



# California Students Need Trees at School

## Policy Recommendations

This report outlines short and long-term policy recommendations for taking action to protect California’s children from extreme heat by increasing tree canopy in K-12 public schools.

## The Problem

Across California, more than 10,000 public schools serve more than 5.8 million K-12 students on over 131,000 acres of public land, every day. Much of that land is paved and lacks trees and shade. As temperatures continue to rise due to climate change, this situation is becoming a crisis for most public schools across the state.

**The lack of shade trees and natural areas on school grounds is an environmental justice problem** with widespread impact on school campuses that serve communities of color and in communities with the lowest incomes. When nature is absent in children’s environments, they are denied the mental, physical, social-emotional, and learning benefits they need.

**Unshaded school grounds are dangerously hot.** Our research shows that on a sunny 90°F day, unshaded asphalt can reach 140°F or more and rubber “safety” surfaces can be more than 165°F.

**High temperatures severely impact children.** Children engage in vigorous physical activity outdoors, and since they have smaller body mass to surface area ratios than adults, they are more vulnerable to heat.

Climate and forestry experts recommend a 30% tree canopy coverage in cities to mitigate climate impacts. California schools are far from this goal.



Typical California school with lack of tree canopy in student zones.

## OUR RESEARCH FINDINGS

California’s school grounds lack tree canopy, particularly in “student zones,” the areas of each campus children use during the school day. Our research shows that:<sup>1</sup>

- The median tree canopy coverage in student zones is **only 6.4%**.
- Close to 2.6 million students attend schools with **less than 5%** tree canopy in student zones. This includes over 1.5 million students who qualify for Free or Reduced-Price Meals.
- **Only 45%** of the trees are located in student zones.

<sup>1</sup> Data include all public K-12 schools and are from Green Schoolyards America’s *California Schoolyard Tree Canopy Equity Study*.

# What Is Needed?

## Commitment to a long-term vision

**Set a long-term tree planting goal.** We recommend that the State sets a long-term tree planting goal for all public schools to protect California’s children from extreme heat due to climate change.

**Focus tree planting efforts on student zones.** Plant enough trees that when mature will shade at least 30% of the student zone, defined as the portion of each school property used by students during the school day.

**Prioritize the most vulnerable students.** Set interim benchmarks that prioritize the most vulnerable students.

## Interagency collaboration and policy

**Engage and direct key agencies** to align policies and programs with the statewide schoolyard tree canopy goal. Agencies include the California Department of Education, California Department of Forestry and Fire Protection, California Department Division of the State Architect, California Natural Resources Agency, State Water Resources Control Board, Environmental Protection Agency, and California Department of Public Health.

**Update existing policies that guide design for public school facilities** to eliminate barriers and catalyze tree planting in schools. Focus the updated policies on direct benefits for children, including tree canopy coverage goals. Incorporate nature-based outdoor learning spaces as instructional spaces and as critical components of all schools’ facilities, treated the same way as indoor classrooms and sports facilities.

## Dedicated multiyear investments

**Allocate dedicated long-term funding** to support the establishment, maintenance, and educational use of schoolyard forests within public schools.

**Leverage cross-sector funding sources** by quantifying the multiple benefits of schoolyard forests, including enhanced health outcomes, improved student attendance, heightened staff retention, elevated academic performance, energy-efficiency gains, carbon sequestration, and efficient stormwater management. Delving deeper into the benefits of schoolyard forests can unlock and leverage public and private funding across various sectors, including health, natural resources, education, and climate.



**Schoolyard forests are a cost-effective, scalable, nature-based solution that can protect vulnerable children from the impacts of climate change while improving their health, learning, and environment.**

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## Immediate Actions

Long-term planning and sustained public funding investments are necessary to bring green schoolyards to scale across the state. In addition, policy and institutional barriers need to be addressed to ensure that those investments are successful in creating green, climate-resilient school grounds that serve the most vulnerable children and communities. To achieve the long-term goals described in the previous section, we recommend the State prioritizes the following actions:

### Reduce state policy barriers

Current law requires school-ground greening projects that remove asphalt, plant trees, and create nature-based outdoor learning spaces to bring the path of travel to the project up to code without a limit on the cost. Path of travel improvements may include paving, bathroom, ramps, parking, and other building improvements beyond project boundaries. This represents a tremendous barrier to greening school grounds because even a small project can trigger expensive upgrades.

Senate Bill 1091 would limit the cost of complying with the requirement to provide an accessible path of travel to a schoolyard greening project to 20% of the adjusted construction cost of the project, bringing California law in line with federal requirements in the Americans with Disabilities Act.

### Fund the CAL FIRE Green Schoolyards Grant Program

The CAL FIRE Green Schoolyards Grant Program, created in 2022, has awarded \$120 million in funding to cover planning activities and/or transform 164 public schools into green schoolyards. We applaud the creation of this innovative program and unprecedented investment the State has made over the last two years, which built significant momentum. However, this investment only addresses a small percentage of the need. It is critical to continue funding the program in order to make significant progress toward long-term statewide schoolyard greening goals.

Assembly Bill 2600 would establish specific competitive granting opportunities for eligible applicants, including nonprofit organizations, seeking to transform our asphalt-covered K-12 campuses into living schoolyards using funds allocated to CAL FIRE for this purpose.

### Incorporate green schoolyards in the Public Education Facilities Bond Act

Assembly Bill 247, the Public Education Facilities Bond Act, would provide \$14 billion to construct and modernize education facilities and offers important opportunities to improve upon previous state funding for school facilities by:

- Explicitly mentioning and prioritizing green schoolyards and nature-based outdoor learning spaces as integral components of all school facilities for climate mitigation, health, and instruction in the same way as sports fields, classrooms, and other building spaces are mentioned and prioritized
- Allocating funding for climate adaptation-related master planning
- Providing targeted funding for climate resilience projects in vulnerable communities, including green schoolyards
- Highlighting eligible investments schools can make to transition to safe, healthy, climate-resilient school buildings and grounds

### Pass a climate bond that includes funding for green schoolyards

Pass a robust climate bond that prioritizes investments in the California communities most impacted by climate change, including funding for green schoolyards.



## What Would It Take?

In Green Schoolyards America’s *California Schoolyard Tree Canopy Equity Study*, we analyzed a subset of public school campuses with the greatest need for tree planting. These high-priority campuses all have 5% or less tree canopy in student zones and 70% or more students who qualify for Free or Reduced-Priced Meals.

The chart below shows what it would take to increase tree canopy for these high-priority campuses, from less than 5% to the long-term goal of 30% tree canopy in student zones. It outlines existing conditions, funding needs, and potential impacts of those investments for the high-priority campuses and for all school campuses statewide.

## Impact

A multiyear investment in reaching 30% tree canopy coverage at K-12 public schools will achieve the following benefits:

- **Vulnerable students protected** from extreme heat and other climate impacts
- **Improved health and learning outcomes**
- **Climate and environmental benefits**, including carbon sequestration and stormwater management
- **Workforce development opportunities**
- **Improved community resilience and health outcomes** for millions of Californians

Achieving 30% Tree Canopy in Student Zones		High-Priority Campuses K-5	High-Priority Campuses K-12	All Campuses
CURRENT STATUS	Number of Campuses	978 campuses	1,542 campuses	7,561 campuses
	Total Canopy in Student Zones	232 acres	474 acres	4,918 acres
	Tree Canopy in Student Zones (median %)	3.5%	3.1%	6.4%
NEEDED TO MEET GOAL	Additional Tree Canopy Needed to Reach 30%	2,024 acres	4,406 acres	15,791 acres
	Number of Trees to Plant (109 trees/acre)	220,616 trees	480,254 trees	1,721,219 trees
ANNUAL IMPACT	Students Served	593,112 students	1,161,411 students	5,189,265 students
	Students Served that Qualify for FRPM	502,573 students	978,482 students	2,982,992 students
	CO2 Sequestered Per Year	>5 million pounds	>10 million pounds	>40 million pounds
	Stormwater Intercepted Per Year	>52 million gallons	>113 million gallons	>405 million gallons

### Notes and Assumptions

Student enrollment numbers are from the 2022-23 school year data from the California Department of Education.

“High-priority campuses” have 5% or less tree canopy in student zones and 70% or more students who qualify for Free or Reduced-Price Meals.

“All campuses” include all public school campuses serving K-12 students.

Tree quantities are estimated as 109 trees per acre (~400 square feet unpaved per tree, planted 20 feet on center).

Amounts of carbon sequestered and stormwater intercepted are yearly averages, calculated over 20 years, using iTree for different tree species in locations across the State. These calculations assume trees planted at 1 inch diameter at breast height and account for the growth over 20 years.

## Conclusion

As the climate emergency intensifies, it is imperative to provide California’s public schools with a clear pathway to solutions that will ensure children can continue to utilize outdoor play spaces well into the future.

School-ground greening offers a way to address the climate crisis with an intersectional approach and is a critical strategy to closing the equity gap in access to nature, improving health and wellness, and providing opportunities for hands-on learning, climate literacy, and workforce development.

## References

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### GREEN SCHOOLYARDS AMERICA

Green Schoolyards America inspires and supports systems change to transform asphalt-covered school grounds into living schoolyards that improve children’s well-being, learning, and play, while strengthening their communities’ ecological health and climate resilience.

[greenschoolyards.org](http://greenschoolyards.org)



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### CREDITS

The data presented in this report is part of the *California Schoolyard Tree Canopy Equity Study* created by Green Schoolyards America in collaboration with GreenInfo Network and Dr. Bevin Ashenmiller, PhD. Our research was made possible by generous funders and partners.

### PUBLISHER

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