

Crime is lower when cities are greener: Evidence from South Africa supports the link

November 10 2022, by Charlie Shackleton, Andrew Faull, Gregory Breetzke, Ian Edelstein and Zander Venter



Cape Town, South Africa. Credit: Unsplash/CC0 Public Domain

South Africa's population is urbanizing at a rapid pace. The sheer rate of change poses challenges to planning for sustainable and liveable cities.

Part of what makes cities work is having green spaces, such as parks, sports fields, nature trails and street trees. These provide many social, ecological and economic [benefits](#). Research from multiple countries such as [Australia](#), China, Finland, India, the [U.S.](#) and South Africa has shown this.

Aside from looking good and providing recreation, [urban green spaces](#) improve air quality, physical and mental health, and regulate storm water flows. They counteract [urban heat islands](#), store carbon and create jobs.

Some communities nevertheless oppose urban greening efforts because they fear that green spaces and street trees provide places for [criminals to hide](#). Such fears are not unique to South Africa and have been reported from cities in both developed and developing countries.

A great deal of research has been done on urban greening and its association with crime levels. But most of these studies have been conducted in Europe and North America, which are very different socially and economically to developing countries and have markedly lower rates of crime.

We [conducted research](#) to complement the evidence from the global north. Our study is the first ever national level analysis of the relationship between various measures of urban greenness and three different classes of crime: property, violent and sexual crimes.

Our findings, based on research in South Africa, lend further credence to calls for urban greening to be adopted as a major strategy in cities—for both [environmental sustainability](#), as well as social sustainability.

Drilling down

We used 10 years of precinct-level crime statistics in South Africa to test the hypothesis that green space is associated with reduced [crime rates](#). South Africa has one of the highest crime rates in the [world](#), making it an important test of the relationship between urban greening and crime.

Using the broadest greenness measure—total green space—the results of this national-scale study corroborate many [previous studies](#) from the global north indicating that greener neighborhoods have significantly lower rates of violent and property crimes. Thus, the relationship reported in other countries and contexts appears to be robust in even a relatively high crime context like South Africa.

To gauge the relationship [in South Africa](#) we used several measures of urban greenness, several different crime categories, and a national analysis.

We obtained crime statistics per police precinct (there are 1,152 police precincts) between 2010 and 2019 from the South African Police Service and aggregated them into property, violent and sexual crimes (expressed as per 100,000 citizens for each police precinct).

We then used remote sensing to calculate the total area of green space per precinct, the proportional (percentage) cover of trees, and the average distance to the closest formal or informal park.

We found that greener areas had lower rates of both violent and property crimes. But there was no relationship with the rate of sexual crimes. A more mixed picture was revealed when considering tree cover specifically, where property crime was higher with more tree cover, but violent crimes were fewer.

However, property crimes were higher in locations close to public parks and sites with more trees.

Proximity to parks showed no relationship with the rates of violent or sexual crimes.

The concentration of property crimes in neighborhoods with more trees and parks can be explained by such areas typically being where more affluent households are found.

But well-maintained [public parks](#), and those with fencing, lighting, playing fields and some sort of security show lower crime levels in adjacent areas than poorly maintained parks or those [lacking basic facilities](#).

What needs to be done

These findings add further impetus to arguments for [urban planners](#) and decision-makers in South Africa (and similar contexts) to be more proactive and ambitious in including and integrating urban [green spaces](#) and trees into urban developments.

Planners and authorities often downplay such calls because they are viewed as coming from an environmental lobby, and because—they say—there are more pressing economic and social development [needs](#).

But this research shows that benefits of urban greening extend well beyond an environmental agenda. They embrace social inclusivity and sustainability too, alongside the well-established public health benefits.

Urban greening, therefore, needs to be one of the foremost considerations in urban planning and development in the country. It also requires budgets, expertise and strategies beyond the planning phase to allow for regular tree and [green space](#) maintenance that keeps them functional and attractive to local citizens.

The research also supports calls for urban greening to be [integrated](#) into any holistic [crime](#) prevention strategy.

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Citation: Crime is lower when cities are greener: Evidence from South Africa supports the link (2022, November 10) retrieved 26 April 2024 from <https://phys.org/news/2022-11-crime-cities-greener-evidence-south.html>

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