



Bristol Health & Wellbeing Board

20mph Speed Limits in Bristol	
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Report for Information	

1. Purpose of this Paper

This paper is to provide information regarding the rationale, evidence base for 20 mph speed limits in Bristol, and review of progress. 20mph limits¹ were piloted in Bristol in 2010/11 and Bristol City Council (BCC) Full Council approved a city-wide roll out comprising most streets in the city (most streets are residential) in June 2012 (pre-Mayoral elections).

2. Executive Summary

20mph speed limits are effective in reducing crashes and injuries, motorised traffic speed and volume. Local monitoring during a pilot phase reported that there have been small but statistically significant increases in walking and cycling in the pilot areas. There is around 70% public support for 20mph speed limits despite a vociferous minority arguing against 20mph speed limits.

The final Phase 6 launch of the 20mph programme in Bristol was launched by Councillor Cook on 23 September in Hartcliffe with children from Hedley Park Primary School. Some wider roads with 20mph speed limits are being monitored in case they require some additional treatments eg lining to reduce perceived road widths. The Mayor has agreed for a review of the 20mph programme which is likely to be conducted in 2016.

3. Context

Bristol is a city which is seeking to make the environment safer in order to achieve health and wellbeing benefits for the population. This has been reflected in the ambition and then success in gaining European Green Capital status as well as Cycling City (2008-2010). Census data show that more people in Bristol commute to work by bicycle or on foot than in any other Local Authority in England and Wales. Cycle use has almost doubled, up 94% and walking has increased by 40% between 2001 and 2011.² 20mph speed limits

¹ Speed limits are enforced only through signs. 20mph zones are traffic calmed and have physical measures such as road humps and chicanes to keep speeds at or near the limit. The latter are, however, far more expensive.

² Bristol City Council, 2014 2011 Census Topic Report. Who cycles to work. http://www.bristol.gov.uk/sites/default/files/documents/planning_and_building_regulations/planning_policy/local_development_framework/2011%20Census%20Topic%20Report%20-%20Who%20cycles%20to%20work%20v2.pdf accessed 12th October 2015

now forms part of a wider Safe Systems Approach to Road Safety adopted by BCC in March 2015.³

Bristol is not alone in moving to 20mph speed limits for most roads. There are growing moves nationally for 20 mph speed limits in residential areas with many towns and cities such as Manchester, Liverpool, Edinburgh, Newcastle, Oxford, Sheffield, Birmingham as well as over 10 London Boroughs (ranging from Islington to Wandsworth) implementing 20mph speed limits. The Parliamentary Advisory Council for Transport Safety, Play England, Local Government Information Unit and the BMA, among many others, support 20mph as routine across residential roads. The National Institute for Health and Care Excellence (NICE) has also issued guidance to local authorities advising on the implementation on 20mph speed limits.⁴

4. Main body of the report

In 2009 the Director of Public Health, NHS Bristol, proposed the introduction of 20mph speed limits as a population level strategy to improve public health. The programme objectives were, and remain, to:

- reduce road casualties,
- increase levels of walking and cycling locally (and total physical activity time)⁵
- improve social cohesion in communities

The programme has been guided by the author, among others in Transport Planning. Public health input has included advising on methodology for the pilot programme, on-going attitudinal research and social marketing, and access to the international evidence base which is then translated for transport planners.

In order to assess the value of extending 20mph across all residential streets two pilot areas were established in 2010.⁶ The 20mph pilots in Inner South and Inner East Bristol were funded and delivered through the Cycling City Project and the Active Bristol programme. These locations were chosen as they included some areas of deprivation. Road casualties, especially to pedestrians, and tend to be higher in these areas, and physical activity is lower. The areas covered some 500 roads and 30,000 households. The pilots were underpinned by a joint communications campaign delivered by BCC and NHS Bristol working in partnership with local community groups, local schools, and with support from Avon and Somerset Constabulary.

The overall results of the pilots show that 'signs only' 20mph has been accompanied by a small but important reduction in daytime vehicle speeds

³ <http://www.bristol.gov.uk/page/transport-and-streets/road-safety> accessed 12th October 2015.

⁴ <https://www.nice.org.uk/guidance/ph31/resources/guidance-preventing-unintentional-road-injuries-among-under15s-pdf> accessed 27th August 2015

⁵ Estimates for Bristol, based on the cost to the NHS of treating diseases associated with physical inactivity were conservatively estimated to be £6.2 million per year in 2006/07.

⁶ Bristol City Council 2011 *20MPH Speed Limit Pilot Areas. Monitoring Report*. Bristol: Bristol City Council. <http://www.bristol20mph.co.uk/find-out-more/research-and-monitoring> accessed 12th October 2015.

(average), an increase in walking and cycling counts especially at weekends, a strengthening of public support for 20mph, maintenance of bus journey times and reliability, and no measurable impact on air quality or noise.

Research shows that even a slight reduction in speed reduces the number of collisions and saves lives. A reduction of just 1mph in average speed on urban roads with low average traffic speeds can reduce the frequency of collisions by around six per cent.⁷ To augment compliance, BCC has purchased more Vehicle Activated Signs (VAS) (which flash up the speed limit when exceeded by a set amount eg 10% above the limit). VAS have shown to be effective in reducing average vehicle speeds.⁸

A recent review of the effectiveness of 20mph speed limits using a systematic review process produced a number of key conclusions:⁹

- Overall, the studies provide convincing evidence that 20 mph speed limits are effective in reducing accidents and injuries, motorised traffic speed and volume, as well as improving perceptions of safety in a couple of the studies.
- There was also evidence that such interventions are cost-effective.
- Where reported, there was also evidence of positive attitudes to such schemes by local residents, who generally favoured the schemes.

20mph speed limits is not just a road safety intervention but also a behaviour change intervention. For this reason BCC undertook a survey through YouGov of attitudes and reported behaviours to 20mph speed limits and has just repeated the survey in 2015 in order to assess any changes in attitudes and reported behaviours.¹⁰ The sample size for Bristol was boosted to enable greater statistical confidence. Key findings in 2013 were that:

- There was strong awareness of plans for 20mph areas in Bristol. Within GB, 18% were aware of plans for 20mph in their area; this rose to 43% in Bristol.
- 65% of respondents supported 20mph on residential streets and 75% on busy streets eg shopping streets
- The top 3 reasons for supporting 20mph speed limits were:
 - fewer serious accidents;
 - children can play more safely;

⁷ MASTER Project, 1999 *Managing speeds of traffic on European roads. Transport Research, Fourth Framework Programme Road Transport*. Luxembourg: Office for Official Publications of the European Communities.

⁸ <https://www.trafficchoices.co.uk/traffic-schemes/vas.shtml> accessed 12th October 2015.

⁹ Cairns, J., Warren, J., Garthwaite, K., Greig, G., Bambra, C. 2014 Go slow: an umbrella review of the effects of 20mph zones and limits on health and health inequalities, *Journal of Public Health*, doi:10.1093/pubmed/fdu067

Abstract: <http://jpubhealth.oxfordjournals.org/content/37/3/515> accessed 11th October 2015.

¹⁰ UWE/YouGov, 2014 20mph speed limits: attitudes and behaviours compared for GB, Bristol, established 20mph cities and towns and non-20mph cities and towns. Bristol City Council.

- makes our streets more pleasant to live in
- It is of note that there is a higher level of support for 20mph limits within the cities with 20mph limit compared to GB as a whole which suggests that support rises once residents see what 20mph limits means in their daily lives

In terms of objective speed data, the data available to date covers the central area. Forty-four roads are included where the average speed was measured across its entire length. Speeds were measured from September 2013 to December 2013 and again from September to December 2014. Taking results from the ten roads with the highest before speeds saw an average 2mph speed reduction post implementation.¹¹

BCC social-based research indicates that the adherence to the limit will grow over a number of years, especially if backed by enforcement. Given that the Police are now undertaking enforcement BCC expects the benefits of 20mph to continue to accrue over a number of years.

In a household survey of public attitudes pre and post 20mph in the central area:

- 88% of residents are now walking for 10 minutes or more in their local area most days, compared with 78% pre 20mph¹².
- Cycling among senior school age children has increased (40% cycle at least once a week now vs 24% pre 20mph)
- The % of Phase 1 area residents reporting being disturbed by the sound of passing traffic is down significantly post 20mph implementation, from 43% to 28%
- The % of Phase 1 residents feeling it's safe for children to walk to school on their own has risen from 50% pre 20mph to 63% post 20mph implementation
- 88% favour 20mph in their street compared with 74% before it was introduced

5. Key risks and Opportunities

Risks appear to mainly be confined to a small minority of drivers, assisted by anti-20mph speed limit groups (eg Associated of British Drivers) regularly feeding the media with anti 20mph messages. A recent anti-20mph petition to the Council gained over 8,000 signatures although 3000 were from those outside of the city. There is a risk that perceived lack of enforcement reduces adherence over time although the Police are publicising prosecutions for speeding in 20mph to try to counter this.

¹¹ All roads had two way traffic measurements covered term time Tues to Thursday between 7am to 9pm.

¹² *Household survey of public attitudes pre and post 20mph*, 2015 Post Phase 1 Survey Repeat (July/August. Bristol: Crystal Marketing Research.

BCC has provided some additional resource from both Public Health and Transport budgets to support a social marketing programme for 20mph as a social norm. This area has been researched by the author with colleagues in social marketing at the University of the West of England.¹³

20mph speed limits consistently receives clear majority support among residents in Bristol (and elsewhere). While it is too soon to be able to assess changes in casualty numbers there is some evidence of increasing levels of walking and cycling. The Council is consistently monitoring and evaluating its activity in this area. This includes traffic surveys which look at the number of all road users, motorised traffic speeds, collision data, household interview surveys and other monitoring that BCC undertakes on an annual basis.

6. Implications (Financial and Legal if appropriate)

The cost of implementing the 20mph programme is £2.3M over 3 years and this has been funded through Cycling City and the Local Sustainable Transport Fund (funding grants from central government). In Bristol in 2013 road traffic fatalities and serious injuries comprised 12 people killed and 94 others seriously injured. Using Department for Transport's own costing this cost Bristol £40 million.¹⁴ This was a typical year for Bristol in terms of killed and serious injuries. So over 3 years this cost would be £120M. £2.3M is 2.76% of £120M. This figure does not account for indirect costs such as loss of earnings to the economy and long term care borne by society through taxation.

7. Conclusions

The evidence available reports that 20mph speed limits are an effective and cost effective intervention to improve population health. They might best be understood as a behaviour change intervention which can be assessed more accurately over a longer term period, both because casualty numbers are relatively small and behaviour adaptations can take a number of years, possibly creating new social norms.

8. Recommendations

Support for 20mph speed limits in Bristol from the Clinical Commissioning Group would be very welcomed. The preventive effect of 20mph speed limits is one which is likely to reduce the disease burden on the NHS and enable people to lead more physically active lives with more opportunities for strengthening social cohesion across the lifecourse.

9. Appendices

None.

¹³ Toy, S. et al 2012 Can social marketing make 20 mph the new norm? Journal of Transport and Health, 1(3) September 2014, Pages 165–173

¹⁴ A fatality is costed by the Department for Transport at over £1.8M. A Serious Injury is costed at over £191,000 (2014 prices).