

# Urban trees, healthier babies?



**The link between the natural environment and human health** is complicated and much remains unknown. One information gap is the effect of nature on reproductive health. A new study explores this link by investigating whether greater tree canopy cover is associated with reduced risk of adverse birth outcomes in Portland, Oregon.

The study compared tree cover around the homes of nearly 6,000 women who delivered babies in Portland in 2006 and 2007. To rule out other possible effects, the study controlled for over a hundred variables including the mother's age, ethnic background, household income, education, prenatal care, and whether she already had children.

**Urban residents treasure their trees, parks, and gardens for many reasons.** As other research has shown, the natural environment in general, and trees in particular, can improve human well-being. Greenness has been associated with lower obesity, greater levels of physical activity, and perceived general health.

**How exactly do trees influence birth outcomes?** The results of this study do not provide direct insight into how urban trees reduce the risk of underweight babies. However, previous research has shown that exposure to nature can reduce stress levels. Stress in pregnant women is known to be harmful to the developing fetus and can increase the probability of underweight birth.

**Geoffrey Donovan**  
US Forest Service  
Pacific Northwest Research Station  
503-808-2043  
gdonovan@fs.fed.us  
<http://donovan.hnri.info>

## Findings:

- Canopy cover within 50 meters of a house reduced the risk of a baby being born underweight.
- Proximity to private open space also reduced this risk.
- A 10 percent increase in tree canopy cover within 50 meters of a house reduced the number of underweight babies by 1.4 per 1,000 births.

*For the complete journal article:*

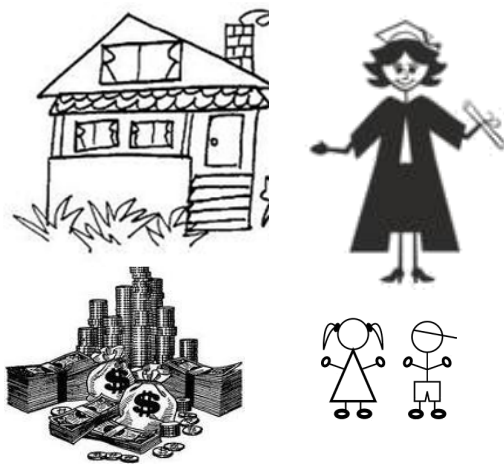
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[http://donovan.hnri.info/pubs/donovan\\_et\\_al\\_health.pdf](http://donovan.hnri.info/pubs/donovan_et_al_health.pdf)

## Birth outcomes are influenced by many factors besides trees.

### *How did we weed out other, well-known effects?*

Just as many factors contribute to overall human health, there are many factors that can influence a woman's pregnancy. To investigate the possible impact of trees, we had to account for as many of these other variables as possible.



For example, we controlled for the mother's age, race, and education level; the market value of the house; neighborhood attributes like distance to nearest private open space; whether the mother was married; whether she had any other children; and about 100 other factors.

Holding all these variables constant, we quantified the effect of adding a tree.

In this way, we were able to compare two otherwise identical pregnant women (same age, race, income level, etc) and isolate the relationship between trees and birth outcomes.

