

Research

Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006: controlled interrupted time series analysis

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Objective To quantify the effect of the introduction of 20 mph (32 km an hour) traffic speed zones on road collisions, injuries, and fatalities in London.

Design Observational study based on analysis of geographically coded police data on road casualties, 1986-2006. Analyses were made of longitudinal changes in counts of road injuries within each of 119 029 road segments with at least one casualty with conditional fixed effects Poisson models. Estimates of the effect of introducing 20 mph zones on casualties within those zones and in adjacent areas were adjusted for the underlying downward trend in traffic casualties.

Setting London.

Main outcome measures All casualties from road collisions; those killed and seriously injured (KSI).

Results The introduction of 20 mph zones was associated with a 41.9% (95% confidence interval 36.0% to 47.8%) reduction in road casualties, after adjustment for underlying time trends. The percentage reduction was greatest in younger children and greater for the category of killed or seriously injured casualties than for minor injuries. There was no evidence of casualty migration to areas adjacent to 20 mph zones, where casualties also fell slightly by an average of 8.0% (4.4% to 11.5%).

Conclusions 20 mph zones are effective measures for reducing road injuries and deaths.