

Tackling pollution 'hot-spots'

What are we doing?

Today we are measuring emissions from this bus on its usual route around the city.

The type of emission we are measuring is NO_x – oxides of Nitrogen. This is formed when combustion occurs in the presence of nitrogen – in areas of high traffic.

When coupled with our highly accurate GPS, our measurements can tell us exactly where the NO_x was emitted to within about 30cm – the length of a ruler! This will help us precisely identify pollution 'hot-spots'. Typically these happen where vehicles speed up: traffic jams, traffic lights, roundabouts and speed bumps.

Why are we doing it?

NO_x emissions are a well-known pollutant which is harmful to human health – particularly for existing heart and lung conditions. NO_x levels in Oxford vary significantly, with some areas having high levels.

A huge amount of work has already been done on this – Oxford is world leading in this respect and has had a low emissions zone since 2014. Oxford Bus Company was one of the first in the world to invest in diesel-electric hybrid buses to reduce emissions. This bus already has very low emissions, with advanced emissions control and hybrid technology on board.

The work we are doing today will help us understand exactly where NO_x in Oxford is being emitted and whether there are changes that can be made – for example to road layout or future bus design – that will help us reduce them even further.

Want to find out more?

Contact the study lead Dr Felix Leach: felix.leach@eng.ox.ac.uk

or visit:

www.eng.ox.ac.uk/engines

www.oxford.gov.uk/info/20052/air_quality

www.oxfordbus.co.uk/sustainability

www.cambustion.com/products/rde

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