Reducing the default speed limit in built-up areas:
Highlighting the health benefits of 20mph

Position Statement:

Areas with slower vehicle speeds are associated with increased opportunities for walking and cycling. Taking into account the wide health benefits of physical activity, including protection against various risk factors of cardiovascular disease, the National Heart Forum supports a reduction in the default speed limit for built-up areas to 20 miles per hour (mph).

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Summary

It is widely accepted that the built environments in which we live impact on our health and wellbeing. It follows that urban spatial and transport planning significantly influence the determinants of health[1]. The sustained growth in reliance on the motor vehicle as a means of transport has had far reaching implications for the health of the population[2], and has been associated with rising levels of sedentary behaviour and increases in obesity and other associated health risk factors, such as diabetes and cardiovascular disease.

The built environment directly and indirectly influences opportunities for walking and cycling. The perceived danger from motor vehicles, and the speed at which they are travelling, are among the main reported barriers to active travel (walking and cycling). Slower vehicle speeds result in perceived and actual changes to the built environment which generate increased opportunities for, and uptake of, walking and cycling.

Currently in the UK, motor vehicles can travel at up to 60 miles per hour (mph) mph on single carriageways and up to 70 mph on dual carriageways. Lower speed limits, typically 30 mph, apply in built-up areas and on many local roads.

The National Heart Forum (NHF) supports a reduction in this default speed limit for built-up areas to 20 mph. 'Built-up areas' in this context refers to areas where people live, work and play. This definition allows for exceptions to the 20 mph default speed limit for main roads and thoroughfares. A reduction in motor traffic speed is not the only change needed to make active travel safer, or to encourage further uptake of active modes of transport such as walking and cycling, but it is a key component.

Walking and cycling as active travel and their health benefits

Benefits of walking and cycling (physical activity)
❑ Improves people's physical health
❑ Creates opportunities for social interaction and improves mental health and wellbeing
❑ Protects against risk factors relating to cardiovascular disease (CVD), stroke, diabetes, cancer, musculoskeletal health (osteoporosis), obesity, mental health and wellbeing
❑ Engenders a sense of belonging in a community, which is a fundamental building block of improving social capital
❑ Offers the opportunity to build moderate exercise into people's daily routine
❑ Reduces emissions that contribute to climate change and local air pollution, compared with motorised transport

Physical inactivity is a significant, independent risk factor for a range of long-term health conditions affecting society today[3]. The World Health Organization (WHO)[4] and the Chief Medical Officer (CMO) for England[5,6] have both pointed out that incidental activity (walking and cycling) through active travel provides an opportunity for incorporating physical activity into the routine of everyday living.

Physical activity and an active lifestyle reduce the risk of numerous chronic conditions, including cardiovascular disease and type 2 diabetes, protect against some cancers, reduce the risk of depression and promote many other positive mental health benefits[7].

The relative risk reduction gained from an active lifestyle can be very large. People who are physically active reduce their risk of developing stroke and type 2 diabetes by up to 50% and the risk of premature death by about 20 to 30%[8]. Regular physical activity is also associated with 20% to 50% risk reductions of cardiovascular disease and coronary heart disease in men and women of all ages[9].

The promotion of active travel modes, such as walking and cycling, is being encouraged as a favourable alternative to the current sedentary behaviours and heavy reliance on private motor transport. Countries with the highest levels of active travel have been shown to generally have the lowest obesity rates. The Netherlands for example is considered a leader in maintaining high levels of physical activity by embracing active travel policies. In the UK, recent government

documents have highlighted the need for active travel, including the National Institute for Health and Clinical Excellence (NICE) guidance on promoting and creating built or natural environments that encourage and support physical activity[10], Department of Health's (DH) 'Be active, be Healthy'[11] and 'Healthy Weight, Healthy Lives: One Year On'[12], the DH and Department for Transport's (DfT) active travel strategy[13] and DfT's action plan for walking and cycling[14], the Foresight Tackling Obesities Report[15] as well as a call for action on active travel (Take action on active travel)[16], signed by over 100 national bodies in the fields of transport and public health.

There is also growing evidence on the effects of noise on health outcomes. The indirect impact of noise on physical and mental wellbeing ranges from disturbed sleep to depression and aggression. There is also evidence that exposure to noise can aggravate heart disease and hypertension[17,18].

According to WHO, transport is the main source of noise pollution in Europe. In fact, noise is the only environmental factor in Europe for which complaints have increased since 1992[19]. Ambient sound levels are lower in areas with slower moving vehicles. It could then be reasoned that reducing the speed to 20 mph in built-up areas would lead to a decrease in vehicle related noise pollution in those areas.

Reducing traffic speeds in built-up areas

Research has shown that barriers to walking and cycling for transport include traffic volumes, the speed of vehicles, and the actual and perceived safety for walking and cycling.

The UK Manual for Streets[20] also includes vehicle speeds in residential areas as one of the main changes needed in the approach to street design, and recommends "designing to keep vehicle speeds at or below 20 mph on residential streets unless there are overriding reason for accepting higher speeds"[21].

Low neighbourhood speed limits are a common feature of active travel promotion internationally and are considered to have contributed to more walking and cycling for transport in those areas[22].

A recent Australian review on promoting safe walking and cycling by reducing traffic speed[23] has concluded that lower traffic speed in urban areas will improve pedestrian and cyclist safety

and community liveability, and is likely to contribute to increased rates of walking and cycling for transport.

International experience does suggest that speed is not the only change needed to increase levels of safe active travel, but it is a key component. Reducing the speed limit to 20 mph will provide more opportunities for walking and cycling in those areas, which will increase levels of physical activity. The health benefits associated with physical activity make a reduction in the default speed limit a logical step towards creating urban environments that are health promoting.

20 mph is a part of health promoting environments

The key is creating environments that enable and encourage people to participate in active living, including walking and cycling for transport or recreation. Areas with slower moving vehicles are perceived to be safer and more attractive for walking and cycling, and there is evidence that more people do walk and cycle when the perceived risk to the individual is less, such as in areas with slower moving vehicles. Research shows that this is especially true for women, children and the elderly[24,25]. People with limited or restricted mobility also find access and travel to places less restrictive in areas with slower speed limits[26].

The degree of 'walkability' of an urban area has an impact on how often people undertake walking and other forms of physical activity[27]. The term 'walkability' is used as a measure to describe how friendly an area is to move around.

A safe, inviting and easily accessible environment that encourages social interaction can help facilitate social cohesion and a sense of social connectedness; important factors for mental health and wellbeing.

Perceptions of risk and safety

People's perceptions and anxieties about possible injury can influence active travel behaviour independently of actual risks[28].

There are various ways in which the built environment contributes to this sense of safety[29]. Lower traffic speed of vehicles leads to improved perceptions of safety (as well as reducing real road danger).

When there are more people outside walking, sitting, or playing, it improves people's feelings of safety and connection with their community. Mental health and wellbeing benefits are attributed to being able to identify positively with a place and feeling comfortable (and safe) moving in and through these areas.

Perceived lack of safety is a major barrier to the use of active modes of transport[30]. However the review of evidence for the National Institute for Health and Clinical Excellence (NICE) guidance on the built environment and physical activity tends to suggest that traffic calming can lead to small self-reported and observed increases in walking and cycling both in the short and long term[31]. Children's play was also included in these increases, which is an important aspect and means of physical activity for children.

The complex ways in which perceived and actual risks influence people's behaviour and decision to walk or cycle, therefore have important implications for the promotion of physical activity and active travel modes. Figure 1 below is from an Australian commissioned report on promoting safe walking and cycling by reducing traffic speed; it illustrates the proposed relationships between vehicle speed and active travel.

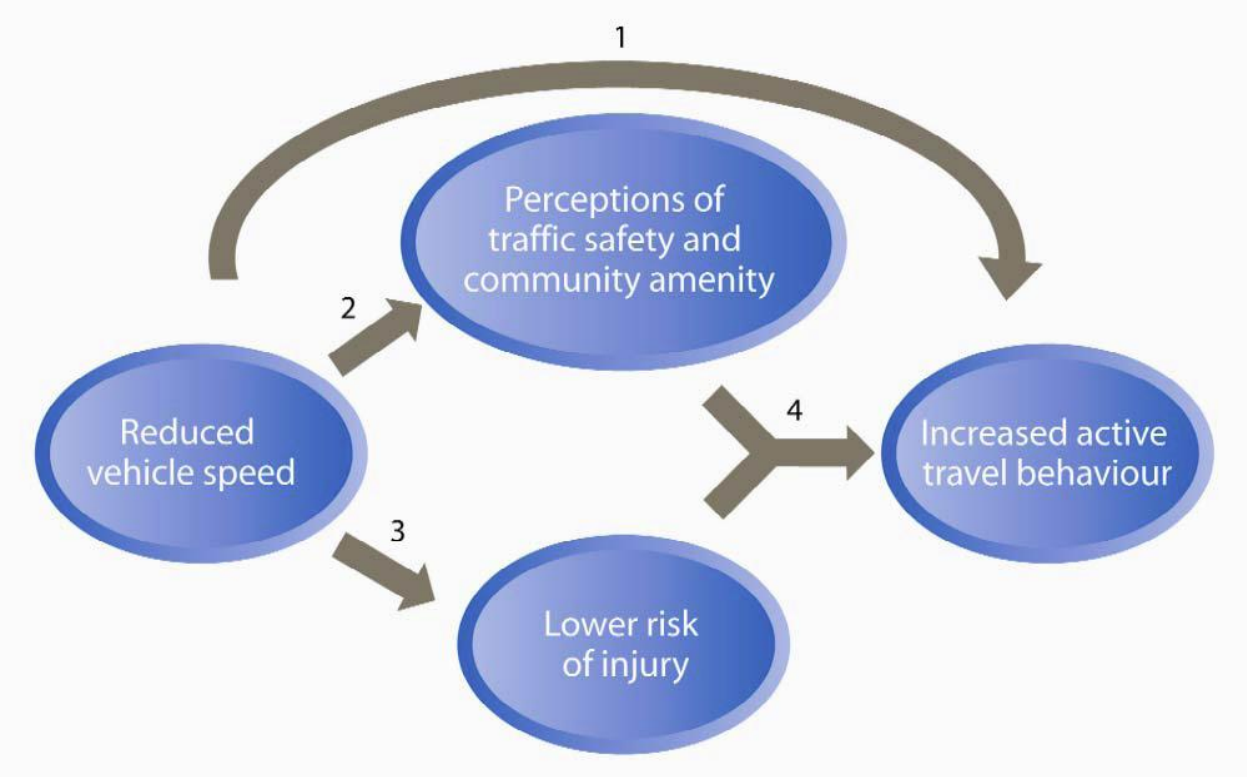

Figure 1: Proposed relationships between vehicle speed and active travel behaviour.

Pathway 1 represents the overall relationship between vehicle speed and active travel.

Pathway 2 proposes that reduced vehicle speed will improve perceptions of safety and community liveability, which will in turn increase active travel.
Pathway 3 proposes that reduced speed will lower the risk of injury to pedestrians and cyclists, resulting in increased active travel behaviour.
Pathway 4 proposes that perceived and actual safety contributes to increased active travel.

Source: Dr. Jan Garrard (2009) *Safe Speed: promoting safe walking and cycling by reducing traffic speed,* p5[32]

Actual risk and safety

The World Health Organization has identified speed as the single most important contributor to road fatalities[33]. Pedestrians and cyclists are at greatest risk from excessive or inappropriate vehicle speed. Injuries are mainly fatal if a pedestrian is hit by a vehicle travelling between 30 mph and 40 mph[34]. Pedestrians hit at speeds below 30 mph receive mainly survivable injuries, but at a traffic speed of 20 mph, the pedestrian survival rate is increased to 97%[35].

Research published in the British Medical Journal (BMJ) on the effect of slower traffic speed zones in London, has found that the introduction of the 20 mph zones has had an impact on the number and severity of road injuries, and was associated with a reduction in casualties and collisions of around 40%[36]. There was no evidence of casualty migration to nearby roads, meaning that the 20 mph zones did not simply displace or transfer the occurrence of injuries to neighbouring roads.

Improving the safety of the built environment, including the speed at which vehicles travel within built-up areas, will benefit the health of children and others through increased opportunities for physical activity (such as walking to school) and through a reduction in injuries and fatalities associated with road traffic[37].

Parents report that perceptions of traffic-related dangers are one of the main reasons that they prevent their children from walking or cycling to school[38,39]. The DfT in England has stated that promoting and increasing active and sustainable travel to school and other educational establishments is a core part of its active travel strategy[40]. By encouraging more active travel by children, DfT believes that over the long-term there will be less need to encourage adults out of their cars and into walking and cycling, as this will already be a habitual behaviour established in childhood[41].

In other research, a modal shift to active travel showed that the risk to each pedestrian and cyclist drops as the number of users increase, creating essentially a ‘safety in numbers’ effect[42,43].

There is also evidence to indicate that changes to the built environment, such as reducing the speed at which vehicles travel, reducing multi-lane roads to single carriage ways, introducing well placed pedestrian signals, and incorporating other traffic calming measures also contribute to a reduction in pedestrian injuries[44].

Health inequalities

An important goal of health promoting environments is to reduce health inequalities within populations. Walking and cycling as forms of active travel provide an accessible, affordable and convenient form of personal mobility and of health enhancing physical activity. Reducing the default speed limit in built-up areas to 20 mph would potentially benefit all people, as it would foster social inclusion and help to create a more inviting and walkable environment, which provides physical activity opportunities for everyone.

Where to from here?

Slower speed limits are not the only change required in order to create environments that encourage and enable active lifestyles. Adopting a 20 mph default speed within built-up areas does however provide a clear, achievable action in the right direction towards creating these health promoting environments within our communities, and lead to improved health outcomes.

Transportation infrastructure investments that support physical activity can provide increased opportunities for recreation and physical activity, and improve local travel options.

Local authorities have the power to implement 20 mph speed limits within areas where people live, work and play. The National Heart Forum strongly supports current efforts to encourage local authorities to reduce the speed limit to 20 mph in these built-up areas. We are confident that this will enable greater opportunities for physical activity in people's everyday lives.

National Heart Forum
www.heartforum.org.uk

Sustrans
www.sustrans.org.uk

Living Streets
www.livingstreets.org.uk

Association of Directors of Public Health (ADPH)
www.adph.org.uk

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