



To: Transport & Health Policy Makers, & Practitioners
From: Prof Adrian Davis, TRI, Edinburgh Napier University
Date: 4th July 2023
Subject: Essential Evidence 4 Scotland No.70 Can soft measures reduce car use?

Top line: Soft measures to change travel behaviours away from car use can decrease by 7% car use modal share. This is a finding reported in separate peer reviewed studies, by different research teams, spanning more than a decade.

In the last 20 years or so, a variety of behavioural measures, also called soft measures, aimed at motivating changes in transport choices, have been tested worldwide. Soft travel interventions are generally regarded as effective measures for reducing personal car use. As a result, policymakers have increasingly orientated towards the so-called “soft” interventions which draw on or psychological insights, defined as “strategies aimed at influencing people’s perceptions, beliefs, attitudes, values, and norms.”¹ They rely on persuasion and motivation of car users to voluntarily switch to sustainable travel modes, instead of using coercive means. This approach involves providing people with information, education, behavioural examples, prompts, feedback and other strategies aimed at changing people’s travel behaviour by increasing their knowledge, awareness, self-efficacy, changing their attitudes, habits, norms or by influencing their emotions.² One way to increase the effect of soft measures is to use social norms, which can be defined as shared beliefs that guide, regulate, proscribe, and prescribe social behaviour in a given situation.³

The primary focus of a recent systematic review was to investigate whether evaluation studies with robust designs offer support for the pervasive assumption that soft transport policy measures are effective in reducing private car use. The second focus was to investigate what type of interventions work and under which conditions they are most effective.²

The most important finding of the study was that, across the 41 interventions meeting inclusion criteria, a statistically significant summary effect was found. This effect size is sufficiently large to be practically significant. Expressed in percentages, it corresponds to a decrease of approximately 7% in car use modal split share. The effect is similar in magnitude to one reported by Fujii et al (2009) in a sample of fifteen soft interventions with experimental designs conducted in Japan. It is also strikingly similar to Möser and Bamberg’s (2008) finding, who concluded that soft interventions increased by 7% the proportion of trips not conducted by car.

The most effective interventions were the ones targeting social, cultural and moral norms, approximately a 32% decrease in car modal split share, followed by interventions targeting knowledge and awareness of own driving behaviour, a 14% decrease in car modal split share. Interventions targeting capability and self-efficacy, produced a lower 5% decrease in car modal split share), while the analyses suggests that interventions targeting attitudes and habits may not be effective in reducing car use, at least when applied independently. Combining different soft interventions may however reveal a different picture. For instance, interventions targeting attitudes (e.g. providing tailored information) may be more effective if barriers to behaviour change such as automatic behaviours are also addressed. Semenescu and colleagues conclude that future studies will need to explore this possibility by including additional conditions that investigate interactions between different types of soft interventions.

¹ Steg, L. 2003 Factors influencing the acceptability and effectiveness of transport pricing. In Schade, J., Schlag, B., *Acceptability of Transport. Pricing. Strategies*, 187–202. <https://doi.org/10.1108/9781786359506-012>.

² Semenescu, A., Gavreliuc, A., Sarbescu, P. 2020 30 years of soft interventions to reduce car use - A systematic review and meta-analysis, *Transportation Research Part D*, 102397

³ Piras, F., et al, 2021 Can persuasive normative messages encourage sustainable transportation usage? *Transportation Research Part F*, 83: 304-322