

(Abstract)

Objective: To assess whether area-wide traffic calming schemes can reduce road crash related deaths and injuries.

Design: Systematic review and meta-analysis.

Data sources: Cochrane Injuries Group Specialised Register, Cochrane Central Register of Controlled Trials, Medline, EMBASE, Sociological Abstracts Science (and social science) citation index, National Technical Information service, Psychlit, Transport Research Information Service, International Road Research Documentation, and Transdoc, and web sites of road safety organisation were searched; experts were contacted, conference proceedings were handsearched, and relevant reference lists were checked.

Inclusion criteria: Randomised controlled trials, and controlled before/after studies of area-wide traffic calming schemes designed to discourage and slow down through traffic on residential roads.

Methods: Data were collected on road user deaths, injuries, and traffic crashes. For each study rate ratios were calculated, the ratio of event rates before and after intervention in the traffic calmed area divided by the corresponding ratio of event rates in the control area, which were pooled to give an overall estimate using a random effects model.

Findings: Sixteen controlled before/after studies met our inclusion criteria. Eight studies reported the number of road user deaths: pooled rate ratio 0.63 (95% confidence interval (CI) 0.14 to 2.59). Sixteen studies reported the number of injuries (fatal and non-fatal): pooled rate ratio 0.89 (95% CI 0.80 to 1.00). All studies were in high income countries.

Conclusion: Area-wide traffic calming in towns and cities has the potential to reduce road traffic injuries. However, further rigorous evaluations of this intervention are needed, especially in low and middle income countries.