

THE INTEGRATED FRAMEWORK A QUICK GUIDE

Measures for **Behaving Safely** in Traffic
(**MeBeSafe**)



MeBeSafe, Horizon 2020 - MG 3.5-2016:
Behavioural aspects for safer transport

A SHORT INTRODUCTION TO ...

A NUDGING APPROACH TO BEHAVIOUR CHANGE

Focuses on supporting automatic behaviour and decision making in a specific situation through influencing choice architectures (humans influenced by the context, technology etc)

TYPE OF INFLUENCE:

Influences behaviour directly every time the situation arises

Can only influence behaviour in a specific situation

Influences primarily System 1 thinking (automatic behaviour)

REQUIRES:

Requires that the supportive choice architecture is provided at each location where the safe driving behaviour is to be supported

Requires that the road user attends to or makes use of the specific choice architecture

USEFUL WHEN:

Road users' behaviour is influenced by cognitive biases

A safe driving behaviour is to be supported at a particular location

A COACHING APPROACH TO BEHAVIOUR CHANGE

Focuses on changing behaviour by supporting reflective learning to influence behaviour in various situations through supportive coaching experiences (humans influenced by humans, but sometimes mediated by technology)

TYPE OF INFLUENCE:

Can influence behaviour directly during a coaching event and indirectly in situations in-between events

Can influence behaviour both in a specific situation and beyond

Influences System 2 thinking (reflective behaviour)

REQUIRES:

Often requires repeated coaching to influence behaviour over time

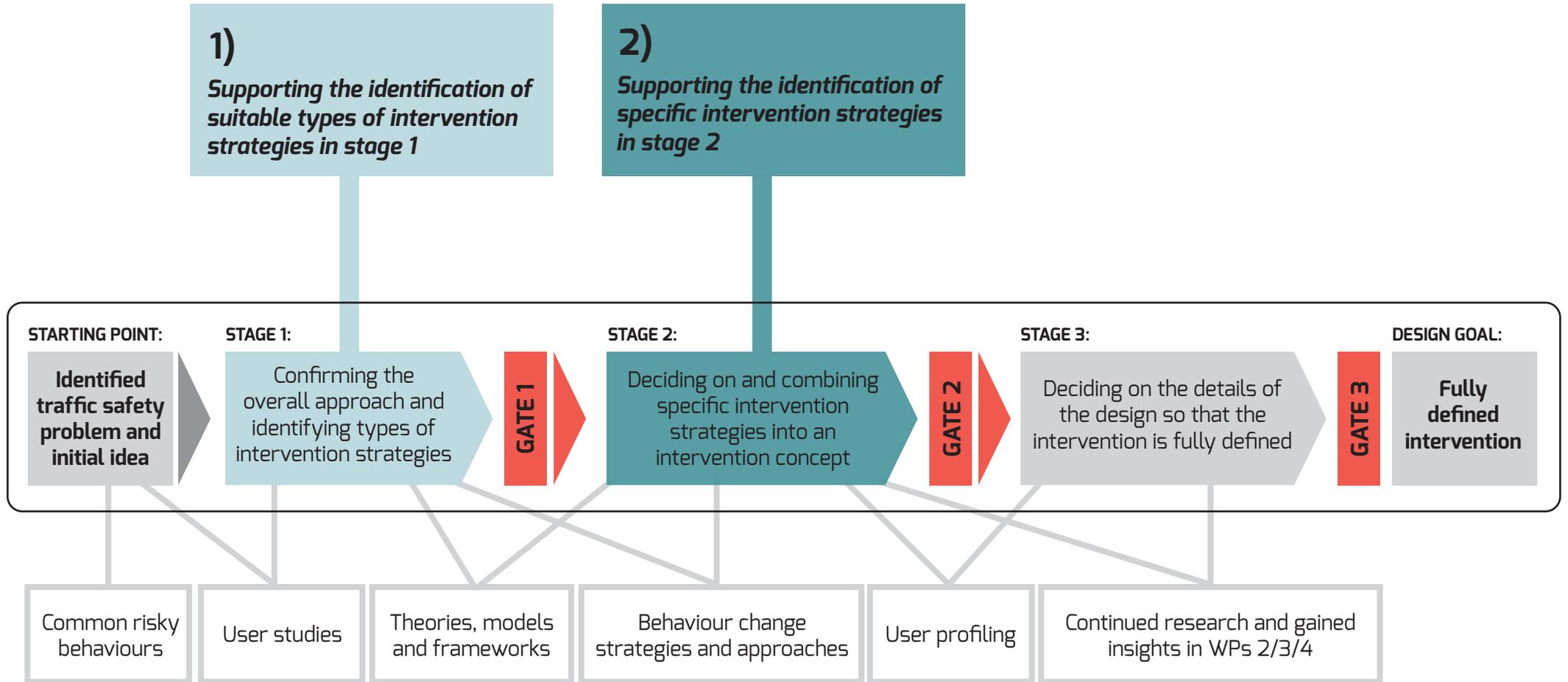
Requires the development of a quality relationship between coach and coachee built on trust and commitment

USEFUL WHEN:

Road users are willing to learn and change

A safe driving behaviour is needed also at other places than where the coaching is provided

THIS QUICK GUIDE AIMS TO SUPPORT THE PROCESS OF DEFINING SUITABLE INTERVENTIONS FOR MEBESAFE WP MEMBERS BY:



EXAMPLES OF SOURCES OF INFORMATION THAT MAY SUPPORT THE DESIGN PROCESS AND DECISION MAKING

STAGE 1: Confirming the overall approach and identifying types of intervention strategies

STEP 1.1: GAIN INSIGHT ABOUT THE TRAFFIC SAFETY PROBLEM

Based on user insights, try to answer as many questions as you can

		SYSTEM 1	SYSTEM 2		
		Is the traffic safety problem:			
		AN UNINTENTIONAL ERROR?		AN INTENTIONAL VIOLATION?	
SAFE DRIVING CONTEXT	Does the driving context support road users to adopt a safe driving behaviour by:	PROVIDING OPPORTUNITIES?	Do situational cues in the driving context automatically trigger a safe driving behaviour?	Does the driving context support conscious adoption of a safe driving behaviour?	The driving context DO DOES NOT support road users to adopt a safe driving behaviour
		NO / YES	NO / YES	NO / YES	
SAFE ROAD USER	Are road users able and willing to adopt a safe driving behaviour based on their:	COMMUNICATING OPPORTUNITIES?	Does the driving context make the road users aware of their behaviour?	Does the driving context communicate when another behaviour is more appropriate?	Road users ARE ARE NOT able and willing to adopt a safe driving behaviour
		NO / YES	NO / YES	NO / YES	
SAFE ROAD USER	Are road users able and willing to adopt a safe driving behaviour based on their:	COMPETENCIES?	Are the road users able to respond automatically to situational cues?	Do the road users have the skills and knowledge to adopt a safe driving behaviour?	Road users ARE ARE NOT able and willing to adopt a safe driving behaviour
		NO / YES	NO / YES	NO / YES	
SAFE ROAD USER	Are road users able and willing to adopt a safe driving behaviour based on their:	MOTIVATION?	Are the road users unconsciously motivated to adopt a safe driving behaviour?	Are the road users consciously motivated to adopt a safe driving behaviour?	Road users ARE ARE NOT able and willing to adopt a safe driving behaviour
		NO / YES	NO / YES	NO / YES	

Based on your answers, try to summarise your insights in a overall conclusion

STAGE 1: Confirming the overall approach and identifying types of intervention strategies

STEP 1.2: IDENTIFY SUITABLE TYPES OF INTERVENTION STRATEGIES

Based on your overall conclusion in step 1.1, identify suitable types of intervention strategies

		SYSTEM 1		SYSTEM 2			
		Is the traffic safety problem:					
		AN UNINTENTIONAL ERROR?		AN INTENTIONAL VIOLATION?			
SAFE DRIVING CONTEXT Does the driving context support road users to adopt a safe driving behaviour by:	PROVIDING OPPORTUNITIES?	Do situational cues in the driving context automatically trigger a safe driving behaviour?		Does the driving context support conscious adoption of a safe driving behaviour?		The driving context	
	COMMUNICATING OPPORTUNITIES?	Does the driving context make the road users aware of their behaviour?		Does the driving context communicate when another behaviour is more appropriate?		support road users to adopt a safe driving behaviour	
SAFE ROAD USER Are road users able and willing to adopt a safe driving behaviour based on their:	COMPETENCIES?	Are the road users able to respond automatically to situational cues?		Do the road users have the skills and knowledge to adopt a safe driving behaviour?		Road users	
	MOTIVATION?	Are the road users unconsciously motivated to adopt a safe driving behaviour?		Are the road users consciously motivated to adopt a safe driving behaviour?		able and willing to adopt a safe driving behaviour	

If the driving context **DOES NOT** support road users to adopt a safe driving behaviour, target the driving context

If road users **ARE NOT** able and willing to adopt a safe driving behaviour, target the road user

		SYSTEM 1 (AUTOMATIC)	SYSTEM 2 (REFLECTIVE)
SAFE DRIVING CONTEXT	INCREASE OPPORTUNITIES	(Re)Design functions of the driving context so that it enables and facilitates safe driving by triggering automatic responses to situational cues	(Re)Design functions of the driving context so that it enables and facilitates conscious choices to drive safely
	IMPROVE COMMUNICATION	(Re)Design how and when the message is communicated so that it facilitates perception and interpretation	(Re)Design the content of the message so that opportunities for safe driving are made clear without contributing to a too high cognitive load
SAFE ROAD USER	DEVELOP COMPETENCIES	Support the road user to develop e.g. perception skills, driving skills and habits to increase the level of automatic responses that results in safe driving behaviours	Support the road user to develop e.g. analysing skills and knowledge of own behaviour to increase the adoption of safe driving behaviours
	INCREASE MOTIVATION	Increase the road user's unconscious motivation for safe driving by e.g. providing a social reference point, endorsing behaviour and arousing emotions	Increase the road user's conscious motivation for safe driving by e.g. increasing awareness, supporting conscious goal-setting and providing incentives

STAGE 1: EXAMPLE – TRAFFIC SAFETY PROBLEM: INAPPROPRIATE SPEED

STEP 1.1: INSIGHTS GAINED ABOUT THE TRAFFIC SAFETY PROBLEM DURING STAGE 1

		SYSTEM 1	SYSTEM 2
		Is the adoption of an inappropriate speed:	
		AN UNINTENTIONAL ERROR?	AN INTENTIONAL VIOLATION?
		The adoption of an inappropriate speed is an unintentional error	The adoption of an inappropriate speed is not an intentional violation
SAFE DRIVING CONTEXT	Does the driving context support drivers to adopt an appropriate speed by:	PROVIDING OPPORTUNITIES?	COMMUNICATING OPPORTUNITIES?
	NO	Do situational cues in the driving context automatically trigger an appropriate speed?	Does the driving context support conscious adoption of an appropriate speed?
	PARTLY	NO	PARTLY
		Does the driving context make the driver aware of the current speed and the appropriate speed?	Does the driving context communicate when another speed is more appropriate?
		NO	PARTLY
SAFE ROAD USER	Are drivers able and willing to adopt an appropriate speed based on their:	COMPETENCIES?	MOTIVATION?
	YES	Is the driver able to respond automatically to situational cues?	Does the driver have the skills and knowledge to adopt an appropriate speed?
	YES	YES	YES
	UNCLEAR AT THIS STAGE	Is the driver unconsciously motivated to adopt an appropriate speed?	Is the driver consciously motivated to adopt an appropriate speed?
		UNCLEAR AT THIS STAGE	YES

The driving context does not support drivers to adopt an appropriate speed

Drivers are able and willing to adopt an appropriate speed

STEP 1.2: IDENTIFIED TYPES OF INTERVENTION STRATEGIES

MAKE THE DRIVING CONTEXT SAFER BY:

IMPROVING COMMUNICATION

(Re)Design functions of the driving context so that it enables and facilitates drivers to adopt an appropriate speed by triggering automatic responses to situational cues

(Re)Design functions of the driving context so that it enables and facilitates conscious choices to adopt an appropriate speed

AND/OR

INCREASING OPPORTUNITIES

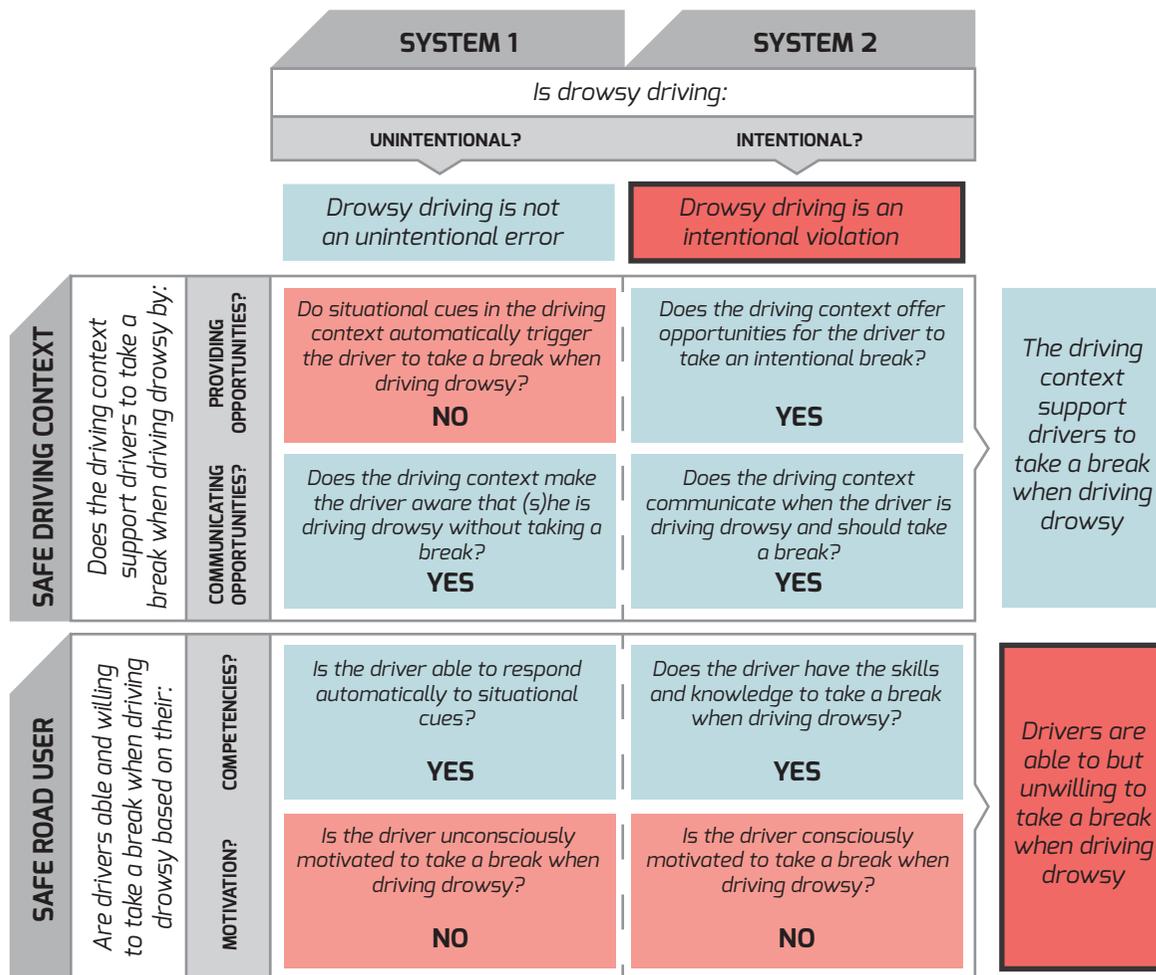
(Re)Design how and when speed is communicated so that it facilitates perception and interpretation

(Re)Design the content of the message so that opportunities for adopting an appropriate speed are made clear without contributing to a too high cognitive load

STAGE 1: EXAMPLE – TRAFFIC SAFETY PROBLEM: DROWSY DRIVING

STEP 1.1: INSIGHTS GAINED ABOUT THE TRAFFIC SAFETY PROBLEM DURING STAGE 1

STEP 1.2: IDENTIFIED TYPES OF INTERVENTION STRATEGIES



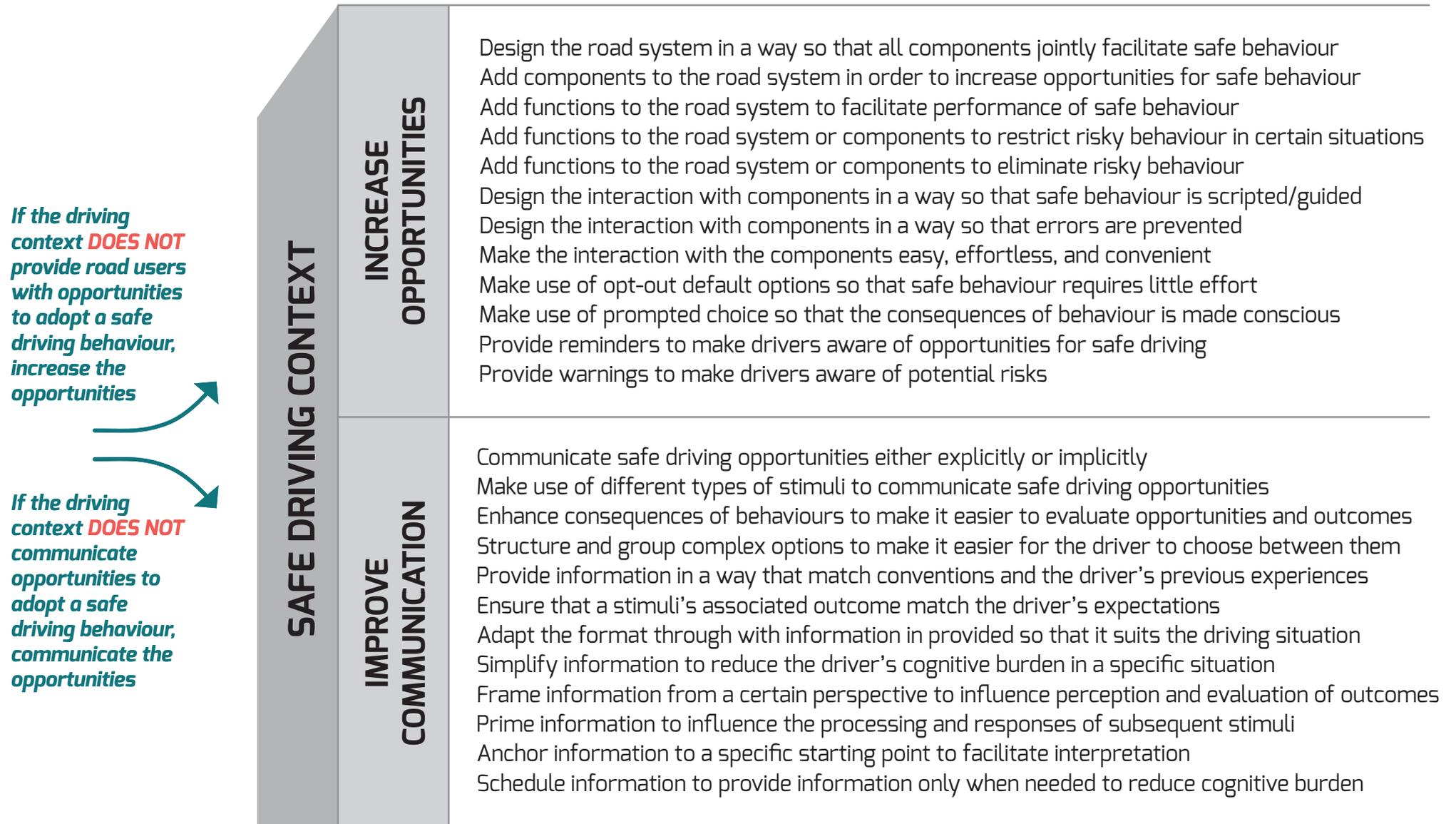
MAKE THE DRIVER ACT IN A SAFER WAY BY:

INCREASING MOTIVATION

Increase the road user's unconscious motivation to take a break by e.g. providing a social reference point, endorsing behaviour and arousing emotions

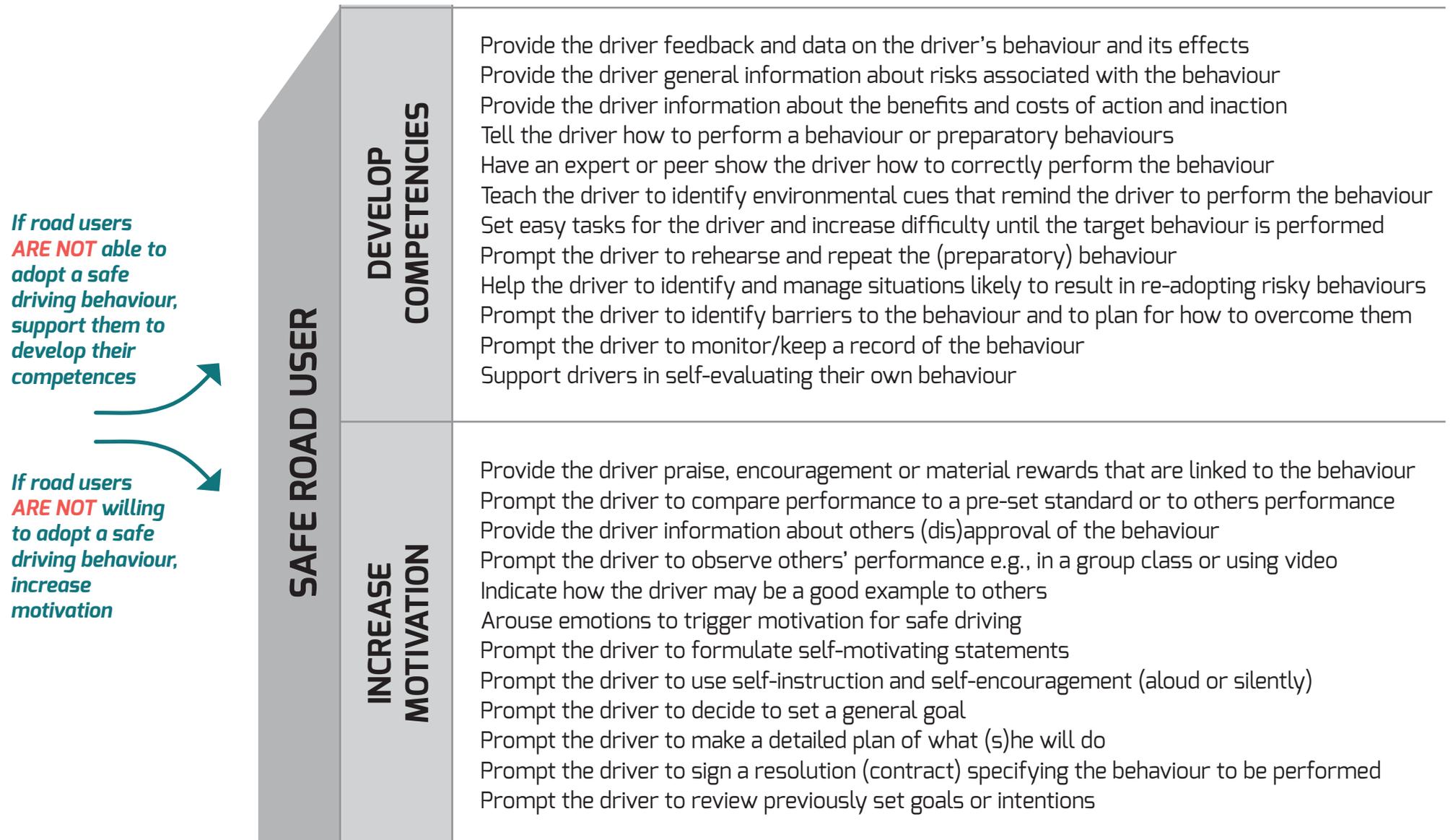
Increase the road user's conscious motivation to take a break by e.g. increasing awareness, supporting conscious goal-setting and providing incentives

STAGE 2: Deciding on and combining specific intervention strategies into an intervention concept



Examples of intervention strategies for (re)designing the driving context so that opportunities for safe driving increases and are better communicated

STAGE 2: Deciding on and combining specific intervention strategies into an intervention concept



Examples of intervention strategies for influencing the road user to drive safely by developing competencies and by increasing motivation