



To: Place Directorate

From: Adrian Davis

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Subject: Essential Evidence: No 159 What could a switch from 30 mph to 20mph achieve across a whole country's population?

Top line: If all Welsh 30mph limit roads became 20mph limits, in road casualty terms alone, 10 lives could be saved and up to 2000 casualties avoided each year, at a value of prevention of up to £94M. It could be an extremely important public health intervention.

Studies of reductions in posted speed limits as well as those looking at actual speeds driven show that casualty reduction can be substantial.^{1 2} Moreover, 20 mph limits create more supportive environment for all road users. Older pedestrians struggle to cross roads when motorised traffic is fast and older drivers have difficulty joining fast-moving traffic. For the first time at a country level researchers have been able to assess what the likely health impacts would be from a switch from 30mph to 20mph. Wales suffers from high levels of health inequalities and corresponding poor life chances among deprived communities.³ Adhering to the Well-being of Future Generations (Wales) Act 2015 (WFGA)⁴ requires a broad and inclusive view to be taken to tackle identified problems. In looking for interventions to achieve a 'healthier Wales', one of the seven well-being goals of WFGA, the Act encourages the proposal and implementation of public health interventions that contribute to as many of the seven goals as possible to maximise health gains. However, identifying interventions with proven benefits across a range of health effects and few, if any, negative effects, is a significant challenge. The researchers note that adopting 20mph as the default speed limit has the potential to be such an intervention.

In Wales, between 1 January 2011 and 31 December 2013, 14,639 people were killed or injured on 30 mph limit roads. Reducing all current 30 mph limit roads to 20 mph limits could prevent 6–10 deaths and 1203–1978 injuries per year at a value of prevention of £58M–£94M. Switching from 30 mph limits to 20 mph limits may lead to a slight increase in deaths and Years of Life Lost (YLL) associated with nitrogen dioxide, but a greater reduction in deaths and YLL for particulate matter (PM2.5). Consequently, the researchers conclude, a change to a default 20 mph speed limit could have significant positive effects on the health of the people of Wales and deliver against all seven WFGA goals.

The researchers state that they attempted to estimate some health effects, but it is likely that there will be many more cumulative positives that are greater than individual effects. The road casualty savings alone are sufficient to make the case for change. Interpreting the air pollution effects is more difficult, but the suggestion is towards positive health effects. In addition, indirectly, there will be positive effects as more people are encouraged to participate in active travel options, thereby having a longer term benefit that is impossible to calculate.

¹ Wernsperger F., Sammer G. 1995 Results of the scientific investigation accompanying the pilot trial of 30kph limit in side streets and 50kph limit in priority streets. 23rd European Transport Forum, PTRC, Proceedings Seminar G, Traffic Management and Road Safety.

² This is directly related to the laws of physics that mass and speed are properties of all the energy that can be transferred during a crash; and the two properties are connected to kinetic (mechanical) energy. See <https://travelwest.info/project/ee-142-kinetic-energy-management-haddons-matrix-and-road-safety>

³ Jones, S., Brunt, H. 2017 Twenty miles per hour speed limits: a sustainable solution for public health problems in Wales, *Journal of Epidemiology and Health*, 10.1136/jech-2016-208859

⁴ <http://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en>