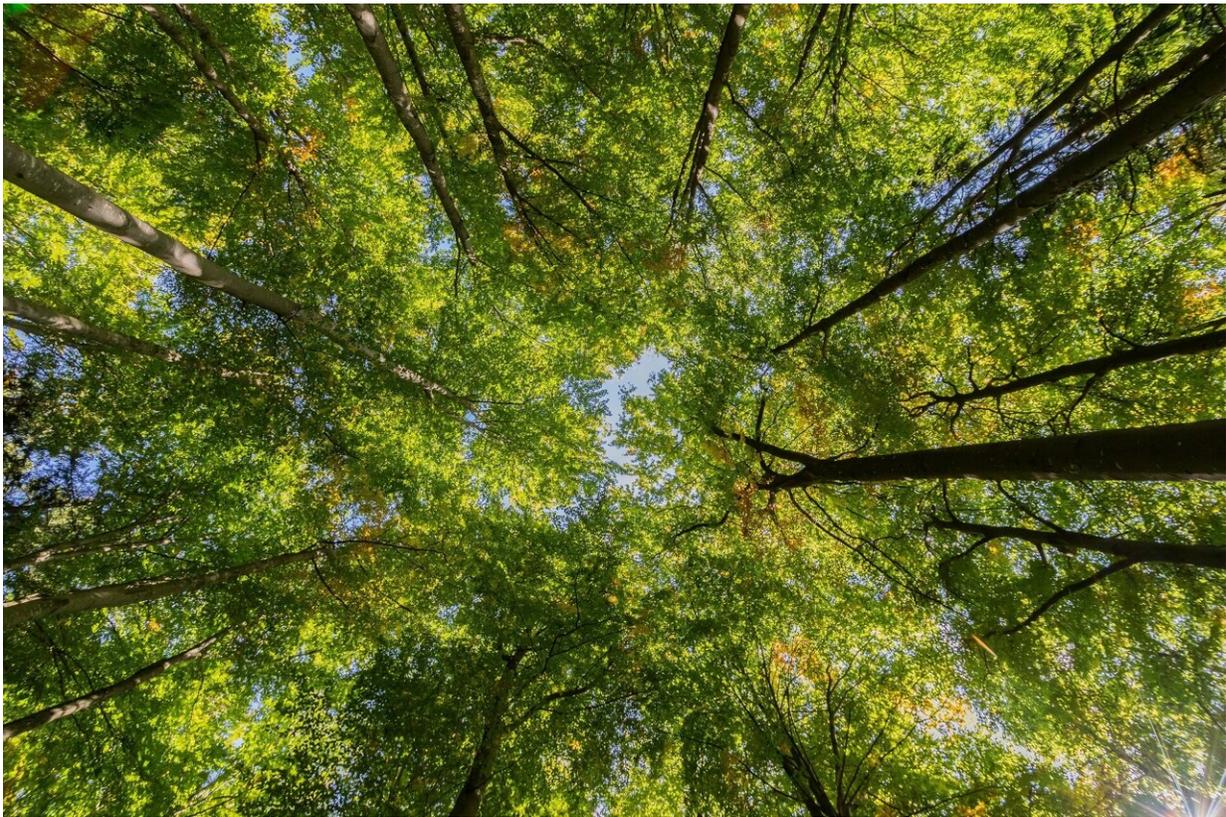


Boise is trying to fight climate change, inequality with trees. Here's how it works

November 9 2022, by Nicole Blanchard and Ian Stevenson



Credit: Pixabay/CC0 Public Domain

Lining the streets of Boise's North End are stands of tall trees, with broad leaves that merge into a canopy, providing cool shade to pedestrians in the summer months.

Outside of the North End, Boise residents have fewer trees. That means less respite from the sun's broiling heat that coincides, according to studies, with a higher frequency of poverty, [health problems](#) and other issues.

Studies have shown that tree canopy—coverage created by mature shade trees—can be linked to myriad socioeconomic factors. Poorer neighborhoods tend to have less canopy coverage, meaning more paved surfaces and higher temperatures. Unequal distributions of tree abundance and diversity have also been shown in parts of the country to connect to racial, educational, age and income-based inequalities.

Boise follows many of those same trends. In recent years, there has been a push through the City of Trees Challenge to plant in other neighborhoods. But the data that the project relies on is more than a decade old. As officials prepare to refresh their data next year, they're uncertain what they'll find thanks to years of breakneck growth, outdated information and a changing climate.

What does tree canopy tell us?

In 2013, the Treasure Valley Canopy Network, a group that works to improve the Boise area's urban forest, worked with several local partners and experts at Portland State University to assess Treasure Valley canopy data collected in 2011. It looked at the relationship between tree canopy, air quality and average surface temperatures.

It found that more heavily forested areas in the Treasure Valley tended to have cooler average temperatures and better air quality, with the exception of some downtown areas.

Another analysis by conservation organization American Forests found similar results. American Forests launched a tool in the mid-1990s called

CityGreen that measured [tree cover](#) and analyzed its overlap with different socioeconomic factors. The group still does that work today through its Tree Equity program.

"The general trend across the country is that the wealthier and predominantly whiter areas have more canopy cover," American Forests' Vice President of Urban Forestry Ian Leahy told the Idaho Statesman. "What that translates into is public health outcomes, economic opportunities, especially as cities are heating up. The extreme heat becomes life or death infrastructure."

And the affects of climate change are shifting temperatures in Boise. This summer had the most 100-plus-degree days on record, and the summer of 2021 was the hottest on record, according to the National Weather Service.

American Forests issues a Tree Equity score for urban census tracts on a scale from 0 to 100. The scoring system takes into account the percentage of canopy cover, the average surface temperature and a variety of demographic data, including poverty levels, race, age and unemployment rate. It also includes information on physical and mental health from the self-reported Centers for Disease Control and Prevention Places dataset.

Many parts of the Treasure Valley earned the highest score possible: swaths of Boise north of the river, as well as most neighborhoods in southeast Boise and the Bench, all of the city of Eagle and parts of downtown Meridian, Nampa and Caldwell. There are also neighborhoods that didn't fare as well. Tracts of Garden City south of the Boise River barely cracked a score of 50. Parts of the West Boise neighborhood show higher temperatures, less canopy and more poverty, health issues and people of color. Many parts of Canyon County are the same.

'The rich parts of town have a lot of trees'

Two years ago, the city of Boise partnered with the Treasure Valley Canopy Network on a new initiative, called the City of Trees Challenge, to improve the city's tree canopy and combat rising temperatures and worsening air quality. Officials set a goal of planting 100,000 trees in 10 years. To date, they've planted 13,627.

Lance Davisson, co-founder of the Canopy Network, said the initiative also focuses on evening out the inequity in canopy, providing shade that can lower temperatures, encourage outdoor activity and boost property values in less forested neighborhoods.

"The rich parts of town have a lot of trees," he said. "The poor parts of town don't. We want to focus our planting efforts in those parts of town that are struggling and help increase tree canopy so they have better quality of life."

In an effort to focus on parts of the city with fewer resiliency resources, Boise is developing a baseline index system that will map "environmental justice, health and equity" issues across neighborhoods, according to the city's 2021 climate road map. The project is called the Clean City Index.

"The goal there is to help better identify areas within Boise where we might see more challenges and communities might be affected more by climate change," Steve Hubble, Boise's climate action manager, told the Statesman in an interview. "That could help us long term to kind of prioritize where we deploy certain programs."

The effort earned praise from Leahy.

"Anecdotally, Boise's doing great stuff," he said. "For a mid-sized city, you don't really see that. We use Treasure Valley Canopy Network as a

model around the country."

Planting efforts so far have focused on parts of the Bench, South and West Boise and Barber Park. Davisson said the city is also focused on addressing downtown areas. He said the city is using suspended pavement—sidewalks built with adequate room for extensive tree root systems underneath—to try to bulk up the downtown canopy. It's also adding small "pocket parks" like Cherie Buckner-Webb at 11th and Bannock streets to add green space.

"The urban core is not conducive for trees," Davisson said. "It's hotter, buildings are taller. It's the most intense, difficult place for a tree to survive, but if you have pocket parks you can have your cake and eat it, too, in a sense."

Outdated data

It's hard to know what impact Boise's planting initiative is having. The decade-old data it's based on showed Boise with an average tree canopy of 16%, below the target of 20% to 25% citywide. That analysis is quite outdated.

"(Analyses) are generally good for five years," Leahy said. "Trees don't grow that fast."

Not only is Boise's canopy analysis past its prime, the city has experienced significant growth at the same time. Leahy said development could mean a decline in tree canopy as existing trees are removed to make room for construction. Davisson said some previously treeless desert areas could have actually seen an increase in canopy as residential growth sprawled into more rural areas, bringing landscaped trees.

Davisson said it's high time for a fresh analysis, even if it may not show the results of the two-year-old City of Trees Challenge plantings. The Treasure Valley Canopy Network raised funds to conduct a new study and recently started accepting bids.

Davisson said the analysis could be finished by next fall.

"We'll find out does Boise now have 20% ([canopy](#)), does it now have 14%?" he said. "A lot of things change when you're the fastest-growing place in the country."

The organization is already collecting data and aerial photos to determine how much of the [city](#) has water-permeable surfaces, like grass and trees, versus impervious surfaces like buildings and concrete.

"What's exciting about redoing this [tree canopy](#) assessment is that there's better technology than there was 10 years ago," Davisson said. "There's a lot better understanding on urban heat and the benefits trees provide."

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