

Public communication

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SWOV



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Summary

Public communication on road safety includes all activities and products for a voluntary, lasting change in knowledge, attitude or behaviour. When a more formal setting is involved (such as traffic lessons), traffic education is the preferred word; see SWOV fact sheet [Traffic education](#). Public communication can have different goals, such as informing about (new) laws and regulations and increasing support for measures by providing information and facts. Often, public communication aims to change behaviour; for example, by raising awareness about certain traffic risks or by influencing standards (attitudes and opinions) about safe behaviour. In such a case, we often speak of awareness campaigns.

There is little evidence that stand-alone mass media communication is effective in changing behaviour or improving road safety. Publicity campaigns are rarely evaluated for changed behaviour and even less often for crash reduction. Evaluations often only measure awareness of the campaign, slogan and/or message. Effectiveness of public communication is also difficult to determine because it is often combined with other measures (such as intensified traffic enforcement). That makes it difficult to determine which measure was effective. Research does show that campaigns can contribute to increasing support and knowledge of laws and regulations.

There are many theories about behaviour and behavioural change. Of these, some elements appear to be important for publicity campaigns. If people feel that their current behaviour puts themselves at risk and that they can actually influence this risk, they are most likely to change their behaviour (or at least have the intention to do so). Therefore, it is important for a publicity campaign to offer an action perspective, a very concrete message about what people can do to avert the negative outcome. By offering resources and removing barriers, people are more likely to actually engage in the intended behaviour. This is important, because research shows that an *intention* to change behaviour does not often lead to an *actual* change in behaviour.

1 What do we mean by public communication?

Public communication is an umbrella term for all kinds of activities and products used to voluntarily bring about a lasting change in knowledge, attitude or behaviour. Voluntary here means that people themselves choose to behave in the preferred way, as opposed to more repressive measures such as enforcement (see also SWOV fact sheet [Traffic enforcement](#)). This may still involve (refraining from) behaviour that is prohibited by law, such as drink-driving or

speeding. In a publicity campaign, various activities and products are deployed in a given period, forming a coherent whole around a given theme.

Within road safety, public communication is used for different purposes (see the question [What is public road safety communication used for](#)), and in different forms (see the question [What types of public communication are there and how effective are they?](#)) with different strategies (see the question [What public communication strategies are there?](#)).

2 What is public road safety communication used for?

Public communication is used for various purposes. For example, for informing about (new) laws and regulations and for increasing support for measures by providing information and facts. An example is the MONO campaign, which was also used to alert cyclists to the ban on handheld phone use on bicycles introduced in July 2019 [1].

Public communication is often used to change behaviour; for example, by raising awareness about certain traffic risks or by influencing safe behaviour standards (attitudes and opinions). In such a case, we usually speak of awareness campaigns.

3 How effective is public road safety communication?

There is little evidence that stand-alone mass media communication is effective in changing behaviour or improving road safety. Publicity campaigns are rarely evaluated for changed behaviour and even less often for crash reduction. Evaluations often only measure awareness of the campaign, slogan and/or message (see also the questions [How effective is the Bob campaign?](#) and [How effective is the MONO campaign?](#)). Effectiveness of public communication is also difficult to determine because it is often combined with other measures (such as intensified traffic enforcement). Subsequently, it is hard to determine which measure was effective.

Reviews of international research do conclude that campaigns have a positive effect on road safety [2] [3] [4] [5]. However, because most campaigns are accompanied by other activities (such as intensified enforcement), it cannot be determined what the specific contribution of the campaigns was. There are also some studies that do show an effect on behavioural intention; after seeing a publicity campaign, people say that they will behave differently. But research shows that an average to high intention to change behaviour leads to a small or average actual behavioural change at most [6]; the so-called Intention-Behaviour Gap [7]. Because of this difference between intention and behaviour, based on behavioural intention alone, no firm

conclusions can be drawn about the effectiveness of public communication in preventing road crashes.

Research does show that campaigns can help increase support for and knowledge of laws and regulations [8]. However, what effect this has on road safety is less clear. Evaluations of the theory section of driving tests, for instance, show that *knowledge* of laws and regulations probably has a limited effect on road safety (see SWOV fact sheet [Driver training and driving tests](#)). It is known, however, that greater support ensures better compliance with traffic rules [9] [10] [11] [12], which has a positive effect on road safety.

4 Who organises public road safety communication in the Netherlands?

Since 2003, various organisations (such as Veilig Verkeer Nederland and the Dutch Association of Insurers) have been carrying out public communication activities in cooperation with the Ministry of Infrastructure and Water Management under the umbrella 'Daar kan je mee thuis komen' (approx., 'This will get you home'.) In 2020, this name was changed to '[Kom veilig thuis](#)' ('Get home safely'). Under this umbrella, which has a number of annual themes, mass media campaigns are organised, often linked to enforcement efforts and regional activities in specially planned campaign periods. The themes covered from 2020 onwards are recurring campaigns on alcohol use in traffic (Bob) and distraction in traffic (MONO). A bicycle lights campaign was launched in 2020 under the banner 'AAN in het donker' ('ON in the dark').

In addition to the major national campaigns, VVN, TeamAlert, Responsible Young Drivers and smaller, local organisations, among others, also carry out local public communication activities. Some of these activities use material from the national campaigns. These implementing organisations offer campaigns that can be purchased by provinces, Regional Road Safety Authorities (ROVs), municipalities, schools or other institutions such as festival organisations.

5 What types of public communication are there and how effective are they?

There are different types of public communication for which, depending on the target group, the most appropriate medium is chosen (see [Table 1](#)). In general, local public communication with personal communication and communication aimed at a clearly defined target group is more effective than mass media campaigns [13] [14].

Table 1. Different types of public communication and their effectiveness.

Type	Target group	Medium	Effectiveness
Mass media communication/ publicity campaigns	Entire population	National media (radio, newspapers, magazines, television, social media)	There is little evidence that stand-alone mass media communication is effective in changing behaviour or improving road safety (see also the question How effective is public road safety communication).
		Signs along roads and motorways	The degree of effectiveness of roadside public communication in promoting desired behaviour is not known. There is mixed evidence that roadside public communication can interfere with the driving task, manifesting itself in distraction/cognitive overload, for example. See also SWOV fact sheet Distraction in traffic .
Local or targeted public communication	Specific target groups	Advertising and promotion teams distributing campaign materials at locations where specific target groups gather (e.g. schools, child health centres, festivals, trade fairs)	According to Elvik et al [13], local, targeted campaigns have a greater effect than mass media communication.
		Social media	There is little research on the effect of social media communication and its impact on behaviour or crashes. A factor here is that it is unclear whether the number of 'hits' or 'page views', for which social media are often tested, has a relationship with behavioural change [15] [16]. In addition, communication via social media is often deployed as part of a broader campaign, so the effect of social media cannot be seen separately from the deployment of, for instance, TV, radio or print media, or from enforcement.
Personal communication	By name	Communication aimed at an individual: one-to-one communication. For example, a doctor informing a patient about the fitness to drive with particular medication, or personalised information in a letter by name to individuals belonging to specific target groups	Research [14] shows that personal letters to repeat offenders are effective in reducing recidivism, provided they are personally addressed and the letter also refers to the offender's own behaviour (information about the specific offence) and the consequences if behaviour does not change.
		E-learning	An e-learning intervention on speeding showed a temporary reduction in recidivism, but this effect disappeared six months after the intervention [17].

6 What public communication strategies are there?

Because there are many theories on behavioural change - more than 80, according to the article referred to here [18] - there are also many possible public communication strategies. We address the factors that appear in many different theories on behaviour and behavioural change and that campaigns can respond to, namely: knowledge and information, attitude, social norms, personal vulnerability, outcome expectancies, behavioural control/self-efficacy, resources and barriers, and emotions such as fear or joy. Research shows that these factors affect behavioural *intentions* [19] [20] [21] [22] [23] [24] [25] [26]. But it is also known that behavioural intentions have a limited effect on actual behaviour; the so-called Intention-Behaviour Gap [7].

Knowledge and information

Campaigns can appeal to rational considerations and thus be purely informational and instrumental [22] [24]; for example, campaigns with information and tips on transporting children in the car [27]. Public communication focused on knowledge and information can affect behaviour if it is limited to very concrete issues, as shown, for example, by a successful campaign on adjusting headrests to the correct height to prevent neck injuries [28].

Attitudes

Attitudes refer to the beliefs, emotions and behavioural tendencies people have towards something or someone [24] [25] [26]. Public communication can affect attitudes; a positive attitude towards the desired behaviour makes people exhibit that behaviour more often.

Social norms

Social norms refer to the expectations people have about how common and desirable a behaviour is considered to be by others [23] [24] [25] [26]. A campaign targeting social norms focuses on the desired behaviour (setting a good example). It shows that the majority of the group the target group belongs to or wants to belong to is already exhibiting that behaviour. In their choice of speed for example, drivers appear to be more affected by other traffic than by the speed limit [29]. A campaign could emphasise this social norm.

Personal vulnerability and outcome expectancies

Campaigns can also respond to the extent to which people believe they are at risk because of their current behaviour. This personal vulnerability [19] [20] [21] can affect behaviour. The idea is that behavioural change will occur if people believe that their current behaviour is potentially risky for themselves or for significant others (family and friends). The same goes for outcome expectancies [19] [20] [21]. The campaign aims to convince people that the recommended, alternative behaviour will actually result in a decrease in personal risk.

Behavioural control/self-efficacy

A campaign can focus on perceived behavioural control (also called self-efficacy) [19] [20] [21] [23] [24] [26] [27]. This refers to the extent to which people in the target group consider themselves capable of following the behavioural recommendations of a campaign. Perceived behavioural control has a key role in education and public communication [30] [31] [32] [33]. If people are not given clear behavioural alternatives which they believe they can execute, they will not change their behaviour. In fact, research [26] shows behavioural control plays a determining role in both intended behaviour and in attitudes and social standards.

Resources and barriers

Resources and barriers have been mentioned as important factors in several behavioural change theories [19] [20] [21] [24]: for example, having or not having resources such as time, money, attention and social support to exhibit different behaviour [24], but also the presence or absence of situational 'cues' that maintain current behaviour [19] [24]. In short, these are resources or barriers that can make the desired behaviour easier or harder.

Emotions

Finally, campaigns can appeal to emotions [27]. Confrontational (or fear-based) public communication (also known as fear-appeals) confronts people with the consequences of risky behaviour in a harsh, sometimes shocking way. See also the question [How effective is fear-based public communication?](#) By contrast, there are forms of public communication that emphasise positive feelings and positive consequences of behaviour. Particularly for men and young people this form appears to work better than instilling fear [34].

Another possible strategy is not to evoke a traditional 'physical' threat, but rather a social threat. Such a campaign often targets young people and/or men and aims to show behaviour that has long been seen as 'tough' (stunting around trains, speeding) in a different light (not tough, but pathetic). Examples include the 'Dumb Ways to Die campaign' [35], aimed at safe behaviour around trains and railways, and the 'Pinkie' campaign subtitled: Speeding. No one thinks big of you, which has a double entendre because the expression applies to speeding behaviour but also questions the 'masculinity' of speeding drivers. See also the question [How effective are speed campaigns?](#)

7 How effective is fear-based public communication?

Fear-based public communication uses shocking messages and images to evoke feelings of fear and threat with the aim of getting people to change risky behaviour. A meta-analysis [36] showed that fear-based public communication does not consistently succeed in influencing behaviour. Some campaigns succeed (e.g. [31] [37] [38]), but others do not (e.g. [33] [39] [40]). This makes it hard to determine whether such campaigns actually lead to fewer road crashes.

In any case, the studies suggest that fear-based public communication cannot have positive effects if it only evokes fear without simultaneously providing people with information about the personal risk they run and without providing feasible and effective behavioural alternatives [31] [32] [33]. Without these conditions, people are likely to seek other ways to reduce the threat, such as ignoring or actively denying the content of the campaign. Campaigns do need to be very well constructed to avoid this, and in practice, fear-based public communication more often than not fails to meet the requirements. Recent studies show that the vast majority of fear-based public communication campaigns mainly highlight the severity of the risks, and that behavioural alternatives in particular are rarely included [39] [41]; see also the question [What determines the effectiveness of public communication?](#) There is even evidence that fear-based public communication can adversely affect behavioural intentions [42].

Fear-based public communication also tends to have less effect on young people and men [36] [43] [44], even though they are often the target group.

8 How effective is the Bob campaign?

It is unclear whether the Bob campaign contributed to a reduction in alcohol use among experienced and young drivers. Indeed, an evaluation of the campaign's effect on crashes is lacking. Partly because most campaigns were accompanied by other activities (such as intensified enforcement at the time), the effect of the campaign itself is hard to determine.

The Bob campaign is a 1995 idea from the Belgian Institute for Road Safety, now the Vias Institute [45]. The campaign aims to get people to agree on who will drive home sober before drinking alcohol. The Bob campaign started in the Netherlands at the end of 2001, and in 2015 the concept was extended to all drivers, including solo drivers.

Reviews of 'designated driver' studies (the Bob drivers) do not draw conclusions on the effectiveness of these programmes in reducing drink-driving or alcohol-related crashes, as the studies often do not provide sufficient evidence [46]. Similarly, a review of American and Canadian studies on the effectiveness of alternative transport programmes for people going out on the town (including 'designated driver' programmes), did not provide a clear conclusion on the effectiveness of these programmes [47].

Before and after the campaign period, a survey was conducted in the Netherlands, asking people about their views on drink-driving [48]. An important goal of the Bob campaign is that more people know that you can also be a Bob when driving alone. A decreasing trend in the number of people who know this can be seen during the multi-year campaign (from 76% at the end of 2018 to 67% at the end of 2020). After the campaign, drivers do agree slightly more often with the statement "you should not drink alcohol if you have to drive later on" (from 84% to 89%), but the trend over the years is slightly negative from 95% at the end of 2018 to 89% in January 2021. Novice drivers are actually less likely to agree with this statement after the campaign (from 83% to 66%).

9 How effective are speed campaigns?

There is no clear evidence that general campaigns can reduce speeding. Rather, speed campaigns often have a flanking role to increase support for speed enforcement. A complicating factor is that speed campaigns cannot provide an alternative or behavioural alternative (see the question [What determines the effectiveness of public communication?](#)). For alcohol, an alternative driver can be designated; for speeding, the only alternative is 'don't do it' [49]. In addition, there is a persistent belief that speeding is not that risky [50]. However, local feedback on speed behaviour can affect road users' speed. Unfortunately, this effect is often temporary.

In 2010, a national Dutch speed campaign that targeted smaller, mostly unconsciously committed speeding offences on urban roads was evaluated [51]. The campaign consisted of a national component (TV, radio and internet), and a local component (including matrix signs on motorways and signs along 30km/h and 50km/h urban roads). The measurements on 30km/h roads showed that the average speed and the share of (minor) speeding offences changed over time. The measured differences showed little logical correlation with the different phases of the campaign and could therefore not be explained as a campaign effect. The exception was a positive effect of local information posters on 30km/h roads. However, this effect was not lasting and disappeared within a week [51].

Feedback signs, sometimes found along urban roadsides, can positively affect speed behaviour. A well-known example is a sign that shows the speed of drivers when approaching, possibly with a positive smiley if the speed is below the limit and a negative smiley if the speed is above it. Research shows that this kind of feedback sign can have a (limited) positive effect on driving speeds at that location [52] [53] [54] [55] [56]. An experiment in which 'Dick Bruna attention signs' were placed along the road also showed that it is possible to influence very local speed behaviour. However, the effect of these signs was only temporary [57]. This form of public communication should rather be considered as 'Nudging'.

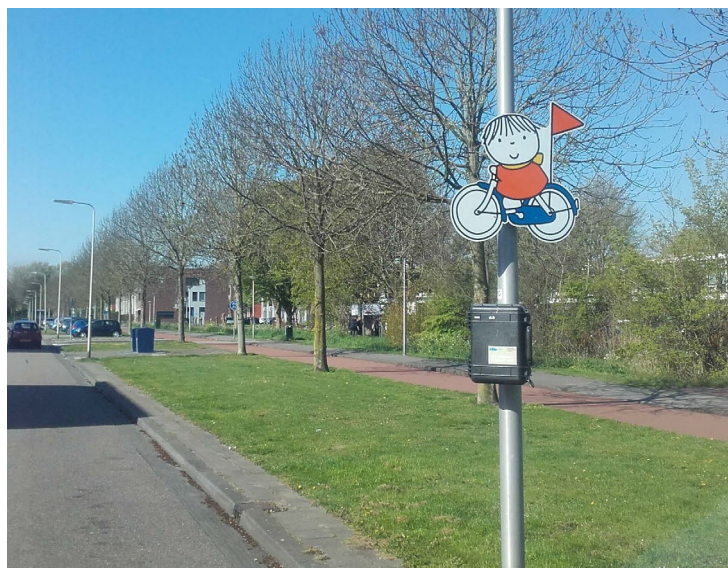


Figure 1. Example of a Dick Bruna attention sign.

A simulator study in Australia [58] showed that it is also possible to influence driver behaviour with general, non-local public communication. Participants were shown visual materials with traditional 'physical' threats, or with a social threat (see the question [What public communication strategies are there?](#)). The social threat consisted of the 'Pinkie' campaign (subtitle: Speeding. No one thinks big of you) targeting speeding with a double meaning, since in addition to the expression, it also calls into question the 'masculinity' of the speeding drivers. After seeing the campaign materials, participants showed significantly less hazardous driving behaviour (fewer collisions, less red-light negation) in the driving simulator. The social threat campaign had more effect on men than women (the campaign was meant to target men), but also worked better for men than the physical threat video (in terms of red-light negation). Interestingly, none of the campaigns had any effect on speeds driven in the driving simulator, even though that is what the campaign actually targeted.

10 How effective is the MONO campaign?

It is unknown whether the MONO campaign is effective in preventing road crashes. However, according to measurements, the share of drivers using devices while driving has decreased significantly since the introduction of the campaign (9% in 2020 compared to 15% in 2018) [59]. It is unclear whether this is a direct result of the campaign; during the same period, for example, many more fines were also issued for handheld telephone use [60], which may explain the decrease. Evaluations that examined awareness of the campaign or, for example, awareness of the existence of apps that facilitate MONO driving, conclude that the campaign had a positive impact, especially among cyclists, on the sense of responsibility and willingness to take precautions not to be disturbed by phone in traffic [61]. Attitudes about distraction in traffic did not generally appear to change as a result of the campaign. Possibly because people already had positive attitudes about not being distracted in traffic even before the campaign [61] [62].

On 13 September 2018, the Ministry of Infrastructure and Water Management, together with ANWB, Flitsmeister, Veilig Verkeer Nederland, Fietsersbond, TeamAlert, Nederland ICT and several provinces, among others, launched a large-scale attention-on-the-road campaign called MONO: no distractions while on the move. The aim of the MONO campaign is to reduce social media use by cyclists and drivers while riding or driving. The campaign targets both road users themselves and their social environment with the aim of preventing messages from coming in while riding or driving, either by the road users themselves muting their social media or by friends and family not sending messages if they know someone is on a bike or in the car. Besides addressing drivers and cyclists themselves, the campaign also targets employers. The MONO campaign is ongoing.

11 How effective is roadside public communication?

Extensive national road safety campaigns are often supported by messages along roads/motorways or on matrix signs. The effect of these campaigns, and the specific contribution of roadside signs, is unknown. Research on this kind of public communication most often discusses whether the signs have a negative effect: distraction from the traffic task. Information on the distracting effect of roadside signs can be found in SWOV fact sheet [Distraction in traffic](#) under the question [How distracting is roadside advertising?](#)

Nonetheless, specific feedback on the current driving speed can affect road user behaviour. For example, with feedback signs on urban roads that inform road users of their current speed. Unfortunately, this effect is often temporary. See also the question [How effective are speed campaigns?](#)

12 What determines the effectiveness of public communication?

It is important for an information campaign to offer behavioural alternatives: very concrete messages about what people can do to avert the negative outcome. By offering resources and removing barriers, people are more likely to actually engage in the intended behaviour. See also [Figure 2](#), which shows the relationship between theories and steps in public communication.

If people feel that their current behaviour is risky for themselves (personal vulnerability) and that they can actually change something about this risk (outcome expectancies and behavioural control), they are most likely to change their behaviour (or at least have the intention to do so) [26] [30]. See also the question [What public communication strategies are there?](#) Therefore, it is important for a publicity campaign to offer **behavioural alternatives**: very concrete messages about what people can do to avert the negative outcome. There is even evidence that in the absence of behavioural alternatives, a campaign can be counter-effective. Particularly in the case of fear-based public communication, people are more likely to seek other ways to reduce the threat, such as ignoring or actively denying the content of the campaign [31] [32] [33] [42].

But even if people intend to change their behaviour, they will not always do so. Research shows that an average to high intention to change behaviour, at best, leads to a small to average actual behavioural change [6]. This is called the Intention-Behaviour Gap [7]; the difference between intention and behaviour. This is partly due to people not having the right resources, or to barriers that prevent people from doing what they intend.

The likelihood of a campaign being effective increases if it provides **resources** or manages to remove **barriers**. Examples of deploying resources include handing out garden waste baskets if you want residents to separate more biowaste, or handing out a bicycle helmet at school [63] to encourage bicycle helmet use. The Goochem (Savvy) campaign to encourage seat belt use in the back seat [64] used a situational cue, a stuffed animal that children could attach to the seat belt. This was intended to reduce the likelihood of 'forgetting' and thus break the barrier of habitual behaviour.

Incidentally, the gap between intention and behaviour also shows the importance of evaluating campaigns on observed behaviour (see [65] for evaluation methods). Merely measuring whether people say they will change their behaviour says too little about the actual effectiveness of a campaign.

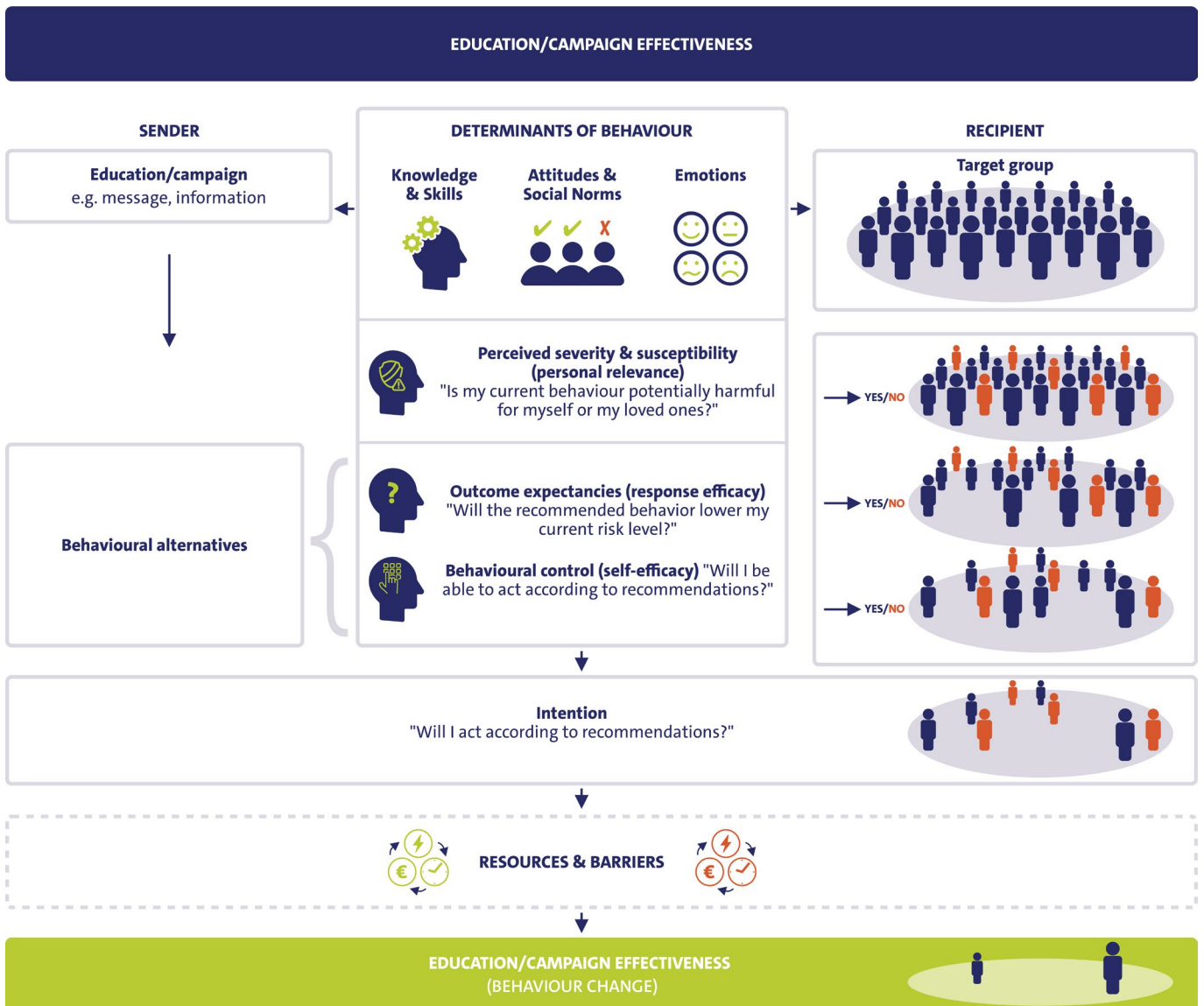


Figure 2. Elements important for the effect of public communication.

13 Are there other ways to influence behaviour apart from public communication (and education)?

Public communication and education are often thought to be the (only) methods to influence behaviour. And because behaviour is a factor in many crashes, it is regularly concluded that crashes can be prevented with these methods. But they are certainly not the only, or most effective, measures to influence behaviour. Human behaviour is complex and difficult to change, even if people want to. Measures that do not require people to decide on their road user behaviour themselves, such as vehicle measures or infrastructure measures, are therefore more effective. Like traffic enforcement, they are aimed at preventing undesirable behaviour.

Almost all road crashes can be traced to one common factor: human behaviour. As early as the 1970s, it became clear that road user behaviour is an important factor in more than 90% of crashes [66]. But behaviour does not come out of the blue, it is affected by other factors, such as infrastructure, behaviour of other road users, vehicle characteristics and weather conditions.

Indeed, road user behaviour can also be 'guided' with good road design (such as roundabouts) and smart vehicle systems (such as intelligent speed assistance, ISA), making it almost impossible to drive faster than the limit. Traffic enforcement also aims to change road user behaviour. That is why it is particularly important to focus on a mix of measures; i.e. measures that do not require people to decide on their road user behaviour themselves - such as vehicle measures or infrastructure measures - combined with supporting measures that explain, set standards and enforce those standards - such as education, public communication, and enforcement (see *Table 2*, taken from [65]).

Table 2. Expected effects, reach, costs and deciding parties (influence) of the three E's (Engineering, Education and Enforcement) [65].

The three E's	Effect*		Reach	Costs**	Influence
	Automatic behaviour	Planned behaviour			
Engineering – infrastructure	Some infrastructure measures cannot be overruled, so road users automatically display safe behaviour	Good infrastructure measures naturally elicit the desired (speed) behaviour	One measure reaches all road users for a prolonged period	Some measures are relatively expensive	Municipality/province can usually make a decision itself
Engineering – vehicles	Good vehicle design ensures that road users automatically follow the rules and do not have to make conscious choices (automatic bicycle lights)	Well-designed vehicles make it easier to follow the rules (speed assistance)	One measure reaches all vehicle owners or all road users that encounter the vehicle, often for a prolonged period	Are for the user rather than the government	Municipality/province cannot always exert any influence
Education – public communication and targeted education	Education cannot prevent people from (un)consciously committing mistakes/violations, even if they do want to behave according to the rules	Skills can be trained by means of education, but beware of overestimation!	Publicity campaigns reach many people at once, often for a short time Targeted education reaches a small group of people, often for a short time	Often relatively cheaper measures	Municipality/province can usually make a decision itself
Enforcement		Deterrent effect. More effective if (subjective) probability of detection is higher	Camera surveillance and high subjective probability of detection is experienced by many people	The cost of enforcement is unclear, police stops are more expensive than camera surveillance	Police cooperation required

* For impact studies see among others: the Effectiviteitswijzer of Kennisnetwerk SPV [67].

**For information on costs of measures, see among others [68]

Publications and sources

Below you will find the list of references that are used in this fact sheet; all sources can be consulted or retrieved. Via [Publications](#) you can find more literature on the subject of road safety.

- [1]. Rijksoverheid (2019). 'Laat je telefoon lekker zitten en hou 95 euro in je zak'. Accessed on 12-07-2022 at <https://www.rijksoverheid.nl/actueel/nieuws/2019/06/28/%E2%80%98laat-je-telefoon-lekker-zitten-en-hou-95-euro-in-je-zak%E2%80%99>.
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- [backgrounds to behaviour and options for intervention through education; A literature study](#). R-2012-15 [Summary in English]. SWOV, Leidschendam.
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