

20mph for urban streets in Scotland

Sustrans Scotland’s response to the proposal for a bill to replace the current 30mph default speed limit on restricted roads with a 20mph speed limit.

### Introduction

Sustrans is the charity making it easier for people to walk and cycle. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute.

Sustrans Scotland strongly endorse the consultation document and the benefits of 20mph speed limits as set out within. This response adds additional information to points raised in the consultation document and focusses on the major expected benefits to walking and cycling and as a consequence of increases in active travel.

### Summary

* Sustrans Scotland strongly endorse the proposal for a bill to replace the current 30mph default speed limit on restricted roads with a 20mph limit.
* 20mph speed limits have been proven to reduce average traffic speeds and will lead to a reduction in the frequency and severity of collisions.
* Increases in walking and cycling can be expected due to improvements to both safety and the perception of safety, which will make a significant contribution to multiple associated Scottish Government policy goals.
* Anticipated increases in physical activity will improve public health and may contribute to reducing health inequalities due to the widespread implementation of 20mph limits.
* Modal shift from private car use to walking and cycling will reduce air pollution in urban centres where it is most damaging to public health.
* Increasing walking and cycling carries economic benefits, in particular in the reduction in collisions, savings to public health expenditure from increased physical activity and to retail vitality.
* 20mph speed limits will help to make places safer and more welcoming for people, more inclusive and allow more space to be allocated to people instead of vehicles.

### Safety

* 1. The primary reason Sustrans Scotland support 20mph speed limits is public safety.
  2. There is extensive evidence of the safety benefits of 20mph speed limits. Evidence from the South Edinburgh pilot area points to a reduction in casualties of 20%[[1]](#footnote-1). A 2009 study of London speed limits found that the introduction of 20mph zones was associated with a 42% reduction in road casualties[[2]](#footnote-2).
  3. The Royal Society for the Prevention of Accidents notes both the ‘size of the reductions and the consistency of results’[[3]](#footnote-3). The safety benefits of 20mph limits are beyond contention.
  4. Evidence is clear that any reduction in average speeds reduces the frequency and severity of collisions. The consultation document highlights research which shows that every 1mph decrease is associated with a 4-6% decrease in collisions[[4]](#footnote-4). There is also evidence that the severity of collisions is reduced[[5]](#footnote-5).
  5. A criticism of 20mph is that people do not adhere to the new limits. Though some people may not drive at or slower than 20mph, reducing urban speed limits from 30mph to 20mph means the average speeds of motor vehicles decreases in the majority of cases[[6]](#footnote-6). Where this is not achieved, local authorities will need to consider additional traffic calming measures.
  6. This potential legislation concerns 20mph limits and does not include provision for changing the design of streets. This is reasonable, given that a strength of the proposal is the low relative cost of implementation compared to the current piecemeal approach. However, education backed up by enforcement where necessary will be required to make a success of the legislation. There will also be a requirement for Police Scotland to conduct enforcement, as they have done as part of their support for 20mph limits in Edinburgh[[7]](#footnote-7). Local authorities will need to ensure that physical traffic calming measures are still introduced where necessary, as they are now. There will still be a need in some places for engineering solutions to keep people safe.
  7. Applying nationwide 20mph limits in residential areas will help it become the new normal more quickly. The extent of this measure will create an enabling environment and a context for slower urban speeds to become normalised in Scotland.
  8. The consultation document outlines a compelling case for default 20mph limits on restricted roads solely on the basis of public safety. Sustrans Scotland believe that safety is reason enough to recommend this proposal becomes legislation. However, there are also numerous co-benefits to the proposal that help Scotland to achieve numerous policy goals which are discussed in detail below.

### Encouraging walking and cycling

* 1. An additional benefit of increased safety is increased *perception* of safety. This is a positive impact in itself, but there are additional wider societal benefits to increased perception of safety.
  2. A recent study conducted by Sustrans on behalf of the Scottish Parent Teacher Council, found that rather than distance to school it was safety that dictated travel choices. The survey also found that 57% of parents thought that safer walking to school would encourage their children to travel to school actively, and 63.2% for cycling to school[[8]](#footnote-8).
  3. Evidence from 20mph pilots in Scotland indicates that when people feel safer, they are more likely to walk and cycle. Sustrans Scotland’s Community Links grant partnership programme, funded by Transport Scotland, assisted in the roll out of 20mph across the City of Edinburgh. Evidence from this scheme is of an increase in walking and cycling and a decrease in private car use. Transport mode measured before and after implementation showed an increase of 7% for journeys on foot, an increase of 5% for journeys by bike and a decrease of 3% for journeys by car[[9]](#footnote-9).
  4. This highlights how 20mph limits can be a significant contributor to associated government policy, such as the Cycling Action Plan for Scotland[[10]](#footnote-10) (CAPS) and the National Walking Strategy[[11]](#footnote-11) (NWS).
  5. Scotland has made significant progress in cycling infrastructure installation, thanks to record funding for active travel during this parliament[[12]](#footnote-12). However, with the shared vision of achieving 10% of trips by bike by 2020 outlined in CAPS, evidence shows that this expenditure is maximised by combining designated cycle lanes with a network of quiet back streets[[13]](#footnote-13). Sustrans Scotland contend that 20mph speed limits on restricted roads will effectively create a network of quiet backstreets. Evidence of increases in cycling from the 20mph pilot in Edinburgh supports this.

### Public Health

* 1. The UK’s public health agencies recommend people achieve a minimum of 30 minutes of light to moderate physical activity on five or more days per week. Only 39% of the Scottish population achieve this[[14]](#footnote-14). In Scotland, only 11% of children achieve their recommended 60 minutes of activity every day[[15]](#footnote-15). More specifically regarding active travel, in England it is estimated that over 6.3 million adults aged 40 to 60 do not achieve 10 minutes of continuous brisk walking over the course of a month[[16]](#footnote-16).
  2. A lack of physical activity is widespread, but given the anticipated increases in active travel there is significant potential for people to complete more of their recommended physical activity as part of their regular day-to-day journeys. This offers significant potential for improvement in public health.
  3. Sustrans Scotland’s Community Links grant partnership programme provides new or improved walking and cycling routes to connect communities in Scotland. Two-thirds of those surveyed on Sustrans Community Links projects completed their 30 minutes of physical activity five or more days per week[[17]](#footnote-17).
  4. Such increases in physical activity will help reduce preventable conditions such as heart disease, stroke, diabetes and cancer[[18]](#footnote-18), as well as improvements to mental health. Some of the economic benefits of this are captured in section 5 below.
  5. Proposals for Scotland-wide implementation of 20mph will share health benefits of cycling more equitably across Scotland, and may reduce health inequalities. For example, the most affluent decile are currently three times more likely to cycle than the most deprived in Glasgow[[19]](#footnote-19). Universally applied 20mph limits on restricted roads will reduce the problem of new infrastructure being built where there are existing high levels of cycling, which tends to benefit more affluent populations. Rather than people benefiting only from proximity to new infrastructure, this proposal more equally distributes incentives to cycle and the associated improvements to health.
  6. Walking and cycling are activities that everyone should be and feel able to do. This proposal makes a contribution that is as universal as practical and we expect it to broaden the social and economic profile of people who commonly cycle in Scotland.

### Environmental

* 1. 20mph speed limits can reduce noise from cars by up to half[[20]](#footnote-20). Birmingham City Council cite a study that shows the introduction of 30kph (18mph) signs-only limits in Graz, Austria led to a noise reduction up to 2.5 decibels. Compared to 30mph, 20mph means 3 decibels less traffic noise. This level of noise reduction means people can sleep better, reinforcing the rational for introducing limits on restricted roads which are commonly residential areas[[21]](#footnote-21).
  2. Research into the impact of 20mph speeds on engine emissions does not unequivocally point to a reduction in air pollution. However, whilst the consultation document does a good job of setting out the evidence, Sustrans Scotland believe this is secondary to the reduction in air pollution that can be brought about by the modal shift from private cars to walking and cycling journeys.
  3. Reductions to air pollution will largely be seen in modal shift by making it easier for people to choose to walk and cycle. Investment in walking and cycling infrastructure and behaviour change initiatives can lead to notable decreases in air pollution when it results in reducing journeys made by private car. Walking and cycling is most achievable for short journeys, which are most common in urban areas, where air pollution has the most significant impact[[22]](#footnote-22).
  4. Giving people better incentive to travel actively has been associated with large reductions in air pollution. The city of Seville increased cycling mode share from 0.5% to 7% between 2007 and 2010, thanks to substantial investment in cycling and measures to reduce motorised traffic. There was a concurrent reduction in annual mean levels of both nitrous oxide and particulate matter air pollution and Seville cut the number of days it exceeded EU maximum standards for air quality from 152 to 40 per year[[23]](#footnote-23).
  5. Sustrans Scotland strongly advocate 20mph limits on the basis that it encourages more people to travel actively and leave their car at home for short journeys. The research described in 4.3 shows reducing car use in favour of walking and cycling can have a major impact on the air quality of an urban centre, which contributes to the goals of Cleaner Air for Scotland[[24]](#footnote-24).

### Economics

* 1. As discussed above, speed limits of 20mph in Scotland have been proven to make people more likely to walk and cycle[[25]](#footnote-25). As a result, there are numerous economic benefits associated with an increase in active travel to retail, health expenditure and in a reduction in collisions.
  2. As 20mph makes people more likely to walk and cycle there is an expectation of increased retail spend. People who walk and cycle to shops tend to make a higher number of visits per month leading to a higher monthly spend overall. High street walking and cycling projects have been shown to increase retail sales by up to 30%[[26]](#footnote-26). A number of case studies have concluded that people accessing a town centre by bike or on foot spend more money overall than motorists or public transport users[[27]](#footnote-27).
  3. Active travel can make a significant reduction to health expenditure through reductions in conditions associated with inactivity. British Cycling estimates if Danish levels of cycling were achieved in the UK, the NHS could save around £17bn over 20 years[[28]](#footnote-28). Sustrans Scotland’s economic appraisal suggests the health benefits of active travel on the National Cycle Network alone amounted to £305 million in 2015[[29]](#footnote-29).
  4. Physical inactivity also creates wider costs to the economy through reduced productivity, increased levels of sickness and absenteeism and higher numbers of premature deaths. The World Health Organisation (2003) found undertaking 30 minutes of physical activity per day can reduce short-term sick leave by between 6% and 32%. Therefore, for each employee who takes up physical exercise for 30 minutes a day for five days a week as a result of a walking or cycling intervention, the annual benefit to employers is likely to be (on average) at least 0.4 days gross salary costs. This is estimated to be worth an estimated £193 million for the UK. Actively promoting healthier travel options in UK workplaces has been shown to reduce absenteeism by up to 20%[[30]](#footnote-30).
  5. 20mph speed limits will reduce collisions and therefore economic damage caused by collisions and casualties. In 2011, there were 151,474 injury accidents on the roads in Great Britain, with WebTAG estimating the economic loss at £10.9 billion in 2011 prices[[31]](#footnote-31).
  6. Importantly, the health benefits gained far outweigh any increase in injuries that may arise as a result of increased frequency of cycling[[32]](#footnote-32). Additionally, there are various studies which show that as cycling levels increase the overall risk to each person walking and cycling is reduced[[33]](#footnote-33),[[34]](#footnote-34). These studies do not take into account a likely reduction in collision frequency and severity brought about by a reduction in speed.
  7. Lastly, there should be no general anticipation of increases to journey times. A review of 20mph implementation found ‘a negligible effect on journey times, for both general traffic and buses’ in the UK, and in Europe the equivalent 30kph speed limits (when traffic signals were adjusted accordingly) resulted in ‘smoother traffic flow’[[35]](#footnote-35).

### Placemaking

* 1. Sustrans Scotland believe that all of the matters raised above, safer streets, more walking and cycling, greener more pleasant environments, a healthier population and more vibrant commercial areas, contribute to the Scottish Government’s goal of making better places for people.
  2. Scottish Government guidance Creating Places, puts safe, resilient, low-carbon and healthy places at the forefront of placemaking in Scotland[[36]](#footnote-36). This proposal contributes to all of these goals in every city, town and village across Scotland and costs a fraction of the sum that physical retrofitting would.
  3. Designing Streets, the Scottish Government’s policy for street design, sets out that residential streets should have a low to medium movement function and medium to high place function[[37]](#footnote-37). 20mph will contribute to emphasising the place function, and incorporating the movement function in a safer, more inclusive manner.
  4. Setting lower speed limits allows greater flexibility in street and road design through the reduction in vehicle speeds and the space required for vehicle movement and manoeuvres.  Reduced speeds will result in improved reaction times, stopping sight distances and greater control of manoeuvres.  In turn, lower speeds allow for reduced road widths, smaller junctions and corner radii.  For example, Designing Streets shows that a 20mph design speed has half the stopping sight distances of 30mph (20m vs 40m)[[38]](#footnote-38).
  5. Greater flexibility in the design of junctions would allow more space for people and improved accessibility, including wider footways, cycleways, improved crossings and a safer, more pleasant environment.  Fundamentally, 20mph speed limits allow streets to be designed to best suit those that live, work, shop and travel through the area on foot or by bike.
  6. People feel safer in 20mph areas and, aside from more walking and cycling, evidence from the Edinburgh pilot suggests that more children are allowed to play outside[[39]](#footnote-39). 20mph areas help to increase social interactions, make it easier for people, particularly children and older people, to cross roads and reduce traffic noise levels[[40]](#footnote-40).
  7. A survey of people living within newly introduced 20mph areas in Edinburgh showed 79% were supportive of the new speed limit and only 4% against it[[41]](#footnote-41). There was also an increase in people’s feelings of safety and in how happy they felt to walk or cycle in the area.
  8. Our response to this consultation is, at its core, about putting people first rather than vehicles. The act of slowing streets brings about placemaking by making them more people-centred and not simply functioning for the movement of vehicles. 20mph limits can contribute to making more inclusive places more suitable for everyone to enjoy.

### Conclusion

Sustrans Scotland believe 20mph speed limits should be the default as proposed in the consultation as this will save lives and prevent serious injuries to people. However, there are extensive and wide-ranging co-benefits to the proposal that contribute to numerous Scottish Government objectives.

1. <https://www.edinburgh.gov.uk/news/article/1743/busting_the_myths_around_edinburghs_20mph_roll-out> [↑](#footnote-ref-1)
2. <https://www.london.gov.uk/about-us/london-assembly/london-assembly-publications/braking-point-20mph-speed-limits-london> [↑](#footnote-ref-2)
3. <https://www.rospa.com/road-safety/advice/drivers/speed/20mph-zones-and-limits/> [↑](#footnote-ref-3)
4. <https://trl.co.uk/reports/TRL421> [↑](#footnote-ref-4)
5. <https://www.transport.gov.scot/media/6105/20-mph-good-practice-guide-19-december-2014-version-to-be-published.pdf> [↑](#footnote-ref-5)
6. <https://www.rospa.com/rospaweb/docs/advice-services/road-safety/drivers/20-mph-zone-factsheet.pdf> [↑](#footnote-ref-6)
7. <http://www.edinburgh.gov.uk/news/article/2206/edinburghs_20mph_rollout_continues_as_new_zone_signs_go_up> [↑](#footnote-ref-7)
8. Sustrans (Forthcoming) School Travel Survey for Parents: Sustrans and Scottish Parent Teacher Council. [↑](#footnote-ref-8)
9. <http://www.edinburgh.gov.uk/download/meetings/id/40218/item_73_-_south_central_edinburgh_20mph_limit_pilot_evaluation> [↑](#footnote-ref-9)
10. <http://www.cyclingscotland.org/wp-content/uploads/2013/10/Transport-Scotland-Policy-Cycling-Action-Plan-for-Scotland-January-2017.pdf> [↑](#footnote-ref-10)
11. <http://www.gov.scot/Publications/2014/06/5743> [↑](#footnote-ref-11)
12. <https://www.transport.gov.scot/our-approach/active-travel/walking-and-cycling/> [↑](#footnote-ref-12)
13. <http://www.peopleforbikes.org/blog/entry/side-street-bikeways-are-great-if-you-have-protected-bike-lanes-too> [↑](#footnote-ref-13)
14. [www.gov.scot/Topics/ArtsCultureSport/Sport/physicalactivity/palevels](http://www.gov.scot/Topics/ArtsCultureSport/Sport/physicalactivity/palevels) [↑](#footnote-ref-14)
15. <http://growingupinscotland.org.uk/> [↑](#footnote-ref-15)
16. https://www.gov.uk/government/news/6-million-adults-do-not-do-a-monthly-brisk-10-minute-walk [↑](#footnote-ref-16)
17. Sustrans (Forthcoming) Sustrans’ Scottish Government Grant 2015-16: Annual Report [↑](#footnote-ref-17)
18. <https://www.sustrans.org.uk/what-you-can-do/use-your-car-less/health-benefits-walking-and-cycling> [↑](#footnote-ref-18)
19. <http://www.gcph.co.uk/assets/0000/6007/Active_travel_synthesis_final.pdf> [↑](#footnote-ref-19)
20. <http://www.20splenty.org/airandnoisepollution> [↑](#footnote-ref-20)
21. <https://www.birmingham.gov.uk/download/downloads/id/3924/20mph_limits_mythbusters.pdf> [↑](#footnote-ref-21)
22. <http://www.scottishairquality.co.uk/latest/> [↑](#footnote-ref-22)
23. <https://ecf.com/sites/ecf.com/files/150119-Cycling-and-Urban-Air-Quality-A-study-of-European-Experiences_web.pdf> [↑](#footnote-ref-23)
24. <http://www.scottishairquality.co.uk/air-quality/CAFS> [↑](#footnote-ref-24)
25. <http://www.edinburgh.gov.uk/download/meetings/id/40218/item_73_-_south_central_edinburgh_20mph_limit_pilot_evaluation> [↑](#footnote-ref-25)
26. Living Streets (2014) *The pedestrian pound: the business case for better streets and places*. Available: <https://www.livingstreets.org.uk/media/1391/pedestrianpound_fullreport_web.pdf> [↑](#footnote-ref-26)
27. <https://www.livingstreets.org.uk/media/1391/pedestrianpound_fullreport_web.pdf> [↑](#footnote-ref-27)
28. Aldred, R. (2014), Benefits of Investing in Cycling. Available: <https://www.britishcycling.org.uk/zuvvi/media/bc_files/campaigning/BENEFITS_OF_INVESTING_IN_CYCLING_DIGI_FINAL.pdf> [↑](#footnote-ref-28)
29. Sustrans (Forthcoming) Sustrans’ Scottish Government Grant 2015-16: Annual Report [↑](#footnote-ref-29)
30. <http://www.sustrans.org.uk/sites/default/files/economic_case_v0_3.pdf> [↑](#footnote-ref-30)
31. <http://www.sustrans.org.uk/blog/incredible-value-cycling-and-walking-goes-beyond-economic-benefits> [↑](#footnote-ref-31)
32. <http://www.urbantransportgroup.org/system/files/general-docs/The%20Case%20for%20Active%20Travel_0.pdf> [↑](#footnote-ref-32)
33. <http://usa.streetsblog.org/2016/07/20/report-as-cities-add-bike-lanes-more-people-bike-and-biking-gets-safer/> [↑](#footnote-ref-33)
34. <https://www.sciencedaily.com/releases/2008/09/080903112034.htm> [↑](#footnote-ref-34)
35. <http://www.roadsafetyknowledgecentre.org.uk/downloads/20mph-reportv1.0-FINAL.pdf> [↑](#footnote-ref-35)
36. <http://www.gov.scot/Resource/0042/00425496.pdf> [↑](#footnote-ref-36)
37. http://www.gov.scot/Publications/2010/03/22120652/0 [↑](#footnote-ref-37)
38. Ibid [↑](#footnote-ref-38)
39. <http://www.edinburgh.gov.uk/download/meetings/id/40218/item_73_-_south_central_edinburgh_20mph_limit_pilot_evaluation> [↑](#footnote-ref-39)
40. <http://www.20splentyforus.org.uk/Press_Releases/20mph_crucial_say_Transport_and_Health_group.pdf> [↑](#footnote-ref-40)
41. http://www.edinburgh.gov.uk/download/downloads/id/8924/20mph\_faq.pdf [↑](#footnote-ref-41)