



**To:** City Development

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**Subject:** Essential Evidence on a page: No 45: Effective interventions to increase cycle use

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Top line: Substantial increases in bicycling require an integrated package of many different, complementary interventions, including infrastructure provision and pro-bicycle programmes, supportive land use planning, and restrictions on car use.

Bristol is designated as a Cycling City. Evidence from a new international review of peer reviewed and non-reviewed research which identified a large volume of evidence on effective policies, programmes, and infrastructure to increase cycle use may be instructive.<sup>1</sup> Case studies show that almost all cities adopting comprehensive packages of interventions experienced large increases in bicycle trip numbers and mode share.

The most common interventions are traffic related infrastructure that separate cyclists from motor vehicles. Most aggregate-level studies found a positive and statistically significant relationship between bike lanes and bicycling use, whereas the individual-level studies had mixed findings. A cross-sectional study of over 40 US cities found that each additional mile of bike lane per square mile was associated with an increase of approximately one percentage point in the share of workers regularly commuting by bicycle. Most stated preference studies that analyzed both bike lanes and bike paths found that more experienced cyclists prefer on-street lanes to bike paths. These cyclists appear less willing to trade off additional time required to access separated paths.

There is consensus on the need to provide secure, sheltered parking to prevent theft and to protect bicycles from inclement weather. However, the extent to which providing parking facilities follows increased bicycling levels instead of preceding is unclear. The causation is almost certainly in both directions. The focus in Europe and Japan has been on providing large amounts of bike parking at rail stations. Bike parking at bus stops is far less common and is mostly found in northern Europe, where few if any buses are equipped with bike racks. Bicycles on buses and bicycles on rail vehicles are also important forms of integration with public transport, but no studies have explicitly measured their impact on bicycling levels.

Evidence on effects of cycling promotional programmes is slim. Most evaluations focus on vehicle trip reduction, and impacts on bicycling are often not reported or even measured. Even when programmes have a downward effect on car use and walking increases there is a limited increase in cycle use. Another intervention is to increase access to bicycles. Bike sharing programmes (such as Hourbike in Bristol) have grown in popularity around the world. Programmes appear well used and cycling increases in cities that have implemented bike sharing programmes although results are often confounded by other improvements in cycling facilities.

A caveat is that most studies fall far short of the ideal research design for evaluating interventions, involving before-and-after measurements of a “treatment” and a “control” group. Nonetheless, a clear message emerges from the review: individual interventions are most effective as a part of a more comprehensive effort including traffic restraint.

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<sup>1</sup> Pucher, J., Dill, J., Handy, S. 2010 Infrastructure, programs, and policies to increase bicycling: An international review, *Preventive Medicine*, 50: S106-S125. [http://policy.rutgers.edu/faculty/pucher/Pucher\\_Dill\\_Handy10.pdf](http://policy.rutgers.edu/faculty/pucher/Pucher_Dill_Handy10.pdf)