

## How rooftop farming is reimagining the use of Bay Area city space

Oakland's Telegraph Avenue runs through the heart of the East Bay city. It's like most city roads — traffic zips through as engines and tires hum along the street.

But above the intersection of 51st Street and Telegraph Avenue, a different environment is taking the phrase “soaking up the sun” literally.

Six stories above pedestrians, and a Whole Foods, an ecosystem of fresh produce is growing in a 38,500 square-foot rooftop farm.

[Benjamin](#) Fahrer built and designed the farm on Telegraph Avenue in 2021 and has helped to build 12 rooftop farms across the Bay Area. In a country where farmland occupies more than [50%](#) of landmass, rooftop farming is reimagining how the bay thinks about its food.

Farming is deep in Fahrer's roots.

He's the descendant of Irish, Austrian and German farmers who came to the United States and planted seeds all over the mid and mountain west.

Fahrer started farming when he was a child on a tomato farm with a family friend. It's blossomed into a career that's taken him all over the world teaching, farming and building.

“There's something intrinsically beautiful about participating in something that's alive and growing,” Fahrer said.

But Fahrer hasn't spent all of his time farming.

A builder since he was 14 years old, he spent his summers framing houses in Idaho. He also attended Dominican University of California on a basketball scholarship. When he realized he would only go so far in basketball, he leaned into building and farming.

He felt he needed to pick between the two until he took a permaculture course, [the study of land management in ecosystems](#), in 1999.

"I realized that I could build and farm, and I could actually build farms," Fahrer said.

So, when he got an offer to work on a rooftop farm at the University of California, Berkeley in 2013, he stepped up to the plate.

Since then, his company, Top [Leaf](#) Farms, has built over 68,500 square feet of rooftop farming space in the Bay Area. It has a goal of building 1,000 farms by 2030.

Dating back to 3,500 B.C., urban farming isn't new. Ancient civilizations throughout history adopted urban farming techniques.

The Mesopotamians would set aside plots of land to grow in their cities, according to the [American Society of Landscape Architects](#). [The Aztec Empire](#) also used floating islands on bodies of water outside of their cities for growing.

It's a practice the government is starting to subsidize in American cities. In [July 2023](#), the U.S. Department of Agriculture doled out \$7.4 million in grants to 25 urban farming projects across the country, according to a release.

California's Department of Food and Agriculture sponsored a ["Farm to Fork"](#) grant dedicated to urban farming developments. According to the program's site, more than \$11.6 million were disbursed to 33 projects across the state in 2023.

Fahrer said the rooftop farms can produce a pound of food each year for every square foot growing space, with the Telegraph Avenue location having about 25,000 square feet of growing space.

The food's destination varies depending on where it's grown, he said. It can find its way to a restaurant or be used to help the community.

In the case of the Telegraph Avenue location, it's overseen by Deep Medicine Circle, a nonprofit organization dedicated to decommodifying food and making nutritious produce more accessible in the city.

But the food remains local, he said, reducing days of travel time the produce experiences before it's eaten.

On top of an underground parking garage in the heart of UCSF's [Mission Bay](#) campus and a stone's throw away from the [Chase](#) Center, STEM Kitchen and Garden adopted the same thinking with its produce.

The garden of blueberries, peppers and other produce overlooks the Central Basin of the San Francisco Bay, with lemon trees surrounding the outdoor seating area. The smell of herbs and soil could make someone forget they're in a city with [some of the worst air quality](#) in the U.S.

General Manager [Daniel Partridge](#) has managed restaurants for a decade, he's worked in downtown San Francisco in areas he felt at times could be "sterile." So when his friend introduced him to STEM, it was an easy move for him.

Six months later, Partridge is appreciative to be out of the suits he'd grown used to and working in a new environment.

"It's got backyard beer vibes," Partridge said.

The restaurant's name is a play on the common acronym for science, technology, engineering and mathematics because of its proximity to UCSF. It could also refer to the roots or stems growing in its backyard.

While everything on its menu isn't supported by the garden, he said STEM tries to incorporate a piece of the garden in every dish. Partridge said items like lettuce don't go as far as other items like chives or mint.

He said in many cities, STEM's location would be unusable space. But Partridge said he'd like to see more of the city's rooftop space used for urban farming.

"We're using space that would otherwise be dead," Partridge said.

Fahrer said he's received skeptical feedback about rooftop farming, a feeling he shared when he started. But once he learned how to maximize the space, his doubts faded away.

Rooftop farming is about putting all of the pieces of an ecosystem together and understanding how he can assist nature, he said.

Figuring out how to efficiently use water, increase the yield of the garden and appreciate the intangibles like a hummingbird coming to pollinate are all at the forefront of his farming.

"In truth, the real innovation is nature, and I'm just a conduit of that," Fahrer said.