

Trees benefit urban quality of life



Key takeaways

- Houses with street trees are less prone to crime.
- Houses with large yard trees are less prone to crime.
- Houses with smaller yard trees are **more** prone to crime.
- Tree planting is associated with increased voter turnout.
- Children with more trees around their homes and schools perform better on standardized tests.

Urban trees are critical assets to a community

Urban trees have a very visible impact on a neighborhood. Our research helps city planners, community groups, landscape designers, law enforcement, and homeowners better understand the ways in which trees can be integrated with the built environment to create more livable cities.

Trees and crime

We have found that urban trees have a quantifiable effect on crime rates.

We studied 2,813 homes in southeast Portland, Oregon, and recorded the number, size, and location of trees around each house. We found that criminals are less likely to target houses that have street trees or large yard trees.

In contrast, criminals are more likely to target houses without street trees or with small trees in their yards. This is possibly because smaller trees may attract criminals by blocking views and providing places to hide.

Understanding how tree placement and maintenance can discourage criminal activity and help homeowners find a balance between privacy and security.

Crime reducing

Street trees
Large lot trees
Streetlights
Alarm systems

Crime increasing

Small trees
House age
Corner lots
View-obstructing barriers

Trees and social cohesion

There is relatively little known about the link between urban greenness and social connectivity. Previous research has shown that increased access to greenspace is associated with reduced loneliness and an increased sense of community, and some studies that have found a strong correlation between social cohesion, civic trust, and voter turnout.

We explored the link between trees and social cohesion by looking at the voter turnout in Portland, Oregon, and found that:

- Tree planting was associated with increased voter turnout in Portland, Oregon
- Tree planting was associated with increased primary and general election turnout.
- The magnitude of this association increased as trees grew.

Trees and academic performance

In the first study to look at how individual-level standardized math and reading test scores are affected by the environment around a student's home and school, we found that children with more trees around their homes and their schools perform better on standardized tests. These results suggest that exposure to the natural environment, at both home and school, may promote children's cognitive development and academic performance.

Media

- [Tall trees help protect houses from crime, says study conducted in Southeast Portland.](#) The Oregonian. November 4, 2010.
- [The surprising science of fighting crime with... Trees.](#) Mother Jones. May/June 2019.
- [Geoffrey Donovan researches trees and crime.](#) San Francisco Chronicle. May 26, 2011.

There's more

A healthy urban forest is an asset for the entire community. In addition to positively affecting social cohesion and reducing crime, trees can decrease [energy use](#), increase [property value](#) (thereby raising city revenue), and perhaps most importantly, improve individual [health outcomes](#) from cradle to grave.

Donovan, G.H. and Jeffrey Prestemon. 2012. [The effect of trees on crime in Portland, Oregon.](#) *Environment and Behavior*. 44(1): 3-30.

Donovan, G.H., Prestemon, J. P. & Kaminski, A. R. 2022. [The natural environment and social cohesion: Tree planting is associated with increased voter turnout in Portland, Oregon.](#) *Trees, Forests and People*. 7.

Donovan, G.H., Y. L. Michael, D. Gatzolis and R. W. Hoyer 2020. [The Relationship Between the Natural Environment and Individual-Level Academic Performance in Portland, Oregon.](#) *Environment and Behavior* 52(2): 164-186.



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May 2025

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