

To: Transport & Health Policy Makers, & Practitioners
From: Prof Adrian Davis, TRI, Edinburgh Napier University
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Subject: Essential Evidence 4 Scotland No.74: Nudge or shove interventions for societal benefit?

Top line: In order to achieve key societal goals, including improving population health, it is clear that some transport interventions are more effective than others. Their effectiveness comes from at least guiding if not restricting – a shove - some choices in order to unlock societal benefits.

We live in a complex world, where no individual choice is made entirely in isolation. Many factors shape our decisions, and our decisions then have consequences in subsequent choices. It is partly a recognition of this truism that informs ‘nudge’ thinking.¹ Behaviours are shaped by networks or cascades of choices, and it is useful to consider how such a cascade of choices in transport may lead to effects in health and wellbeing. This has the virtue of recognising the non-linear nature of many causes and effects in complex systems, but still holds to a belief that specific, sometimes non-intuitive, interventions may precipitate substantial and desirable change in transport systems.

In keeping with ‘nudge’ philosophy is the ladder of interventions described initially by the Nuffield Council on Bioethics.² This approach ranges from total non-interference at one extreme to compulsion at the other, and a stated current policy principle is that the preference should be to ascend that ladder only as far as is necessary, and only when the options in rungs are exhausted. That is, the state should not regulate when education, choice, persuasion, or incentives can be effective. There are eight rungs on the ladder of interventions, and some examples of how these might be seen to apply to existing approaches to public health through transport interventions are shown in Table 1.³

Table 1
Nuffield Council on Bioethics ladder of interventions with examples relating transport and health.

1	Do nothing or simply monitor the current situation	<ul style="list-style-type: none"> • Allow the status quo, and current secular trends to continue without interference
2	Provide information: inform and educate people	<ul style="list-style-type: none"> • Do not drink and drive campaigns
3	Enable choice: enable people to change their behaviours	<ul style="list-style-type: none"> • Better public transport • School buses • ‘Boris’ bikes
4	Guide choice through changing the default: make ‘healthier’ choices the default option for people	<ul style="list-style-type: none"> • Crumple zones in car design • More efficient engines • Advisory speed limits • Establish home zones and alter street furniture and signage to reflect different priorities
5	Guide choice through incentives: use financial and other incentives to guide people to pursue certain activities	<ul style="list-style-type: none"> • Free, or very cheap, public transport • Reduce tax on low-pollution vehicles
6	Guide choice through disincentives: use financial or other disincentives to influence people to not pursue certain activities	<ul style="list-style-type: none"> • Heavier general taxes on cars and road usage • Strictly enforced laws on speed • Increased tax on high-pollution vehicles • Refuse planning permission to hypermarket developments
7	Restrict choice: regulate to restrict the options available to people	<ul style="list-style-type: none"> • Congestion charging • Do not provide parking spaces • Limit car access or ban car usage
8	Eliminate choice: regulate to eliminate choice entirely	<ul style="list-style-type: none"> • Enforced speed limits • Regulation of vehicle quality (e.g. MOT tests) • Seat belt use

Milne notes that the most positive impacts upon the greatest range of health-related factors fall heavily within the upper rungs of the Nuffield ladder – that is, in the domain of financial disincentives (congestion charging, parking charges), restriction or limitation of choice (traffic-calming, enforcement of speed limits). Congestion Charge in London (reduction of 33%), was the most effective in reducing car traffic across the cordon of a charging zone, 20% in Stockholm, and 12% in Gothenburg.^{4,5} That is not to say that lower rung interventions have no effect. Indeed, an overall message from the peer reviewed evidence is that a multi-component approach is likely to most effective and this might include pricing, parking management, road space reallocation, and school travel schemes.

1 Thaler, R, Sunstein, C 2008. Nudge: Improving Decisions about Health, Wealth and Happiness. Yale University Press, New Haven and London.

2 Nuffield Council on Bioethics, 2007 Public Health: Ethical Issues. Nuffield Council on Bioethics, London.

3 Milne, E., 2012 A public health perspective on transport policy priorities, Journal of Transport Geography, 21: 62-69.

4 Kuss, P., Nicholas, K. 2022 A dozen effective interventions to reduce car use in European cities: Lessons learnt from a meta-analysis and transition management, Case Studies in Transport Policy, 10: 1494-1513.

5 Borjesson, M., Kristofferson, I. 2019 The Swedish congestion charges: Ten years on, Transport Res Part A, 107; 35-51.