

Scientists set to calculate individuals' exposure to traffic pollution

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Researchers at King's College London are developing ways of working out a person's individual exposure to traffic pollution when travelling to, from, and around London.

King's researchers will ask volunteers if they can monitor their movements through Oyster card information or GPS on mobile phones. This will then be analysed alongside pollution readings from sites across London to create a [mathematical model](#) for tens of thousands of average journeys every week. Once this information is collected, people will eventually be able to access it online.

This means that people will be able to use this information to adapt their journeys where possible to avoid unnecessary exposure to harmful vehicle emissions.

This is part of a new project run by the Environmental Research Group at King's to understand better the [health problems](#) caused by traffic pollution in the city. The project has been made possible thanks to a £2million grant from the Natural Environment Research Council (NERC) and the Medical Research Council (MRC) to a consortium of researchers from King's, Imperial College London, St George's University of London and London School of Hygiene and Tropical Medicine.

King's researchers say that ultimately the information gathered will help them to make better estimates of personal exposure to pollution across

specific sectors of the population. This in turn will enable the team to run better, more accurate health studies to examine the relationship between air pollution and poor health.

Professor Frank Kelly, Director of the Environmental Research Group said:

'This is an exciting new project which will tell us much more about how pollution affects the health of people in the city.

'We already know traffic pollution can have adverse effects on the health of some people living and working in London, but this project will allow us to understand better the risks to individuals as they go about their everyday lives.

'When the project is up and running, people will be able to submit details of their journey onto a website, and it will tell them the levels of traffic pollution they are exposed to every step of the way. This will mean people can adapt their journeys where possible to reduce their exposure. For example, walking just one street away from a busy main road can significantly reduce the amount of traffic emissions we breathe in.'

Alongside this work, the team at King's will also carry out studies to measure toxins in the air. It is already known that particles from vehicle exhausts cause a range of health problems such as asthma, but emissions from vehicles are regulated in terms of total particles, with no specific targeting of particular components.

Some particles in emissions are more toxic than others, and differ between vehicles. The team at King's wants to identify which particles trigger a bigger biological response in humans. This would be a major step forward in more focussed traffic and infrastructure planning and management in London.

The project begins in January 2011, and will run for four years.

Provided by King's College London

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