TRUST FOR PUBLIC LAND™

Connecting everyone to the outdoors™

Greener schoolyards for Oakland

A WIN-WIN FOR KIDS AND COMMUNITIES

Ricardo Cortes' two sons love to run and play—at school, at home, anywhere they can. But the public school his seven- and nine-year-old boys attend in Oakland, California, does not exactly inspire outdoor activity. Despite some modest improvements in recent years, the schoolyard at Melrose Leadership Academy in East Oakland is mostly covered in asphalt. On sunny days students huddle in the shadow of a large storage container, the kind found on the back of a tractor-trailer.

"I look at this and I think, 'It's a prison yard,'" observed Mr. Cortes. "There is a huge fence all around the perimeter of the school. The asphalt magnifies the heat, and there is literally no shade. My kids complain that it gets really hot."

But a ballot measure this November—Measure Y—in the city of Oakland could help change that. The ballot initiative will ask voters to consider a school facilities bond that would provide $735 million to renovate and rebuild schools in the sprawling district. Of that, $200 million would go toward district-wide initiatives, which can include green schoolyards.

The Oakland Unified School District is one of the most diverse in California, with about half of the 36,000 students speaking a native language other than English at home. Nearly three-quarters of students qualify for free or reduced-price meals. Many of the students lack the kind of green space—both at home and at school—that allows for unstructured outdoor play and nature exploration.

Oakland's more than 80 public schools together own more than 400 acres of schoolyards. The majority are blank asphalt, more parking lot than play area, baking under the hot sun and more likely to flood during heavy rains. At the same time, across the city of Oakland, more than 45,000 people don't have a park within a 10-minute walk of home. "The November ballot initiative presents a win-win for students, families, and the entire population of Oakland," said Guillermo Rodriguez, California state director for The Trust for Public Land. "Funds from this bond could transform Oakland's schoolyards from empty lots into green oases, with abundant trees and plantings to counter extreme heat, absorb stormwater runoff protecting the bay, and provide hands-on learning opportunities for kids. And with shared-use agreements between the school district and the city, schoolyards could be open to the community during nonschool hours, bringing parks to the families and neighborhoods who need them most."

ANGELA DECENZO

Bay Area father Ricardo Cortes says the schoolyard at his sons' Oakland elementary school looks more like a prison yard than a playground.

Schoolyards: a resource hiding in plain sight

The Trust for Public Land, a national nonprofit based in San Francisco, has built thousands of parks and protected millions of acres of land across the nation. Since 1996, the organization has transformed more than 280 schoolyards across the nation, focusing on improving educational outcomes for students while increasing public access to parkland. As part of every schoolyard renovation, The Trust for Public Land supports and encourages shared use to allow the public to enjoy the schoolyard park during nonschool hours.

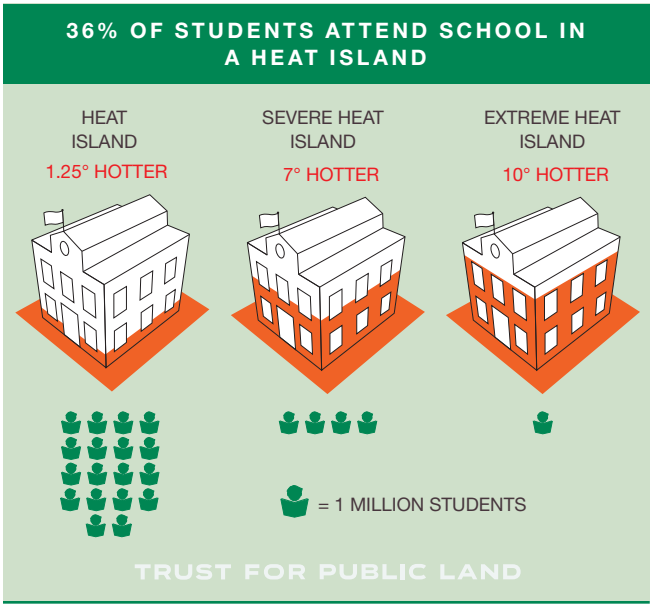
In Oakland, the organization is currently overseeing construction of a "living schoolyard" at the Cesar Chavez Campus that is shared between two K–5 schools (International Community School and Think College Now) in the Fruitvale, while two more will begin construction next year at Melrose Leadership Academy and Markham Elementary. All three are slated for completion in 2021. Each renovation will cost between $1 million and $2 million and will include a mix of play areas, gardens and planting areas, outdoor classrooms, ball courts, a grass field, and close to 50 new shade trees.

Oakland's more than 80 public schools together own more than 400 acres of schoolyards.

"Prior to the groundbreaking if you were to walk by campus, you would essentially see a huge, long slab of concrete," said Karen Schreiner, principal of Think College Now Elementary School, where one of the three living schoolyards is being built. "There is no shade. There is no place for kids to rest, and it gets superhot."

The 2020 school bond could make funding available for many more of these types of schoolyard renovations.

Across the United States, only 1 percent of schoolyards are designed with vegetation, trees, and play features that encourage healthy recreation among students and, according to multiple studies, bolster physical fitness, academic performance, mood, and concentration. The typical American schoolyard looks more like a parking lot and heats up like one too: brick and asphalt absorb and retain heat, making many school properties hotter than their surrounding towns and cities. Advances in satellite imagery and computer modeling have enabled researchers to study this "heat island effect" at higher resolution and much greater scale than ever before.



Analyzing data from 14,000 cities and towns across America—home to 85 percent of the population—researchers at The Trust for Public Land have found that 46 percent of the 39 million public school students attend school in a heat island (at least 1.25 degrees hotter, on average, than the surrounding town or city). At the same time, 4.1 million of those students go to a school in a severe heat island of 7 degrees or more, while 1.1 million attend school in an extreme heat island of 10 degrees or more. In some communities, the "heat anomaly"—the difference in average temperature between the schoolyard and the rest of the city—exceeds 20 degrees.

As disturbing as those findings are, especially against a backdrop of accelerating climate change, The Trust for Public Land's analysis of heat maps also reveals a strong correlation between heat and income. Nationwide, students in the

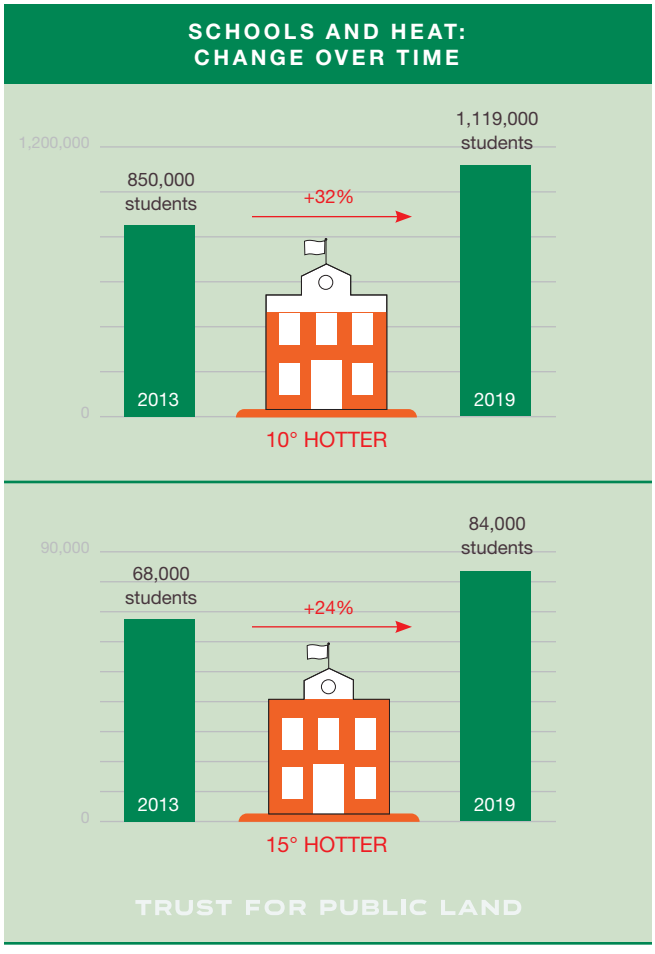
lowest income bracket attend schools with heat anomalies that are, on average, more than double those of schools serving students in the highest income bracket.

Data scientists at The Trust for Public Land say the problem of schools in heat islands may be even worse than the results suggest: many of America's densest cities are already hotter than their outlying suburbs and rural areas. So schools in big cities like Oakland may not register a heat anomaly through this methodology, even if the temperature on the yard is dangerously hot. In other words, schoolyards with too much concrete are in cities with too much concrete, and everyone is at higher risk of heat exposure and illness than those who live in less densely developed areas.

The problem of heat at schools has grown worse in just the last several years, which were among the hottest on record. The number of students in a heat island of 10 degrees or more rose from 850,000 in 2013 to 1,119,000 in 2019, a 32 percent increase, according to The Trust for Public Land's analysis. The number of students in a heat island of 15 degrees or more climbed from 68,000 to 84,000 during the same period, or 24 percent. (Satellite data showing surface temperatures on land first became available in 2013.)

ANGELA DECENZO

On a mild day when temperatures are in the 60s and 70s, asphalt can heat up to 120 degrees.



The problem of heat at schools has grown worse in just the last several years, which were among the hottest on record.

In Oakland, The Trust for Public Land has worked with young students to determine just how hot the schoolyards are. Even on a cool, sunny day, temperatures can climb to dangerous levels. "On a mild day, even when temperatures are in the 60s or 70s like they are most of the year here in Oakland, the asphalt can heat up to 120 degrees," said Alejandra Chiesa, Bay Area program director at The Trust for Public Land. "That's not a healthy environment for children."

Last fall, students recorded surface temperatures at International Community School, a dual-language elementary school, that ranged from 109 on a swath of concrete to 115 on a plastic slide. Meanwhile, in the shade of a tree growing on the other side of school's fence, it was a pleasant 72 degrees. "When we play on the playground, like when we sit on the slide, we get burned," explained fifth grader Aylin Chales.

A lack of trees and vegetation not only can lead to extreme heat but can worsen air pollution and exacerbate flooding.

JEREMY BEETON

As part of every schoolyard renovation, The Trust for Public Land spearheads a shared-use agreement between the school district and the community that allows the public to enjoy the park during nonschool hours.

As climate change progresses, all three problems—which are interconnected in complex ways—are poised to become more severe.

The idea of "greening" schoolyards to realize multiple benefits has recently gained momentum in Oakland. The school district's facilities master plan, released in April, highlighted the importance of living schoolyards. In addition, last year the Board of Education approved a first-in-the-state policy that endorses their development. "School grounds will have living schoolyards that support 21st-century education; promote children's health, well-being and joy; and function as ecologically rich community schools that connect children and their neighborhoods to the natural world right outside their classroom door, every day," the policy states.

"When we play on the playground, we get burned."

AYLIN CHALES, 5TH GRADE

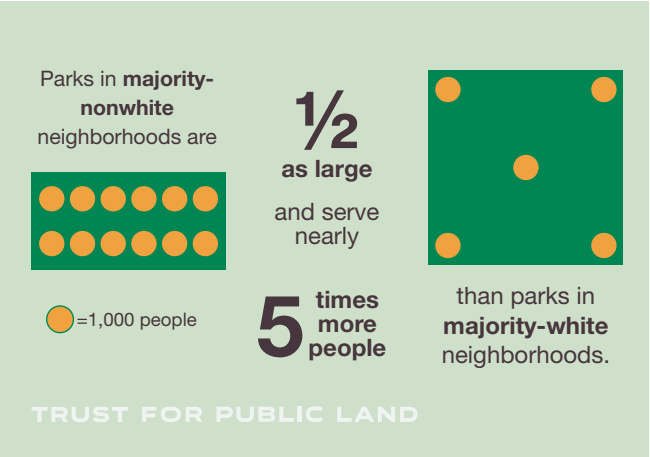
"We have pretty high levels of asthma," said Eleanor Alderman, principal of International Community School, which has 277 students, 90 percent qualifying for free or reduce-price lunch. "Being able to provide fresh air and oxygen through trees—like the 45 new trees we have going in—I mean there are just no words to express the gratitude."

In support of its work on living schoolyards in Oakland, The Trust for Public Land supported a survey in May of 400 voters who are likely to participate in the November election. The survey was part of a broader poll undertaken by the district to gauge voter support for the school bond. Fifty-eight percent of respondents said that converting paved schoolyards into "living, green landscapes that provide nature education for children" was either "extremely important" or "very important." And 65 percent said that improving water quality and reducing flooding by designing schoolyards to absorb stormwater was extremely or very important.

And this work is most important to Latino and African American respondents. For example, when asked about planting shade trees in schoolyards to improve air quality, 36 percent of white respondents deemed that "extremely" or "very" important, compared to 76 percent of Latino and 64 percent of African American respondents. On the issue of public access, in which voters were asked about making schoolyards available to community members outside of school hours, 84 percent of Latino voters and 61 percent of Black voters considered that extremely or very important, compared to only 40 percent of white respondents.

For many children who have no backyard or little access to parkland, gated schoolyards are a source of frustration. When a school ground becomes available after school and on weekends, especially following a top-to-bottom renovation, it is embraced by students and parents alike as a close-to-home source of recreation.

Nationwide, not everyone lives within easy reach of a park. In fact, one in three Americans or 100 million people—including 28 million children—do not have access to a park within a 10-minute walk of home. And if they do, the park might not be very inviting.



When asked about making schoolyards publicly accessible outside of school hours, 84 percent of Latino voters and 61 percent of Black voters considered that extremely or very important.

The Trust for Public Land analyzed data from 14,000 cities and towns across the United States, finding that Black, Indigenous, Latinx, Asian, Pacific Islander, and multiracial populations—when they do have parks within a 10-minute walk—are likely to find small, crowded spaces.

The analysis revealed that parks serving a majority-nonwhite population are, on average, half as large—45 acres compared to 87 acres—and serve nearly five times more people as parks that serve a majority-white population. Our analysis also found that parks serving primarily low-income households are, on average, four times smaller than parks that serve a majority of high-income households—25 acres versus 101 acres.

"There's a big conversation going on right now in our country around race and equity," said Jody London, president of the Oakland Unified School District's Board of Education. "And to me, this work is right at the heart of it. Which of our students get to benefit from having these beautiful yards that are filtering the air and providing educational opportunities? We need to make sure that that's available for every student in Oakland."

JEREMY BEETON

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Outdoor learning in the age of COVID-19

The issue of outdoor access at school has taken on new urgency during the pandemic. Federal health officials and public health experts have all urged schools to reduce the spread of the coronavirus by holding classes outside, to the extent possible.

In Oakland, where school has begun remotely, district officials are studying the possibility of using schoolyards when students are able to return in person. The Trust for Public Land is helping the district explore how to design outdoor learning spaces as working examples that can be scaled across the district. The idea is that each schoolyard could accommodate at least one-third of the student body outside with minor investments in tents or canopies, seating, and other elements to improve the space for outdoor learning.

Health experts are urging schools to reduce the spread of the coronavirus by holding classes outside.

Experts say that when educational environments feel comfortable and safe, learning improves. "From an equity standpoint, for students who may not have that sense of tranquility in their own neighborhoods, we especially want to make sure that our schools have living schoolyards, that there's green spaces, that we have places for gardening," said Kyla Johnson-Trammell, superintendent of Oakland Unified School District. "It's not just a 'boutiquey,' nice-to-have sort of thing, but it really is connected to kids being in that space to learn and to be engaged and to feel joyous when they come to school."

In the process of designing a living schoolyard, it is often the students and parents who conjure up a space that is both beautiful and functional, energizing and serene: a wall of linden trees to buffer a noisy bus route, a gazebo for quiet conversation, a track for running or walking.

ANGELA DEGENZO

Experts say that when educational environments feel comfortable and safe, learning improves.

"What we are doing is tearing up asphalt and working with students, parents, and community to reimagine what a playground could be if it had trees, if it had natural play structures, if it was much more inviting," said The Trust for Public Land's Guillermo Rodriguez. "They came up with amazing ideas. It's that engagement that really is the magic. It's our secret recipe for creating successful projects, not just in Oakland but across the country. Because the community see themselves in the project."

Learn more: tpl.org/oakland-schoolyards

Trust for Public Land is a national nonprofit that works to connect everyone to the benefits and joys of the outdoors.

tpl.org

FRONT: ANNIE BANG; BACK: JEREMY BEETON

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