

Babies born earlier in areas near busy road junctions

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Babies are born earlier when their mothers live near a concentration of freeways and main roads, a study of 970 mothers and their newborn babies in Logan City, south of Brisbane, has found.

Senior research fellow Associate Professor Adrian Barnett from Queensland University of Technology's (QUT) Institute of Health and Biomedical Innovation (IHBI) said the study, published today in the online journal *Environmental Health*, showed that the more freeways and highways around a pregnant woman's home, the higher the likelihood of her baby being born prematurely.

"The most striking result was the reduction in gestation time of 4.4 per cent or almost two weeks associated with an increase in freeways within 400 metres of the women's home," said Professor Barnett, whose earlier study found a strong association between increased air pollution and small fetus size.

"Although the increased risks are relatively small, the public health implications are large because everyone living in an urban area gets exposed to air pollution. Pre-term and low-birth weight babies stay in hospital longer after birth, have an increased risk of death and are more likely to develop disabilities."

Professor Barnett said although air pollution levels in south-east Queensland were low compared with industrial cities, people's exposure to the chemical toxins in [vehicle emissions](#) was relatively high because

of our outdoor lifestyle and open houses.

The study counted the number of roads around the mother's homes up to a 500 metre radius.

"We examined the distance between the home and busy roads to find the distance at which most of the negative effects on birth outcomes occurred because this has implications for local governments planning expansions or new roads," he said.

Most of the effects were within a 200-metre radius, but [negative health effects](#) were present up to 400 metres.

Professor Barnett said the study had also taken into account the effects of smoking levels and the socio-economic status of the mothers.

The effects of noise pollution were considered to be a possible contributing factor, but Professor Barnett said it was difficult to separate the effects of air and noise pollution.

"Vehicles braking and starting means that road junctions have some of the highest levels of noise and [air pollution](#)," he said.

"Disturbed sleep during pregnancy may cause extra stress and be a risk factor for adverse birth outcomes.

"This study points to the fact that pregnant women should reduce their exposure to traffic. A reduction in traffic emissions through improved vehicles or increased public transport use would have immediate health benefits by giving children a better start to life."

Provided by Queensland University of Technology

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