

20's Plenty for Us: Research on the Impact of 20mph Limits on Casualties

1. Why Reducing Vehicle Speeds in Built-Up Areas to 20mph Matters.

Speed reduction is significant to casualty levels because:

"If average speeds reduced by 1 mph, the accident rate would fall by approximately 6% on urban main roads and residential roads with low average speeds".¹

- Where speeds are reduced to 20mph through traffic calming, casualties fall by around two-fifths. The definitive study of the impact of these is the TfL commissioned study by the London School of Hygiene and Tropical Medicine in 2009 entitled 20 mph Zones and Road Safety in London².
- The study looked at casualties in a total of 399 zones which had been implemented in London between 1990/91 and 2007/08. In summary this study found that *"The time series regression analysis estimated a 42% reduction (95% CI 36%, 48%) in all casualties within 20 mph zones compared with outside areas, adjusting for an annual background decline in casualties of 1.7% on all roads in London"*.

2. The Impact of 20mph Speed Limits (alone).

2.1. Historic Research

- **Brighton & Hove.** The Council's research found a reduction of 12% in all casualties (and 20% in the number of those killed and seriously injured) between the annual average of the preceding 3 years and the first year of operation of the 20mph limit³.
- **Newcastle.** In 2007 Newcastle introduced eight 20 mph speed limit areas for a trial period to gauge the effects of 'sign-only' schemes on residential roads. The number of car-related accidents on Newcastle's residential streets fell by more than half in some areas of the city following the council's introduction of 20mph speed limits.⁴ The overall number of accidents reduced by between 24% and 56% in those streets where 20mph speed limits had been introduced.
- **Edinburgh.** Evidence from the South Edinburgh pilot area points to a reduction in casualties (20% to January 2014)⁵.
- **Portsmouth**⁶. The scheme was implemented in 2007-08, and the final report on the scheme of September 2010 had two years worth of road traffic collision data to compare with the 'before' data to form a meaningful comparison. In the three years before the implementation of the scheme, there was an average of 183 casualties in road traffic collisions (rtcs) per year. In the two years following implementation, there was an average of 142.4 casualties per year; this is a decrease of 22%. Similar results from the DfT for the same time period show an underlying trend of 14% decrease in road traffic collisions; implying that the implementation of 20 mph limits have lowered road traffic collisions by a further 8% than would have otherwise occurred. More recent research

¹ <http://www.rospa.com/road-safety/advice/drivers/speed/inappropriate/>

² <http://www.tfl.gov.uk/assets/downloads/corporate/20-mph-zones-and-road-safety-in-london.pdf>

³ <http://www.brighton-hove.gov.uk/content/parking-and-travel/travel-transport-and-road-safety/safer-streets-better-places>

⁴ <http://www.newcastle.gov.uk/news-story/drop-accidents-city-streets>

⁵ http://www.edinburgh.gov.uk/news/article/1743/busting_the_myths_around_edinburghs_20mph_roll-out

⁶ http://www.birmingham.gov.uk/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobheadername1=Content-Disposition&blobkey=id&blobtable=MungoBlobs&blobwhere=1223595985319&ssbinary=true&blobheadervalue1=attachment%3B+filename%3D90432020mph_Limits_Mythbusters_February_2016.pdf

released by Portsmouth City Council has shown that in the period since 2011 there was a 31% reduction of collisions in 20mph roads compared to a 10.5% reduction in 30mph roads and an 11% reduction for all roads.

- **Warrington**⁷. In February 2009 Warrington established three pilot 20 mph speed limit areas (140 roads in total) for an experimental eighteen-month period. There were 40 'slight' and 'serious' reported injury accidents during the study period, compared to 53.7 during the 18-month period prior to the start of the experiment (a reduction of 25%).

2.2. Recent Research. There have been three recent (early 2018) studies which have shed allowed us to understand better the impact of 20mpg speed limits on casualties.

- **London – People Cycling.** Research by Rachel Aldred at the University of Westminster (and others) on injury risk on London's roads (across the whole city) finds that the introduction of 20mph limits (alone) is linked to 21% lower injury odds for people who are cycling compared to 30mph roads⁸.
- **Bristol.** A study by the University of the West of England entitled The Bristol Twenty Miles Per Hour Limit Evaluation⁹ found that the roll-out of 20mph speed limits across the city of Bristol was linked to:
 - statistically significant reductions in average traffic speeds of 2.7mph across the city.
 - Lower annual rates of fatal, serious, and slight injuries following the introduction of the 20mph speed limits compared to the respective pre-20mph limit rate, thus showing a reduction in the number of injuries.
 - An estimated total number of injuries avoided across the city each year is 4.53 fatal, 11.3 serious, and 159.3 slight injuries.
 - The number of residents who walk for 10 minutes or more in their local area most days has generally increased in every area.
- **Calderdale.** The Council's review of the impact of the introduction of 20mph limits across Calderdale¹⁰ in West Yorkshire found:
 - A 30% casualty reduction over a 3-year period (and later schemes indicate a 40% reduction).
 - A 1.9mph mean reduction in speed (taken from 3.5 million+ readings with variations in some areas).
 - A rate of return of £3.65 for every £1 spent (with future benefits for a minimal ongoing cost).

Jeremy Leach London Campaign Co-ordinator 20's Plenty for Us;
Tel: 07415-243015

⁷ Ibid.

⁸ <https://www.sciencedirect.com/science/article/pii/S0001457518301076>

⁹ <http://eprints.uwe.ac.uk/34851/>

¹⁰ <https://calderdale.gov.uk/council/councillors/councilmeetings/agendas-detail.jsp?meeting=24991>