

## Appendix 3: Additional information on speed limits below 20mph

### Benefits of speed limits below 20mph

- At speeds of 15mph the risk of severe injury reduces by half, from 14% at 20mph to 7% at 15mph<sup>i</sup>
- A separate study showed that on average, the number of collisions resulting in injuries of all severity reduces by 6% with every 1mph decrease in average speed<sup>ii</sup>
- Stopping distances decrease from 12m to 8m between 20mph and 15mph<sup>iii</sup>
- Energy in a collision at 15mph is 44% less than at 20mph<sup>iv</sup>
- Peripheral vision increases as speed reduces, so drivers are more likely to see a hazard and have time to react<sup>v</sup>
- Drivers on streets where people walking have priority are 14 times more likely to give way to a person walking if average speeds are below 15mph<sup>vi</sup>
- Research mapping the probability of a serious crash for five common collision type (car-pedestrian collisions, car-car frontal and lateral collisions, collisions with oncoming traffic when turning off, and rear end collisions) concluded that the critical impact speed for serious injuries in car-pedestrian collisions is 20kph (12.4mph)<sup>vii</sup>.

### European precedents for speed limits below 20mph

Speed limits below 20mph (32.2kph) are widespread across Europe. A default speed limit of 30kph (18.6mph) is commonly applied in cities or as a default speed limit for urban areas. Localised 20kph (12.4mph) or lower speed limits are also increasingly applied in city centres and on streets where people walking should have priority. For example:

- The City of Brussels introduced an adapted low-speed zone for the summer of 2020 during the Covid-19 pandemic. Most streets in the centre of the city were limited to 20kph alongside priority for people walking and cycling. The speed limit reductions were deemed to be a success but were only intended to be temporary and returned back to 30kph again later in the summer.
- Switzerland has implemented 20kph speed limits in residential areas across the country
- Slovenia has 'common traffic areas' where the speed limit is 20kph, with 10kph limits in 'traffic-calmed areas and pedestrian zones'
- The entire city centre of Hasselt in the Belgium province of Limburg was turned into a 20kph residential zone in August 2022.
- Dutch 'woonerfs' (home zones) have 15kph (9.3mph) limits for motor vehicles (referred to as walking pace)
- In the past, the Paris authorities have temporarily reduced the speed limit to 20kph to reduce pollution
- Germany, including the central German town of Hanau has introduced 20kph limits
- Austria has delivered increasing numbers of 'encounter zones' (residential and urban areas with joint use of space by motorists and people walking) with speed limits of 20kph (see image below of Mariahilfer Strasse in Vienna).

- Municipalities in both Latvia and Luxembourg are encouraged to reduce urban speeds to 30 kph, with 20 kph in areas where the street space is shared between people driving, walking or cycling.



Mariahilfer Strasse, Vienna, an example of a city centre 20kph (12.4mph) speed limit

<sup>i</sup> <https://www.sciencedirect.com/science/article/abs/pii/S000145751200276X>

<sup>ii</sup> Taylor et al (2002) 'TRL Report 421: The Effects of Drivers Speed on the Frequency of Road Accidents' URL: <https://trl.co.uk/reports/TRL421>

<sup>iii</sup> <https://www.random-science-tools.com/physics/stopping-distance.htm>

<sup>iv</sup> <https://www.omnicalculator.com/physics/car-crash-force>

<sup>v</sup> Bartmann, Spijkers and Hess, 'Street Environment, Driving Speed and Field of Vision' Vision in Vehicles III (1991)

<sup>vi</sup> DfT Shared Space Project – Phase 1 – Appraisal of Shared Space, November 2009

(<http://webarchive.nationalarchives.gov.uk/20091204120415/http://www.dft.gov.uk/pgr/sustainable/sharedspace/stage1/pdf/stage1.pdf>)

<sup>vii</sup> Jurewicz, C., Sobhani, A., Woolley, J., Dutschke, J., & Corben, B. (2016). Exploration of Vehicle Impact Speed - Injury Severity Relationships for Application in Safer Road Design. Transportation Research Procedia, 14, 4247–4256. <https://doi.org/10.1016/j.trpro.2016.05.396>