

Children living near busy roads have greater asthma and eczema risk

By [David Derbyshire for MailOnline](#)

Updated: 10:06 EST, 13 June 2008

Children who live within 50 yards of a busy road are more likely to develop asthma, eczema and hay fever, a major new study has shown.

Researchers have found a strong link between exposure to traffic fumes in the first few years of life and a host of childhood allergies.

They say youngsters living alongside the busiest roads are 50 per cent more likely to be susceptible to allergies than those living in quieter streets.



Car pollution raises a child's risk of having eczema and asthma

The study suggests that Britain's allergy epidemic could be partly caused by the steep rise in cars and lorries on British roads in the last few decades.

The number of people with allergies has trebled in the last 20 years. One in three people now suffer at some point in their lives.

The rise has been blamed on the modern obsession with hygiene and children's indoor lifestyles. Doctors say exposure to dirt is essential for a healthy immune system.

But the new German study suggests that the rise of traffic pollution is also playing a role.

Scientists tested nearly 2,900 children at the age of four and more than 3,000 aged six for asthma, wheezing, eczema and sneezing.

Their parents were asked about their health and their exposure to traffic pollutants was calculated by looking at the distance of their homes to major roads at birth, and aged two, three and six years of age.

The scientists also tested the children at six for food allergies, and took air samples around the youngster's homes.

After taking into account the parent's own history of allergies, the number of pets in the home and the number of brothers and sisters - all factors which can cause allergies - they found a strong link between the distance to the nearest major road and hay fever, eczema and bronchitis brought on by asthma.

Children living closest to heavy traffic were 50 per cent more likely to be susceptible to allergies than those living a long way away, they report in the American Journal of Respiratory and Critical Care Medicine.

Dr Joachim Heinrich, who led the study at the Institute of Epidemiology, Munich, said:

"We consistently found strong associations between the distance to the nearest main road and the allergic disease outcomes," Dr Heinrich wrote in the

"Children living closer than 50 meters to a busy street had the highest probability of getting allergic symptoms, compared to children living further away."

The study is particularly powerful because it is prospective - selecting a group of children first before seeing how the environment goes on to affect their health.

Retrospective studies, which take a sample of children and look back in time to see what could have caused their conditions, are more open to bias.

Past studies have found a link between traffic fumes and allergies. However the studies were was confused by other factors. In many cities, for instance, people who live next to major roads tend to be poorer.

The Germans say their study is different because in Munich just as many wealthy families as poor ones live near busy roads.

Many doctors believe that traffic fumes do not just trigger allergic reactions, they cause underlying allergies.

Busy roads release a wide range of pollutants - from dust and tyre particles, to microscopic particles called PM10s from diesel engines which could damage the body's immune system, increasing risks of allergies. Diesel fumes can also cause harmful changes to blood vessels and damage lungs.

"Children living very close to a major road are likely to be exposed not only to a higher amount of traffic-derived particles and gases, but also to a more freshly emitted aerosols which may be more toxic," said Dr Heinrich.

"Our findings provide strong evidence for traffic related air pollutants on atopic diseases as well as on allergic sensitisation."

The rise in allergies in the West is usually linked to the "hygiene hypothesis" - the idea that the body's immune system over-reacts to pollen, dust and traffic fumes because we are all raised in homes that are too clean.

Doctors say that babies' immune systems need dirt, animal hairs and dust to develop healthily.

<http://www.dailymail.co.uk/health/article-1026254/Children-living-near-busy-roads-greater-asthma-eczema-risk.html>