

# 20mph Limits Offer A Toxic Diesel Fume Reduction Equivalent to Taking Half of All Petrol Cars Away

A 20's Plenty for Us Press Release Oct 2015

[http://www.20splenty.org/emission\\_reductions](http://www.20splenty.org/emission_reductions)

Diesel emissions dominate urban road pollution with about ten times the toxicity of petrol fumes. As 20mph limits reduce the most toxic diesel fumes, setting a wide 20mph limit is equivalent to removing nearly half of all petrol cars. This massive air quality and public health gain must be implemented urgently and nationally to reduce the 30,000 annual UK deaths from air pollution<sup>1</sup>.

## 20's Plenty for Us

...making your place a better place to be

When the City of London Corporation evaluated a city-wide 20mph limit they commissioned the respected Imperial College London to evaluate emissions effects<sup>2</sup>. They found that for diesel vehicles there is a substantial reduction in harmful Nitrogen Oxides (NOx) and Particulates (PM<sub>10</sub>) emissions from implementing 20mph limits. Key figures are:-

Vehicle Type <sup>3</sup>	Drive Cycle speed limit	NOx (g/km)	PM <sub>10</sub> (g/km)	CO <sup>2</sup> (g/km)
Petrol 1.4 – 2.0 litre, EURO IV	20mph	0.0726	0.00218	271.95
	30mph	0.0673	0.00237	266.35
Impact of 20mph drive cycle		+7.9%	-8.3%	+2.1%
Diesel 1.4 – 2.0 litre, EURO IV	20mph	0.7437	0.01758	201.58
	30mph	0.8104	0.01917	203.48
Impact of 20mph drive cycle		-8.2%	-8.3%	-0.9%

In 2014, 37% of cars on UK roads were diesels<sup>4</sup>. Where a 20mph limit is implemented the reduction in total NOx and PM<sub>10</sub> emissions is large enough to be the equivalent of taking nearly half of the 63% petrol cars off the roads.

Emission	Total g/km/100 cars at 30mph (A)	Total g/km/100 cars at 20mph (B)	Change g/km/100 cars (C=B-A)	Std g/km for a petrol car (D)	Effect of implementing a 20mph limit drive cycle expressed as (E=C/D)
NOx	34.2247	32.0907	-2.134	0.0637	Equal to removing 32 petrol cars
PM <sub>10</sub>	0.8586	0.7878	-0.0708	0.00237	Equal to removing 30 petrol cars
CO <sup>2</sup>	24308.81	24591.31	+282.5	266.35	Equal to 1 extra petrol car

20mph limits therefore provide a significant reduction in the most toxic emissions for built-up roads so assisting local authority compliance with legal air quality requirements and reducing premature air quality related deaths.

Rod King MBE, Founder and Campaign Director of 20's Plenty for Us said:-

*"Many UK cities break legal NOx and PM<sub>10</sub> pollution levels, killing people early and risking massive fines. A 20mph built up limit simply, immediately and effectively reduces dirty fumes. This government should urgently wake up to the air quality gains from 20mph. Lower speeds give so many road safety, active travel and public health benefits. The government should stop hiding behind the fig-leaf of "localism" on speed limits and immediately cut the requirement for, and costs of, 20mph repeater signs. Then change the national limit from 30mph to 20mph letting local authorities decide where a higher speed limit is appropriate taking full account of all their public health responsibilities.<sup>5</sup>"*

<sup>1</sup> <http://www.theguardian.com/environment/2015/apr/02/air-pollution-may-cause-more-uk-deaths-than-previously-thought-say-scientists>

<sup>2</sup> <https://www.cityoflondon.gov.uk/business/environmental-health/environmental-protection/air-quality/Documents/speed-restriction-air-quality-report-2013-for-web.pdf>

<sup>3</sup> Whilst the report only shows results for EURO IV vehicles rather than EURO V and VI, it also excludes commercial vehicles which can be expected to show even larger emission reductions in a 20mph cycle.

<sup>4</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/420385/veh0203.xls](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/420385/veh0203.xls)

<sup>5</sup> [http://www.20splenty.org/transitioning\\_to\\_national\\_20](http://www.20splenty.org/transitioning_to_national_20)

20's Plenty For Us campaigns for a 20mph default speed limit in built up areas without physical calming.

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