

Air Quality, Covid-19 and How 20mph Limits Help Us To Breathe Easily

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As a disease that dramatically affects our respiratory system it is hardly surprising that there is a link between the quality of air we breathe, and our subsequent ability to cope with Covid-19. Here we discuss air quality and how it can be improved with an emergency national default 20mph urban limit.

Statisticians studying mortality worldwide have found early evidence of - downright common sense - findings that air pollution levels link to Covid-19 fatality rates¹. An important way to improve air quality is with slower speed limits. Governments should announce 20mph limits in built up areas for better breathing.

Covid-19 symptoms include shortness of breath. Most at risk are those with existing respiratory disease and residents where air pollution is worst. Toxic air is found in densely populated cities primarily from motor traffic fumes. Key are levels of very fine particulate matter - PM 2.5 – which is dust under 2.5 micrometres in size. Tiny, sooty dust is emitted by diesel vehicles especially – and all motors from brake and tyre wear. It lodges deep in lungs and is associated with breathing complaints long term.

Fumes are an invisible enemy – similar to the Covid-19 virus. Though we can sometimes smell or see them, generally, people aren't aware how much are being breathed in. Pollution can't be seen easily yet is deadly. Air pollution from all toxins is thought to kill 64,000 early each year in the UK², more than smoking. This is a massive death toll – 175 a day – about half linked to heart disease. Air pollution is 36 times more deadly than road crashes (road deaths number 1770 pa, approx. 5 a day).

Diesel fumes dominate air pollutions human impact and its health economics. Diesel is responsible for about ten times the particulate and NOx levels per mile compared to petrol vehicles.

Some politicians have tried to act on toxic fumes with traffic reduction measures - as drivers driving less far, less often is the best solution. Some have instigated specific clean air measures eg low emissions zones, old vehicle scrappage, phasing diesel vehicles out, taxes by pollution levels, anti idling etc.

Reducing all urban road speeds to 20mph where it was previously 30mph is a very smart choice, especially now. For politicians to act for better air quality, for public health and our overburdened health services in the Covid-19 crisis a 20mph announcement is a winner, especially backed by public education and enforcement. Benefits are:

- Can be applied as an almost zero cost emergency measure. Doctors from Lower the Baseline are calling for it³.
- The public mostly understand that 20mph reduces casualties. Casualties fall by 20+ % when set locally. 20mph as a default is already popular with 70% of the public.
- Explaining 20mph to help the NHS would be supported widely.

¹ <https://aqrc.ucdavis.edu/news/covid-19-death-rates-increase-due-long-term-exposure-pm25>

² <https://www.independent.co.uk/news/health/air-pollution-smoking-deaths-compare-a8818851.html>

³ <https://lowerthebaseline.org/> & <https://blogs.bmj.com/bmj/2020/03/24/can-we-improve-the-nhss-ability-to-tackle-covid-19-through-emergency-public-health-interventions/>

- Drivers can also be told that 20mph limits improve air quality and the climate as stated in the Stockholm Declaration on road safety, written by the World Health Organisation, agreed by 140 nations including the UK⁴. It notes “**efforts to reduce speed in general will have a beneficial impact on air quality and climate change as well as being vital to reduce road traffic deaths and injuries**”.
- 3% less motor traffic was observed in the South Edinburgh 20mph trial.
- Leads to a 12% reduction in fuel use and transport emissions reduced in residential areas by 12%. Acceleration accounts for 35-55% of pollutants⁵. Steadier driving means an end to needless acceleration and deceleration between 20-30mph as supported by NICE⁶. Less brake and tyre wear too.
- 20mph is equivalent to taking half the petrol vehicles off the road⁷.
- Public Health Wales estimated 117 fewer deaths per year in Wales from particulate matter.
- Cyclist and walkers will enjoy a safer, cleaner, quieter (30mph is almost twice as noisy as 20mph), less bullied by fast traffic, better journey experience. Cycling and walking have noticeably risen in many 20mph places - 12-25% in Bristol and three times more cycling to school in Edinburgh. People are using more active travel in lockdown as public transport has nosedived. Cycling and walking are ways for key workers travel and everyone to exercise.
- Better air quality for us to exercise in outdoors.
- ETA research⁸ found cyclists and walkers face pollution levels two thirds lower than inside a car. Car occupants face three times more fumes sitting in the pollution tunnel in the centre of the road, breathing poisons from traffic ahead.
- A virtuous circle of better air quality.

When is the best time to bring in 20mph? As soon as possible. A national urban 20mph limit measure before lockdown ends is urgent. Why? Not just to prevent casualties arriving at A&E, but because more are walking and cycling now and future travel patterns are certain to involve less public transport use than before – if, due to contagion fears of not being able to maintain a 2m social distance⁹. Unless the government makes clear and substantial changes to the way we use our roads then we will merely return to pre-Covid pollution levels and all its implicit risks for our respiratory systems.

Should car use rise above pre-Covid levels then pollution will be even worse. This would be a toxic future that politicians must mitigate.

An emergency national urban 20mph limit would deliver clear benefits for the NHS and for respiratory health. And the time to implement it is now. Demand an emergency 20mph limit by writing to your MP and the press.

⁴ Declaration 11 <https://www.government.se/information-material/2020/02/stockholm-declaration/>

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<http://www.wales.nhs.uk/sitesplus/documents/888/3.%20Sarah%20Jones%20Wales%20PH%20Conference%20November%202016%20poster.pdf>

⁶ <https://www.nice.org.uk/guidance/ng70>

⁷ http://www.20splenty.org/emission_reductions

⁸ Environmental Transport Association. Road User Exposure To Air Pollution Nov 1997

⁹ http://www.20splenty.org/travel_patterns_after_lockdown_ends