Low-income communities and people of color living in eastern regions of Austin are more likely to live in neighborhoods with less tree coverage and disproportionately suffer more heat effects than people living in West Austin.

According to a tree equity map created by American Forests, the neighborhoods of Rundberg and Lamar, only have 17% tree coverage, as opposed to the recommended 30%, while West Lake Hills has more than double the necessary tree coverage. The city of Austin highlighted the Rundberg and Lamar area as "most vulnerable" to climate effects.

Austin's Office of Resilience, which analyzes climate impacts on Austin communities, partnered with the University of Texas and community coalition Go Austin Vamos Austin in 2020 to create a map of the city's neighborhoods. They measured neighborhoods' exposure to heat, access to shade and tree canopy, health issues and social vulnerability demographics like age, income and race.

According to the city's report, residents in eastern areas of Austin "experience increased levels of poverty, historical redlining, inadequate community planning and disproportionate chronic health risks."

"(Community members) were talking about how their spouses are coming home from working in construction with headaches and nausea, or their kids don't want to go outside because it's too hot or overnight temperatures aren't cool enough so they can't sleep," said Marc Coudert, the climate resilience and adaptation manager.

Several years later, summer temperatures continue to skyrocket, and heat exposure becomes more and more dangerous. Austin saw record-breaking heat levels last summer, with 80 days of 100-degree heat — half of those over 105.

"We know (from heat surveillance research) that communities in low-income areas and downtown are typically more impacted by heat," Coudert said. "When it's 105 for more than four or five days, people start getting hurt."

Heat-related risks are heightened as big cities like Austin become urban heat islands. Cities have fewer trees bringing shade and more cars and buildings emitting heat. Unlike trees and plants, surfaces such as pavement, asphalt and rooftops absorb and radiate the sun's heat, rather than reflecting it. Meanwhile, skyscrapers and narrow streets obstruct the flow of the wind.

Maisie Hughes, vice president of non-profit American Forests based in Washington, D.C., said tree canopies are part of the solution to cool cities.

“We know that cities can be way hotter than tree-lined suburbs,” Hughes said. “(Trees) can shade streets. They can help shade buildings as well and dramatically reduce the temperature under that tree. And if you do it from the perspective of an entire city, you can dramatically reduce the temperature of the city.”

However, as evidenced by American Forests’ nationwide tree equity score map that Hughes helped develop, trees are not fairly distributed. Some parts of the city are even more exposed to the heat.

“Some neighborhoods have trees and others don't, and those neighborhoods with trees are cooler than those neighborhoods that don't have trees,” Hughes said. “When you put that in the context of unprecedented heat levels, this becomes a life-or-death situation.”

Part of the problem goes back to historical segregation in urban planning, such as Austin’s 1928 City Plan which highlighted East Austin, where many Hispanic and Black people lived, as “hazardous” for investment, therefore stalling development.

“When we look at how communities have historically been disenfranchised from the opportunities that municipalities can have for people, then it's something more sinister,” Hughes said. “The legacy of segregation has built in a lot of ways what we consider to be communities of color and we're still feeling those impacts in spite of the fact that that type of lawmaking is not allowed anymore. We still have the residual gunk from it.”

One major way that governments segregated communities was through the development of highways as physical barriers. In the 1920s, East Austin was segregated by East Avenue. Then, in 1962, the two-lane street was expanded to construct Interstate 35, further isolating East Austin.

On a national scale, Hughes said communities were deliberately planned to segregate people by race and income and limit marginalized populations’ access to mortgages, housing and schools. Even though redlining is no longer legal, Hughes said the way cities distribute their resources is still decided by people, who may be biased or uninformed.

Hughes said the residual effects of redlining continue to affect distribution of city funds, since much of the money for recreation and trees comes from taxes on homes. People living in neighborhoods where they can’t own homes, for example, cannot decide to plant a tree on their landowner’s property. Additionally, maintaining tree canopies can be costly.

“West Austin has the highest tree canopy. It's mostly suburban residential homes, but they have a lot more tree care. It takes money and time and resources to keep a healthy canopy,” Coudert

said. “You need trimming, you need to take out the dead branches, and that costs a lot of money. So, if you can afford a wonderful tree canopy, that's great, but a lot of people can't.”

Another roadblock Hughes said is “cultural.” People who grew up around trees are more likely to advocate for trees in their neighborhoods than people who are truly in need of denser canopies. People experiencing poverty often have less time and energy to put into advocating for their communities. Hughes said involvement in environmentalism and conservation has historically been reserved for people with a higher level of privilege.

“If you are a single parent and you have to work and your kids are in school and you have to transport them, you don't necessarily have time to participate in your local community meetings or advocate for more resources for your community, because you have this responsibility of trying to survive day-to-day,” Hughes said.

Elle Ignatowski from TreeFolks, an Austin-based urban forestry nonprofit that has been working to improve tree access in the city since 1989, said the organization focuses on working with people’s busy schedules. As part of their Neighborwoods program, they give away free trees to Austin residents, prioritizing eastern Austin. They host tree adoption events in common public areas like grocery stores, farmer’s markets and recreation centers.

“One of the reasons we emphasize meeting people where they like to go in public spaces is recognizing people's time is limited,” Ignatowski said. “People may have different kinds of work schedules and different transportation options. So we want to make our programs accessible as much as possible.”

The City of Austin and Austin Energy are actively working with TreeFolks to increase the canopies in priority areas of eastern Austin. This year, they’ve given 5,000 free 5-gallon trees to Austin residents. Additionally, they plant saplings around the city as part of the ‘Ready, Set, Plant!’ program.

“Depending on the day, we can plant a thousand or more saplings with up to a hundred volunteers in a single morning,” Ignatowski said.

Ignatowski said the relief of a couple degrees that denser tree canopies can bring can mean a lot. Surfaces like the slides that children play on and concrete where dogs walk can get up to 40 degrees hotter without the shade of trees.

“This summer I went to a playground. And one side where we had done a planting was full of trees…And then the other side was just concrete with a couple slides and a jungle gym. Nobody was out there when it was 104 degrees that day,” Ignatowski said. “When you want to spend time

outside, which is again for quality of life, for human health and for physical and mental well being, those tree-lined streets really make a difference…It's that liveability. It's that quality of life."