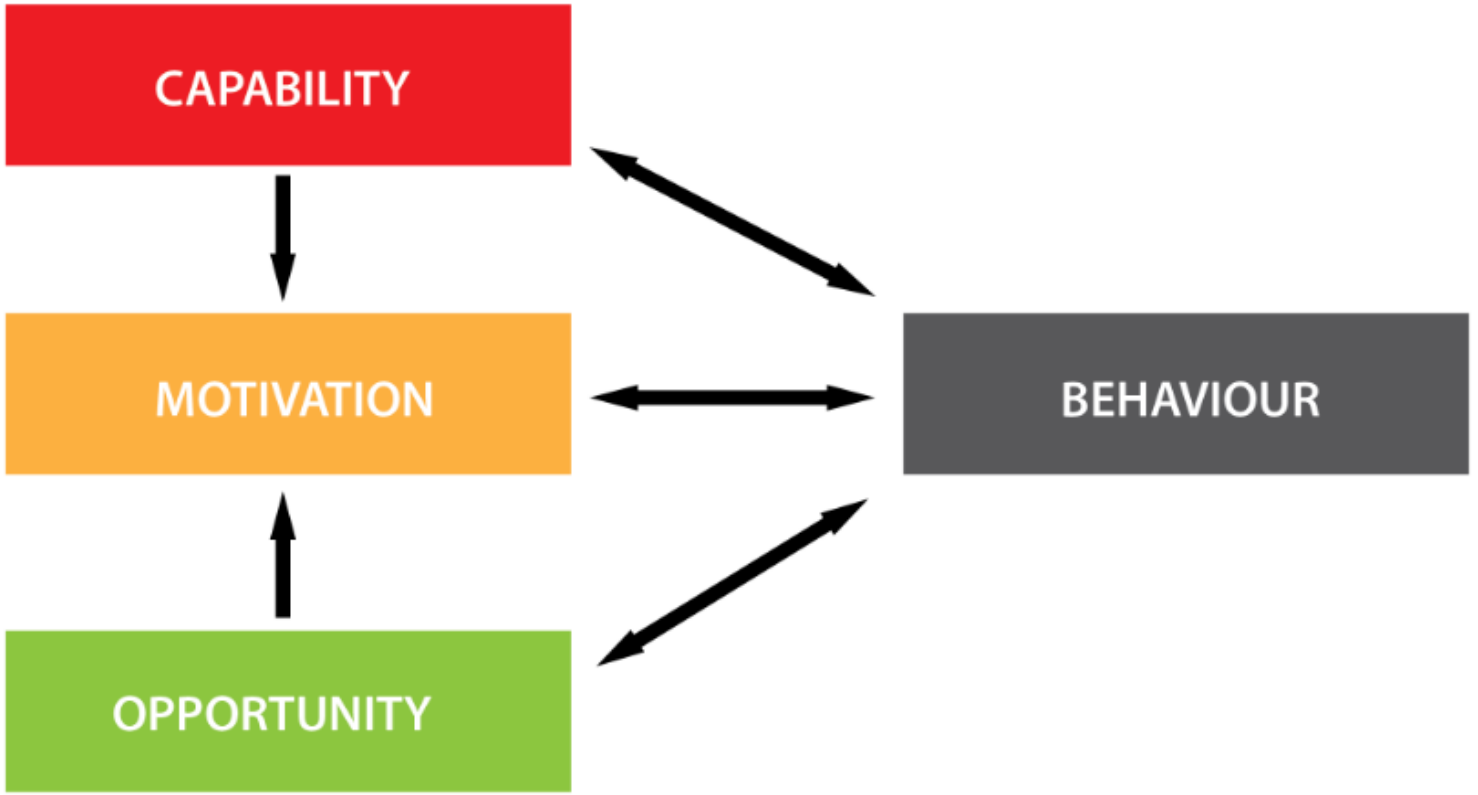
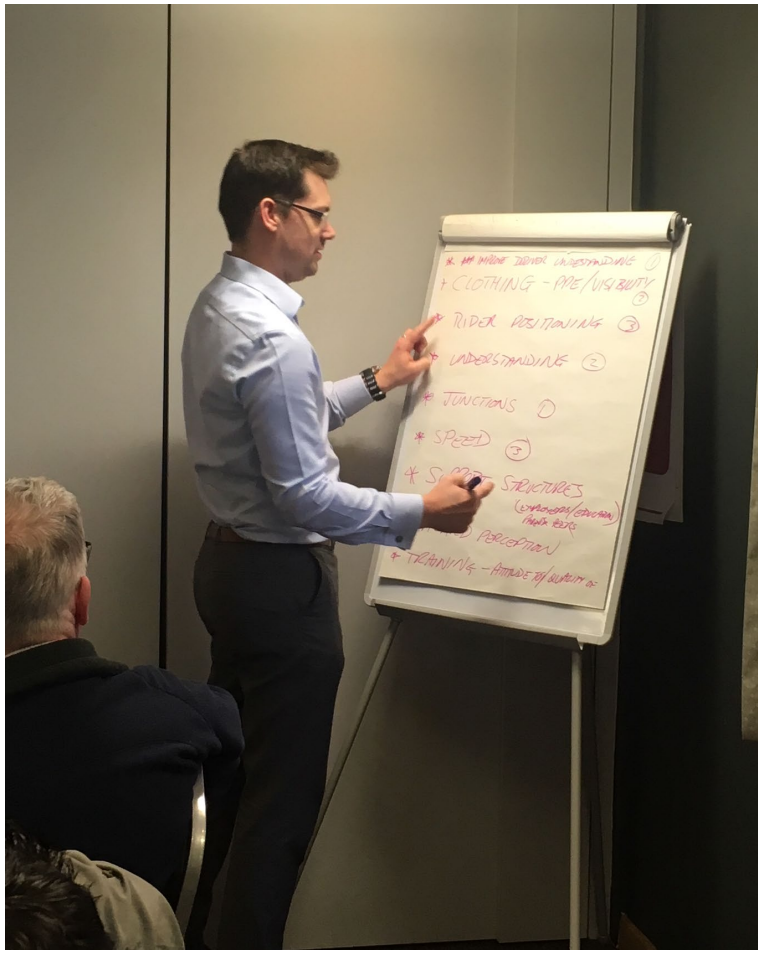


STEP 1: DEFINE THE PROBLEM IN BEHAVIOURAL TERMS

- What behaviour?
- Where does the behaviour occur?
- Who is involved in performing the behaviour?

STEP 2: INTERVENTION DESIGNER FUNCTION

- Generate a long list of candidate target behaviours that could bring about the desired outcome?



STEP 3: PRIORITISE THE BEHAVIOURS

- How much impact changing the behaviour will have on the desired outcome
- How likely it is that the behaviour can be changed
- How likely it is that the behaviour will have a positive/negative impact on other behaviours
- How easy will it be to measure the behaviour?

STEP 3: PRIORITISE THE BEHAVIOURS

Potential target behaviours to reduce risk of injury in young male riders	Impact of behaviour change*	Likelihood of changing behaviour*	Spillover score*	Measurement score*
Wear good PPE	Very promising	Promising?	Unpromising but worth considering?	Very promising
	We know the protective effect of good PPE	*Can we encourage them to wear it? Social norms? Cost?*	*Would it affect any other rider behaviours?*	*Observations or self-report measures*

*
- Unacceptable
- Unpromising but worth considering
- Promising
- Very promising

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COM-B: STEP 4

Target Behaviour	**Wear good PPE**
Who **needs to perform the behaviour?**	All young riders
What **do they need to do differently to achieve the desired change?**	Purchase and always wear PPE
When **do they need to do it?**	Every ride
Where **do they need to do it?**	Everywhere
How often **do they need to do it?**	Always
With *whom* do they need to do it?	Everyone

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Behavioural Insight

- Improve driver understanding of the needs and behaviours of young riders (drivers)
- Encourage appropriate clothing to be worn, to improve both protection and visibility (clothing)
- Improve rider positioning, particularly at junctions (positioning)
- Improve rider understanding of their risk and the need to mitigate it (risks)
- Reduce risk at junctions (junctions)
- Improve speed choices, especially at junctions (speed)
- Work with support structures (such as employers, education establishments, parents and peers) to tackle some of the other eight priorities (support)
- Improve hazard perception skills of young riders (hazard)
- Improve young rider attitudes towards training and the quality of available courses (training)

Segmentation
Personas

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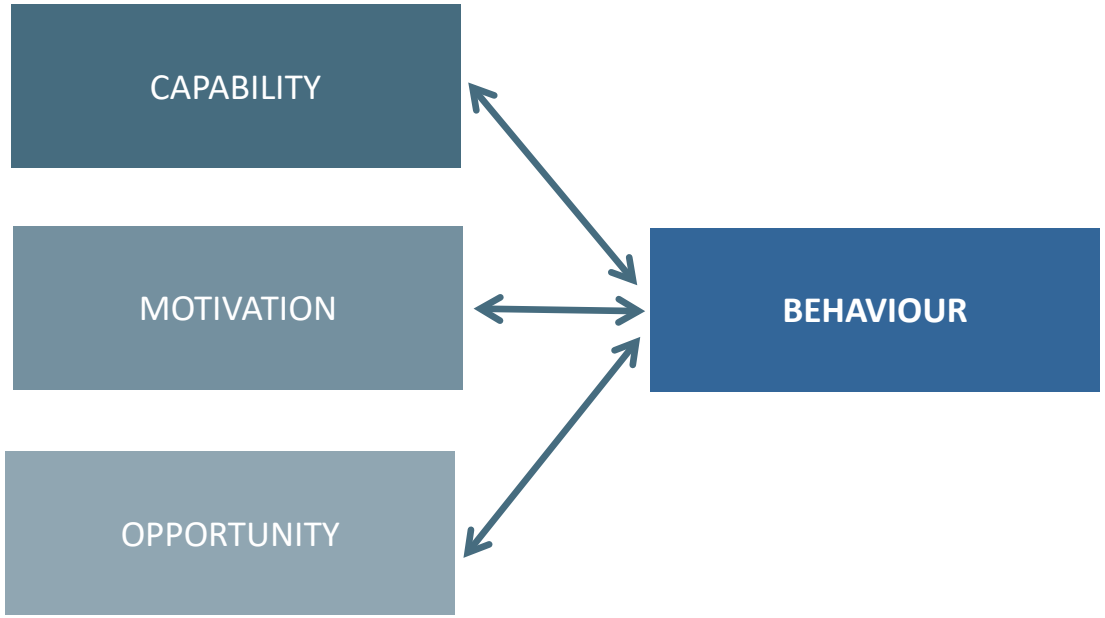
BEHAVIOUR CHANGE

- Target audience identified
- Target behaviours identified
- What kinds of interventions might work?
- How might they be delivered?
- Which BCTs to use?

DEVELOP

COM-B
Intervention Functions
Policy Categories
BCTs

Behaviour Change – COM-B



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Target Behaviours	Physical Capability	Psychological Capability	Physical Opportunity	Social Opportunity	Automatic Motivation	Reflective Motivation
Improve driver understanding of the needs and behaviours of young riders	✓	✓	✓	✓		✓
Encourage appropriate clothing to be worn, to improve both protection and visibility		✓	✓	✓	✓	✓
Improve rider positioning, particularly at junctions	✓	✓		✓	✓	✓
Improve rider understanding of their risk and the need to mitigate it		✓				✓
Reduce risk at junctions		✓				
Improve speed choices, especially at junctions		✓	✓	✓	✓	✓
Work with support structures (such as employers, education establishments, parents and peers) to tackle some of the other eight priorities		✓	✓	✓	✓	✓
Improve hazard perception skills of young riders	✓	✓	✓			✓
Improve young rider attitudes towards training and the quality of available courses		✓	✓	✓	✓	✓

INTERVENTION FUNCTIONS

COM-B components	Intervention Functions								
	Education	Persuasion	Incentivisation	Coercion	Training	Restriction	Environmental Restructuring	Modelling	Enablement
Physical capability					■				■
Psychological capability	■				■				■
Physical opportunity					■	■	■		■
Social opportunity						■	■	■	■
Automatic motivation		■	■	■	■		■	■	■
Reflective motivation	■	■	■	■					

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POLICY CATEGORIES

Policy Categories	Intervention Functions								
	Education	Persuasion	Incentivisation	Coercion	Training	Restriction	Environmental Restructuring	Modelling	Enablement
Communications & Marketing	■	■	■	■	■	■		■	
Guidelines	■	■	■	■	■	■	■		■
Regulation	■	■	■	■	■	■	■		■
Legislation	■	■	■	■	■		■		■
Service Provision	■	■	■	■	■			■	■
Environmental/Social Planning							■		■
Fiscal Measures							■		■

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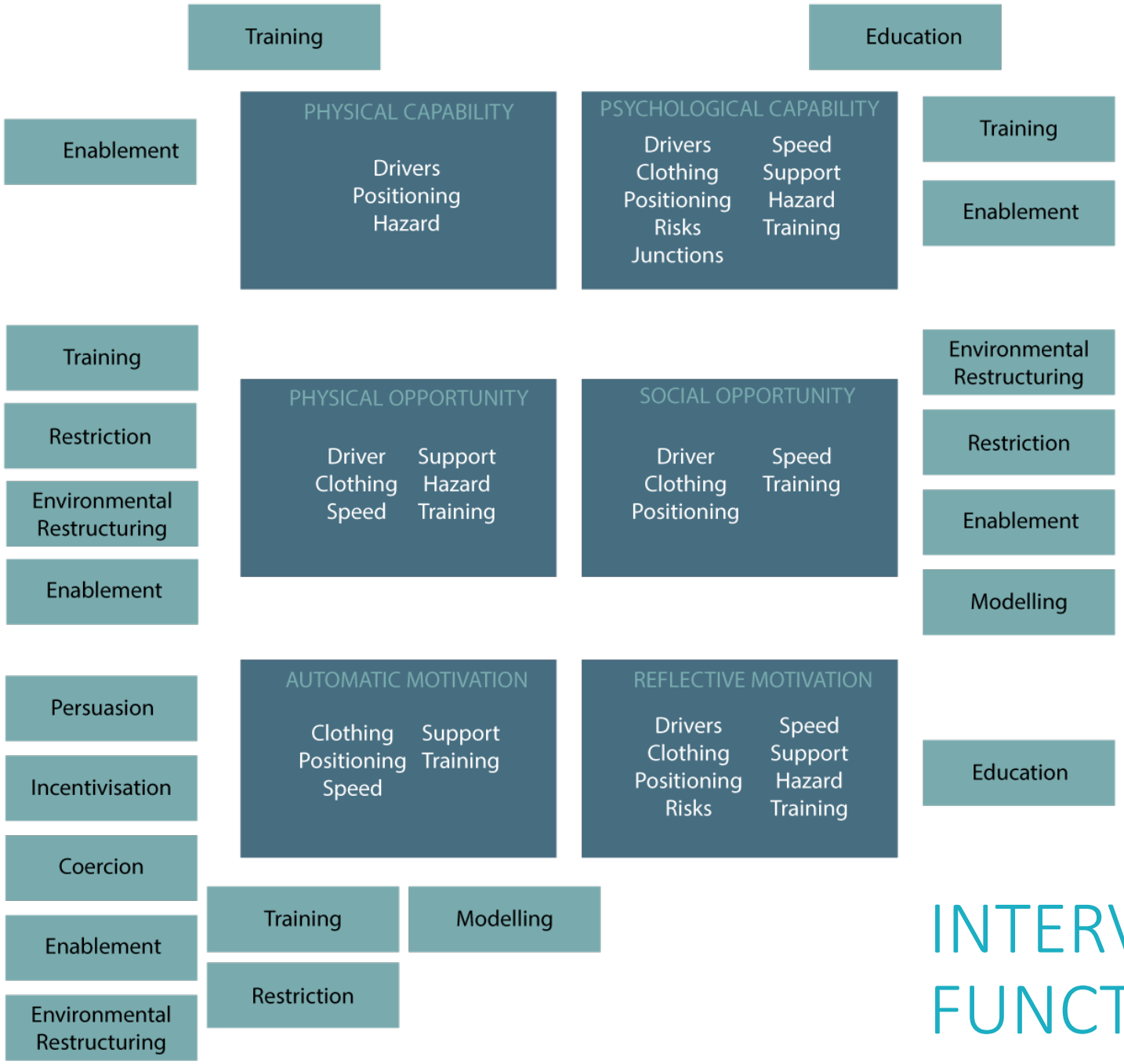

INTERVENTION FUNCTIONS

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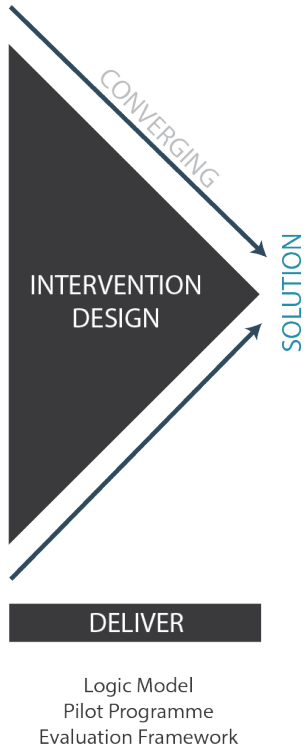
 BCT – 1.1 Goal-setting (behaviour)	Set or agree a goal defined in terms of the behaviour to be achieved.
 BCT – 1.2 Problem-solving	Set or agree a goal defined in terms of the behaviour to be achieved.
 BCT – 1.3 Goal-setting (outcome)	Set or agree on a goal defined in terms of a positive outcome of the wanted behaviour.
 BCT – 2.2 Feedback on behaviour	Monitor or observe the behaviour and give informative or evaluative feedback on performance of the behaviour (e.g. form, frequency, duration, intensity).
 BCT – 2.3 Self-monitoring of behaviour	Establish a method for the person to monitor and record their behaviour(s).

Source: Using Behaviour Change Techniques; Guidance for the Road Safety Community (Fylan, 2017)

www.racfoundation.org/research/safety/behaviour-change-techniques-guidance-for-the-road-safety-community

INTERVENTION DESIGN

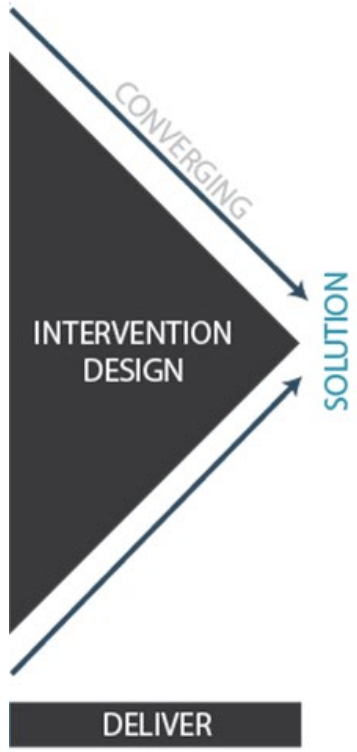
DELIVER



Logic Model
Pilot Programme
Evaluation Framework

INTERVENTION DESIGN

- What is our aim? (*related* to our desired outcome)
- What are our objectives? (*related* to our target behaviours)
- What might a pilot intervention look like? (intervention functions, BCTs)
- How are we going to measure success?



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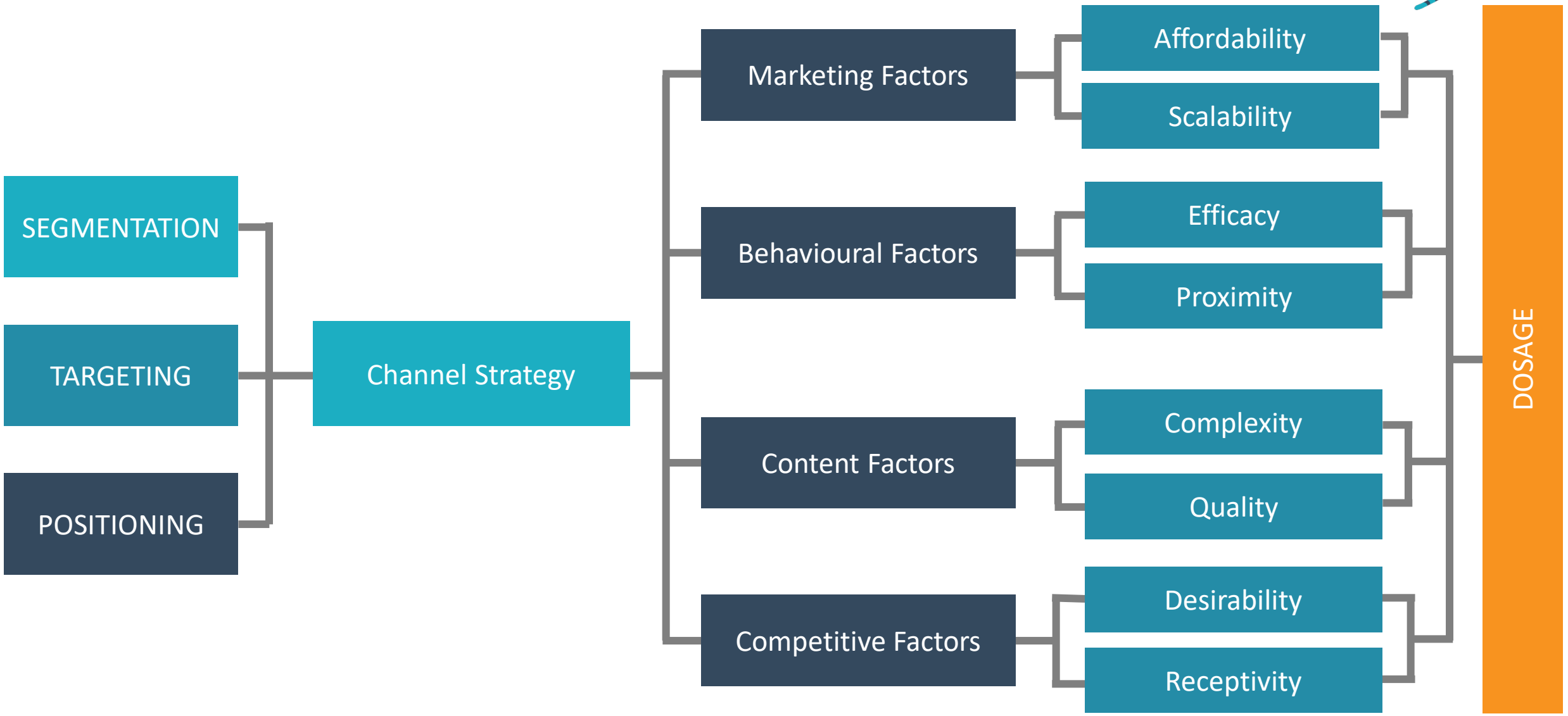
DESIGN INFLUENCES



INTERVENTION DESIGNS

Developing an intervention design that utilised a range of intervention functions:

- Education
- Persuasion
- Incentivisation
- Modelling
- Enablement

To encourage them to undergo training

To encourage them to wear appropriate clothing

PROJECT DESIGN - RIDEFREE

- Identified CBT as a potential route to influence young riders, but could it be improved?
- Can we build in elements from our behavioural diagnosis?
- How do we develop an intervention with evaluation at its core?

PROJECT DESIGN

- Four pilot groups
  - Standard CBT with before and after questionnaires.
  - **Age stratified** CBT limited to **first time** ‘young riders’, with before and after questionnaires and trainer interviews.
  - Enhanced CBT with e-learning module containing **hazard perception** and adjusted course content introducing **attitudinal and behavioural elements** with **split ride out**, with before and after questionnaires and trainer interviews.
  - Two day enhanced CBT with **fully integrated behavioural and attitudinal elements**, with before and after questionnaires and trainer interviews
- Recruit trainers through DVSA alert, MCIA contacts and Road Safety Partnerships.
- Fifteen training schools recruited and two train the trainer days provided.

PROJECT DESIGN: DRIVESTART

- Young drivers, risks associated with early driving career
- Behavioural insights from over 3,000 young people
- Identified 16 appropriate BCTs from across taxonomy groups matched to activities
  - Action planning
  - Social comparison
  - Problem solving
  - Behavioural practice
- The day-long (dosage) experience includes:
  - Hazard perception
  - Distractions and impairment
  - Licensing and test procedures
  - Practical experience

What to expect

10:00 Welcome & Introduction

10:05 Licensing & Theory

10:10 Hazard Perception Activity
Activote

10:35 Break

10:40 Presentation 3: The Driving Course

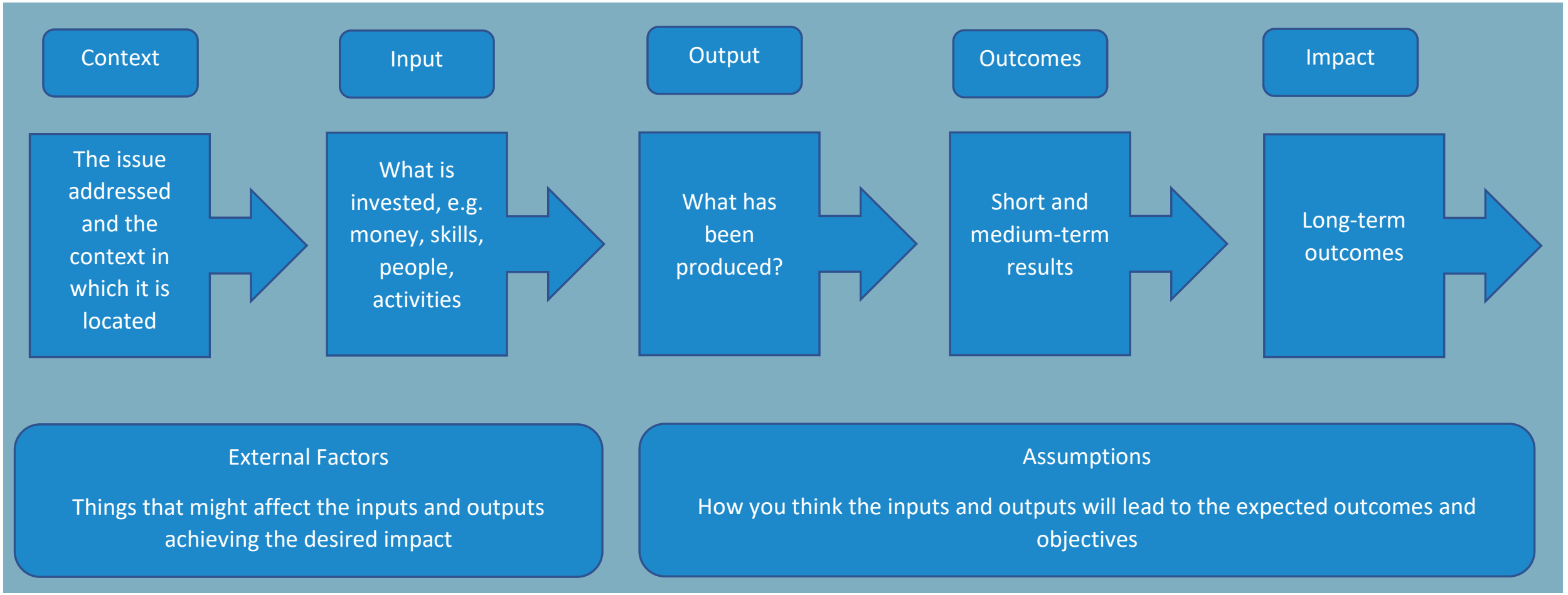
10:50
- Workshop 1: Driving
- Workshop 2: Maintenance
- Workshop 3: Impairment
- Workshop 4: Commentary Drive

12:50 Lunch

13:20
- Workshop 5: Distractions
- Workshop 6: Stopping Distances
- Workshop 7: Buying a vehicle
- Workshop 8: At the scene / First Aid

15:00

PUTTING IT TOGETHER: LOGIC MODELS



NEXT WEBINAR

EVALUATING BEHAVIOURAL INTERVENTIONS - TUESDAY 30TH JUNE

NEXT WEBINARS

- **Safer vehicles and post crash care**
  - 25th June 2020 at 2pm
- **Technology and self-regulation for older drivers**
  - 2nd July 2020 at 2pm

http://oldermobility.com/webinars/

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