

To: Transport & Health Policy Makers, & Practitioners
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Subject: Essential Evidence 4 Scotland No. 12 E-bike potential to promote sustained changes in car owners mobility habits

Top line: An e-bike trial has the potential to break mobility habits and motivate car owners to use more sustainable means of transport.

Modal shifts hold considerable potential to mitigate carbon emissions. Electric bikes (e-bikes) represent a promising energy and carbon-efficient alternative to cars. However, as mobility behaviour is highly habitual, convincing people to switch from cars to e-bikes is challenging. One strategy to accomplish this is the disruption of existing habits—a key idea behind an annual e-bike promotion programme in Switzerland, in which car owners can try out an e-bike for free over a two-week period in exchange for their car keys. By means of a repeat survey of users, researchers measured the long-term effects of this trial on mobility-related habitual associations.¹ Between May and September 2015, 1854 car owners participated in Bike4Car. After the end of the programme, participants were offered a coupon to purchase an e-bike for a reduced price. The largest participating retailer offered a reduction of 500 CHF (approx £403) covering around 20%–25% of the price of an e-bike. By November 2015 10% of participants used their coupon to buy an e-bike. One year post intervention questionnaire responses showed that, compared with the Swiss population, well-educated men were overrepresented among the survey participants. In addition, more than half of participants lived in households with 2+ cars indicating that the programme reaches a target group with a real potential for mobility-related energy savings.

In line with previous research study findings indicate that disruptions of individuals' mobility context may trigger changes in habitual travel choices. Bearing in mind that the study did not measure actual habits but rather habitual associations it provides strong evidence that exchanging one's car keys for an e-bike for just a few weeks influences long-term habitual associations with car usage, and that this change persists even a year after the end of the intervention. This contrasts the findings of other studies which found that the effect of interventions wears off over time. While this decrease in habitual associations with car use was most pronounced for participants who did buy an e-bike following the trial, participants who did not change their mobility context displayed a significant long-term shift away from car use as well. Furthermore, it is noteworthy that this shift in habitual associations could be observed after a winter season has passed; which is usually cold, rainy and sometimes even snowy in Switzerland, and thus not ideal for riding.

The researchers point to several plausible explanations for the observed persistence of the intervention's effect mobility-related habitual associations. One is the strength of the habit disruption induced by the programme, as participants were required to hand over their car keys for the two-week duration of the trial. Hence, participants could not rely on their cars for commuting, shopping or leisure activities; instead, they had to organise their day-to-day activities around their e-bikes. And, since it is still a niche mode of transport, most participants may not have previous experience with riding an e-bike including health benefits, time savings or the realisation that steep slopes—a key barrier to conventional cycling—are much less of a challenge than they may have expected.

¹ Moser, C., Blumer, Y., Hille, S. 2018. E-bike trials' potential to promote sustained changes in car owners mobility habits, *Environmental Research Letters*, 13: 044025 <https://doi.org/10.1088/1748-9326/aaad73>