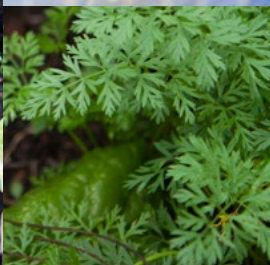




# **GREEN SCHOOLYARDS**

**A GROWING MOVEMENT  
SUPPORTING HEALTH, EDUCATION  
AND CONNECTION WITH NATURE**



(COVER)  
Photo Credit: Tony Armour and Lisa Miller, courtesy of Openlands

(LEFT)  
Photo Credit:  
DJ Glisson  
Allison Williams, courtesy of Space to Grow  
Paige Green, courtesy of Education Outside  
Tony Armour and Lisa Miller, courtesy of Openlands  
Space to Grow

(RIGHT)  
Photo Credit: DJ Glisson





# WELCOME

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We are very pleased to share our report, **Green Schoolyards: A Growing Movement Supporting Health, Education and Connection with Nature**. This document, which makes a strong case for the significant and diverse benefits of green schoolyards, is informed by a rich dialogue that has been taking place at the national and local levels about how to help children, families, schools, communities and our environment thrive.

In 2015, Healthy Schools Campaign and Openlands had the honor of convening the National Green Schoolyards Summit. With the support of the W.K. Kellogg Foundation and Grantmakers In Health, and in partnership with the Children & Nature Network, we brought together a dynamic group of educators, academics, nonprofit and community leaders and members of the philanthropic community to share experiences, research and best practices in the exciting field of green schoolyards.

This report documents the journeys and lessons of green schoolyard programs shared at the summit, as well as the experiences and expertise of grassroots leaders and public and private partners working at the school, community and city levels; policymakers from the local, state and national levels; and, additional research into emerging ideas, funding streams and innovative partnerships. Our goal is to share information and stories as well as tangible steps communities can take to develop their own green schoolyards.

We look forward to watching the green schoolyard movement grow, and hope that this report will support and further the rich dialogue that is already underway about green schoolyards. We are confident that these schoolyards, and the innovative partnerships and new ideas that are a hallmark of all these models, will significantly benefit our children, communities and environment.

Sincerely,



**Jerry Adelman**

President + CEO  
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**Rochelle Davis**

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# THANK YOU

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# INTRODUCTION

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A growing body of evidence connects nature and outdoor play with incredible health benefits—and a lack of access to the outdoors with health risks. What’s more, parks make cities more energy efficient and more resilient to the effects of climate change. They can bring neighborhoods together and make them safer, too.<sup>1</sup>

Many children, families and communities do not have access to green space, safe parks or even a school playground where they can go to play, explore and be together outside. For 80 percent of the people living in the U.S., there is only one park for every 3,000 people.<sup>2</sup> In particular, children of color in low-income urban areas have severely limited access to open space and nature.<sup>3</sup> Yet open space and nature have the power to help these children overcome adversity, especially the health and education disparities that affect vulnerable communities.

School districts are some of the biggest landowners in our nation’s cities, with more than 130,000 schools in this country.<sup>4</sup> Cities have the highest concentration of schools; New York City alone is home to 1,800 public schools.<sup>5</sup> That means most city neighborhoods are connected to a schoolyard. Some—perhaps even most—of these urban schoolyards are filled with concrete and closed to the community; many aren’t even used by schoolchildren at all. These spaces represent an incredible missed opportunity for all of us, but especially for low-income children of color.

In a small but growing number of cities, barren and underused schoolyards are being transformed into multi-purpose, environmentally beneficial outdoor spaces, or “green schoolyards.” They have outdoor classrooms, vegetable gardens, safe play equipment and ample greenery. They’re being used to teach children about gardening and improve nutrition, to encourage physical activity, engage the community and give the entire neighborhood access to nature. Green schoolyards support a school’s goals.

They provide a safe place to play and double as an outdoor classroom or a science lab. They enhance—and many times make possible—physical education and nutrition programs. These green schoolyards also help the environment, making local waterways cleaner and improving air quality.

Green schoolyards provide a healthy contrast to the indoor, sedentary culture many American children live in today. At home and at school, children have fewer opportunities for the physical activity that is so important for their healthy development, due in part to an increased focus on academic success, the rising role of technology and concerns about safety. At the same time, young people are experiencing higher rates of obesity, diabetes, asthma, anxiety and depression than ever before.<sup>6, 7, 8, 9, 10</sup> It's difficult to overlook the connection between our sedentary, urbanized and indoor lifestyle and the increased health problems among our nation's children. Green schoolyards are a valuable asset that can help address childhood obesity, improve school performance and make communities happier, safer and healthier places. In addition, they can help city and state organizations protect infrastructure and natural resources such as drinking water and air quality.

In May 2015, a national summit convened in Chicago to take an in-depth look at green schoolyards. At this summit, practitioners, advocates, researchers and others shared their knowledge and experiences and explored innovative approaches for advancing green schoolyards. This report shares the collective experience and knowledge of the participants and explores some of these new and emerging opportunities.

Successful green schoolyard programs in six cities across the country are examined in case studies in this report. These studies distill important factors that helped to determine project success, including diverse partnerships and funding mechanisms, carefully leveraged policy at every level and documented impact that wins support.



## WHAT IS A GREEN SCHOOLYARD?

Green schoolyards are multi-purpose, environmentally beneficial spaces where communities can gather to be physically active and where children can play during recess, participate in a rich physical education program, experience hands-on lessons that support their curriculum and learn to love nature. Green schoolyards contain a diverse array of features that support these goals, and more.

Physical elements found in green schoolyards may include:

- Safe play equipment for all ages
- Benches and natural elements for seating or gathering
- Jogging tracks and playing fields
- Native gardens
- Green stormwater infrastructure
- Trees
- Movable, natural play and seating elements such as logs
- Outdoor classrooms
- Vegetable gardens

Other key aspects of green schoolyards ideally include:

- Remaining open to the community after school and on weekends
- Addressing environmental issues
- Providing hands-on, outdoor learning opportunities for all subjects, including STEM (science, technology, engineering and mathematics) education
- Providing places for children to experience nature
- Supporting physical education and sports programs with tracks and playing fields
- Incorporating opportunities for engagement with art

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1 Kondo, M., Low, S., Henning, J., & Branas, C. (2015). The impact of green stormwater infrastructure installation on surrounding health and safety. *American Journal of Public Health*, 105(3). Retrieved from [http://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs\\_2015\\_kondo\\_001.pdf](http://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs_2015_kondo_001.pdf)

2 The Trust for Public Land. (2015). Parks for people. Retrieved from <https://www.tpl.org/ourwork/parksforpeople>

3 Sherer, P. (2006). The benefits of parks: Why America needs more city parks and open space. San Francisco: The Trust for Public Land. Retrieved from [http://www.eastshorepark.org/benefits\\_of\\_parks%20tpl.pdf](http://www.eastshorepark.org/benefits_of_parks%20tpl.pdf)

4 U.S. Department of Education, National Center for Education Statistics. (2015). Digest of Education Statistics, 2013. (NCES 2015011), Table 105.50. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=84>

5 New York City Department of Education. (2015). About us. Retrieved from <http://schools.nyc.gov/AboutUs/default.htm>

6 Centers for Disease Control and Prevention. (2015). Childhood obesity facts. U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/healthyouth/obesity/facts.htm>

7 American Diabetes Association. (2014). National Diabetes Statistics Report. Retrieved from <http://www.diabetes.org/diabetesbasics/statistics>

8 Centers for Disease Control and Prevention. (2012). Trends in asthma prevalence, Health Care Use and Mortality in the United States, 2001-2010. U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/nchs/data/databriefs/db94.htm>

9 Twenge, J. (2000). The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952-1993. *Case Western Reserve University: Journal of Personality and Social Psychology*, 79(6). Retrieved from <http://www.apa.org/pubs/journals/releases/psp7961007.pdf>

10 Gray, P. (2010). The decline of play and the rise in children's mental disorders. *Psychology Today*. Retrieved from <https://www.psychologytoday.com/blog/freedomlearn/201001/the-decline-of-play-and-rise-in-childrens-mental-disorders>



Photo Credit: Paige Green, courtesy of Education Outside

# WHY GREEN SCHOOLYARDS

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Over and over again, researchers are proving a simple fact: Nature is good for us. Studies link green space with better health and wellness, and even improved grades. Additionally, a host of research shows that green space makes neighborhoods safer and communities healthier. When secondary outcomes are considered, such as more creative play, physical activity and community engagement, the list of benefits grows. Smaller studies, including evaluations of existing green schoolyards programs, are building on this research to show the impact these spaces have on schools, students and communities. Current trends in evaluation also show that green schoolyards benefit the environment and city infrastructure.

## **GREEN SCHOOLYARDS MAKE KIDS HEALTHIER**

A vast and growing body of research documents nature's benefits on human health. Access to nature promotes physical activity, which helps to make everyone, including children, healthier.<sup>11</sup> Time spent in nature has also been linked with decreased stress, mitigated attention deficit disorders, better eyesight, less asthma and improved Body Mass Index (BMI).<sup>12, 13, 14, 15, 16</sup> People are happier in nature; sometimes just looking at nature can reduce stress.<sup>17, 18</sup> Exposure to green space has been linked with a positive effect on infant birth weight.<sup>19</sup> Evidence suggests residents of public housing cope better with major life issues when they're surrounded by trees instead of concrete.<sup>20</sup>

Despite ample research supporting the health benefits of time spent outdoors and in nature, children are spending half as much time outdoors as they did 20 years ago.<sup>21</sup> Childhood obesity has doubled over those same 20 years and has more than tripled over the past 30 years.<sup>22, 23</sup> Nearly one in every three American children is obese or overweight. In African-American and Latino communities, nearly 40 percent of children are obese or overweight.<sup>24</sup>

A lack of access to nutritious food choices is one major contributor to the epidemic.<sup>25</sup> Childhood obesity can lead to devastating diseases including heart disease, asthma and diabetes. It's also linked to less visible effects such as social discrimination and depression. Obesity isn't the only growing health problem facing American children. Kids are taking more antidepressants<sup>26</sup> than ever before, and one in every eight U.S. children is taking Ritalin for treatment of behavioral disorders such as Attention Deficit Hyperactivity Disorder (ADHD).<sup>27</sup>

The American Academy of Pediatrics (AAP) states that 60 minutes of daily unstructured free play is essential to children's physical and mental health.<sup>28</sup> An AAP study showed how play actually protects a child's emotional development; whereas a loss of free time for play leads to stress, anxiety and even depression in many children.<sup>29</sup> In another study, students who had access to natural areas at school engaged in physical activity ten times longer than those students who had limited access to nature at school.<sup>30</sup> Children with access to natural play areas are more active; they're also better able to relax. Young people can more easily find refuge from stress and develop resilience when they have a natural schoolyard to visit.

## **GREEN SCHOOLYARDS GET KIDS OUTSIDE AND MOVING**

Despite ample evidence linking physical activity with students' ability to focus and succeed in school, recess and physical education are no longer priorities in many schools. Test scores are. This is in part because education policies, most notably No Child Left Behind, hold teachers and school leaders accountable for test scores and also because funding formulas tie money with test results. As a result, up to 40 percent of U.S. school districts have either cut back or completely eliminated recess to make more time for academics.<sup>31</sup> One in four elementary schools no longer provides recess to all grades.<sup>32</sup>

Green schoolyards are most often used for recess, a vital time of the day valued by students and teachers alike for its cognitive, social, emotional and physical benefits. A definitive recess report from AAP shows that optimal cognitive processing only happens when students also have periods of unstructured interruption.<sup>33</sup> Other reports show what teachers know firsthand: Children behave better after recess.<sup>34</sup> Part of value of recess is that it provides time for children to be active. Children who are physically active are 20 percent more likely to earn an A in English or math.<sup>35</sup> Playing outside makes children more physically active than playing inside—it gives them more space and opportunities to run, skip, jump and play. Being outside has also been shown to make children more creative in their play, less aggressive and better able to concentrate.

Physical education (PE) is also on the decline. Seven in 10 parents say their child's school lacks daily physical education, although experts recommend one hour of PE daily.<sup>36</sup> PE has also been shown to improve academic performance.<sup>37</sup> Many green schoolyards have elements that support physical education, including turf fields and tracks.

After-school physical activity has also declined. In decades past, children would play outside in the neighborhood, street, yard or even in the alley after school. Today, kids between the ages of eight and 18 spend an average of seven hours and 38 minutes using entertainment media each day.<sup>38</sup> That's more than 53 hours a week. In that week, only six percent of children between the ages of nine and 13 play outside on their own at all.<sup>39</sup>

Green schoolyards offer a place for children to become more physically active at many points during the day. They are a place to play and be free during recess, a place to engage in physical education and a place to come before and after school to move even more.

## **GREEN SCHOOLYARDS EXTEND THE CLASSROOM**

Green schoolyards are a direct extension of the classroom in addition to positively influencing academic performance in many indirect ways. Green schoolyards are the perfect complement to STEM curriculum, providing a living laboratory where students can engage in hands-on multidisciplinary lessons. Outdoor classrooms and nature-based opportunities for education such as learning in gardens mean students participate in active and experiential learning, proven strategies that improve academic learning. This type of learning has been shown to give students tools they need for real-world success, motivate students and create self-directed learners.<sup>40, 41</sup> The opportunities to support STEM curriculum are almost limitless: examples include analyzing soil samples, growing gardens to learn about plant and water cycles, tracking rainfall or learning about watershed and stormwater management.

Going outside and experiencing nature exposes children to new and unique situations, gives them real-world problems to solve and helps restore their attention. It promotes more and better quality physical activity, reduces stress and tempers aggression. In addition, exposure to nature has a particularly strong link to improved academic performance among low-income children.<sup>42</sup>

Edible school gardens, which are often part of green schoolyards, teach students about nutrition from an early age. By showing students where their food comes from, introducing appreciation of fruits and vegetables and getting students involved in hands-on gardening programs, green schoolyards help support school nutrition. Children who might not otherwise be exposed to fruits and vegetables can learn about eating fruits and vegetables, and might also be more receptive to healthier school meal options. In this way, green schoolyards can support the USDA's new meal pattern, which requires schools to serve 1/2 to 3/4 cup of fruits and vegetables every day as part of a school lunch.<sup>43</sup>

When students spend time in nature, they reap benefits that transfer to the classroom on many levels. They get a break, they become active, they restore their attention and they're less stressed. Just looking at nature can improve test scores, too. One study showed that classrooms with larger windows and more views of trees also had students with higher standardized test scores, higher graduation rates, and a greater percentage of students planning to attend college.<sup>44</sup>

## GREEN SCHOOLYARDS ARE GOOD FOR COMMUNITIES

In 2011, urban populations grew more rapidly than populations in the suburbs.<sup>45</sup> It was the first time that had happened in nearly 100 years—and it hasn't let up since. As urbanization increases and the American norm moves away from rural life, open green space is becoming precious, rare and often inaccessible. Children from low-income families are feeling this most critically.

According to a report issued by The Trust for Public Land, "Only 30 percent of Los Angeles residents live within walking distance of a nearby park. Atlanta has no public green space larger than one-third of a square mile."<sup>46</sup> When it comes to park space, racial inequity plays a role, too. "In Los Angeles, white neighborhoods (where whites make up 75 percent or more of the residents) boast 31.8 acres of park space for every 1,000 people, compared with 1.7 acres in African-American neighborhoods and 0.6 acres in Latino neighborhoods," says the report.

For most poor children of color in urban America, there is neither open nor green space to explore. These children and their families often live in neighborhoods characterized by concrete sprawl, poor housing conditions, high traffic and industrialization. In these communities, we must do more than just conserve the little nature that remains. We must begin to create more.

The built inner-city environment not only lacks parks and green space but also experiences heightened crime that can limit access to what little space is available. Vacant and unused lots can become areas for criminal activity. In this context, some city schools lock their schoolyards after hours to prevent crime, also preventing children from playing there. One study showed that barren spaces are more crime-prone than parks landscaped with greenery and open vistas.<sup>47</sup>

Communities with green schoolyards can be friendlier, healthier and safer places for children and adults to live. A shared space in nature where people can sit, relax, play, exercise or gather with friends and family has immense benefits to the fabric of a community. It fosters social interaction and helps boost health and wellbeing. One study showed that increased time in nature actually makes people nicer.<sup>48</sup> Another study found that people who live in cities not only dislike, but also fear, treeless common spaces.<sup>49</sup> When trees and grasses were added to empty spaces, people's perceptions changed significantly. The study also showed that people who spent more time in green open spaces knew their neighbors better and had a greater sense of community as they spent more time in their common space. Most research in this area suggests that the greener a neighborhood space, the stronger the neighborhood ties, social cohesion and sense of community.

Green space also contributes to neighborhood safety. Extensive research conducted by Frances Kuo and William Sullivan from the University of Illinois at Urbana-Champaign suggests that violence is highest in urban settings devoid of trees and grass.<sup>50</sup> This team has shown that barren urban landscapes that do not have views of green space or natural settings are associated with negative social effects that include more illegal activity, aggression, property crime, loitering, graffiti and litter. A study of Philadelphia's Green Stormwater Infrastructure program, which has created green spaces in schoolyards and parks in some stressed Philadelphia neighborhoods, found significant reduction in certain crimes over a four-year follow-up period.<sup>51</sup>



From an urban planning perspective, one of the key benefits of green schoolyards is open space. Open space is a vital component of a healthy urban neighborhood, in large part because it can make a neighborhood significantly more walkable. When people live in a walkable neighborhood, they get about 35-45 more minutes of moderate intensity physical activity per week, helping to reduce the likelihood of obesity.<sup>52</sup> Open space is one of the key determinants of how active people in a neighborhood are in general. Additionally, open space increases nearby property values and provides fiscal benefits to municipal governments.<sup>53</sup>

## GREEN SCHOOLYARDS ENHANCE THE ENVIRONMENT

Urbanization and sprawl have an impact on the environment. One study concludes that by 2030, 10 percent of the globe will be covered with urban development.<sup>54</sup> That means higher rates of energy consumption, huge effects on biodiversity, dramatic ebbs and flows of rainfall and significant increases in carbon emissions, all connected to climate change.

Development has a significant impact on local water supply. A recent peer-reviewed study from the Natural Resources Defense Council (NRDC) found that drinking water in 19 U.S. cities is at risk due to pollution and deteriorating plumbing.<sup>55</sup> Most cities rely on water pipes and systems that date back to the early twentieth century. These systems weren't built to handle the population sizes of today, and it's essential that cities do all they can to conserve water, protect water quality and manage overflow.

As populations grow, water supply remains the same. Cities are challenged to come up with new ways to conserve their water supply. While the ongoing drought in California is the most drastic water shortage in the country, 36 cities were facing water shortages in 2013 and 40 of 50 states expect water shortages over the next 10 years.<sup>56</sup>

Green schoolyards bring natural surroundings and green space back to barren, urban landscapes. They also reduce pollution and flooding.<sup>57</sup> Many green schoolyards are designed to manage stormwater, conserve rainwater and contribute to cleaner drinking water. Native plantings help to support local wildlife. Tree cover provides necessary shade for schools and can help cool school buildings, leading to reduced energy needs. Trees also protect buildings and students from cold winds, helping to reduce energy needed for heat. Perhaps most importantly, green schoolyards and all of the opportunities they present for environmental stewardship help to nurture a generation of environmentally conscious adults.<sup>58</sup>

While each city and region faces different challenges and operates on a different scale when it comes to managing stormwater, schoolyards present a significant opportunity for changing the way stormwater is managed around the country. Urban runoff pollutes local waterways and can contribute to local flooding issues. Across the country, many schoolyards were once paved over with concrete and asphalt. Not only are these surfaces unsafe for play, they also ensure that rainwater and snow-melt rush straight to sewers and storm drains, picking up chemicals and litter along the way and often overwhelming aging infrastructure. By replacing these surfaces with green stormwater infrastructure, green schoolyards can help relieve local flooding issues and prevent pollution of local waterways.

Green infrastructure refers to systems that mimic natural processes to absorb and retain stormwater right where it falls. Green infrastructure uses the natural environment and engineered systems to capture rainwater and snowmelt, filter chemicals and contaminants, protect the water cycle, and provide many benefits for people and wildlife. Such methods include rain gardens, permeable pavements, vegetated swales and bioretention areas, green roofs, rain barrels, cisterns and rainwater harvesting systems, and tree planting.



Photo Credit: Tony Armour and Lisa Miller, courtesy of Openlands

- 11 Roemmich, J., Epstein, L., Raja, S., Yin, L., Robinson, J., & Winiewicz, D. (2006). Association of access to parks and recreational facilities with the physical activity of young children. *Preventative Medicine*, 43(6): 437441. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0091743506002829>
- 12 Lovasi, G., Quinn, J., Neckerman, K., Perzanowski, K., Rundle, A. (2008). Children living in areas with more street trees have lower prevalence of asthma. *Journal of Epidemiology and Community Health*, 62:647649. Retrieved from <http://jech.bmj.com/content/62/7/647.abstract>
- 13 Rose K., et al. (2008). Outdoor activity reduces the prevalence of myopia in children. *Ophthalmology*, 115(8): 12791285. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18294691>
- 14 Faber Taylor A., Kuo F., & Sullivan W. (2001). Coping with ADD: The surprising connection to green play settings. *Environment and Behavior*, 33(1):5477. AND Kuo F., & Faber Taylor, A. (2004). A potential natural treatment for AttentionDeficit/Hyperactivity Disorder: Evidence from a national study. *The American Journal of Public Health*, 94(9):158086.
- 15 [32] Wells, N., & Evans, G. (2003). Nearby Nature: A buffer of life stress among rural children. *Environment and Behavior*, 35(3):311330. Retrieved from <http://eab.sagepub.com/content/35/3/311.abstract>
- 16 Bell, J., Wilson, J., & Liu, G. (2008). Neighbourhood greenness and 2 year changes in body mass index of children and youth. *American Journal of Preventive Medicine*, 35(6):547533.
- 17 Pretty, J., Peacock, J., Sellens, M., & Griffin, M. (2005). The mental and physical health outcomes of green exercise. *International Journal of Environmental Health Research*, 15(5):31937.
- 18 University of Washington, College of the Environment. (2014). Green Cities: Good health. Retrieved from [http://depts.washington.edu/hhwb/Thm\\_StressPhysiology.html](http://depts.washington.edu/hhwb/Thm_StressPhysiology.html)
- 19 Donovan, G., Michael, Y., Butry, D., Sullivan, A., & Chase, J. (2011). Urban trees and the risk of poor birth outcomes. *Health Place*, 17(1): 3903. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21106432>
- 20 Kuo, F. (2001). Coping with poverty: Impacts of environment and attention in the inner city. *Environment and Behavior*, 33(1): 534. Retrieved from <http://eab.sagepub.com/content/33/1/5.abstract>
- 21 Juster, F., Ono, H., & Stafford, F. (2004). Changing times of American youth: 19812003. *Child Development Supplement*; Burdette, H., & Whitaker, R. (2005). Resurrecting free play in young children: Looking beyond fitness and fatness to attention, affiliation and affect. *Archives of Pediatric and Adolescent Medicine*, 159(1): 4650. Retrieved from <http://archpedi.jamanetwork.com/article.aspx?articleid=485902> AND Kuo, F., & Sullivan, W. (2001). Environment and crime in the inner city: Does vegetation reduce crime? *Environment & Behavior*, 33(3): 343367.

- 22 Centers for Disease Control and Prevention. (2008). Childhood obesity facts. U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/healthyschools/obesity/facts.htm>
- 23 Centers for Disease Control and Prevention. (2008). Childhood obesity facts. U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/healthyschools/obesity/facts.htm>
- 24 Let's Move Initiative. (2015). Learn the Facts. Retrieved from <http://www.letsmove.gov/learnfacts/epidemicchildhoodobesity>
- 25 Food Research and Action Center. (2015). Understanding the connections: Food insecurity and obesity. Retrieved from [http://frac.org/pdf/frac\\_brief\\_understanding\\_the\\_connections.pdf](http://frac.org/pdf/frac_brief_understanding_the_connections.pdf)
- 26 Delate, T., Gelenberg, A., Simmons, V., & Motheral, B. (2004). Trends in the use of antidepressant medications in a nationwide sample of commercially insured pediatric patients, 1998-2002. *Psychiatric Services*, 55(4):387391.
- 27 Delate, T., Gelenberg, A., Simmons, V., & Motheral, B. (2004). Trends in the use of antidepressant medications in a nationwide sample of commercially insured pediatric patients, 1998-2002. *Psychiatric Services*, 55(4):387391.
- 28 Ginsburg, K. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *American Academy of Pediatrics*, 119(1): 182191. Retrieved from <http://www2.aap.org/pressroom/playfinal.pdf>
- 29 Ginsburg, K. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *American Academy of Pediatrics*, 119(1): 182191. Retrieved from <http://www2.aap.org/pressroom/playfinal.pdf>
- 30 Bagot, K., Allen, F., & Toukhsati, S. (2015). Perceived restorativeness of children's school playground environments: Nature, playground features and play period experiences. *Journal of Environmental Psychology*, 41: 19. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0272494414001029>
- 31 Sofield, B. (2013). It's not child's play: The impact of SES and urbanicity on access to recess. New Brunswick: Brenda M. Tirabassi Sofield. Retrieved from <https://rucore.libraries.rutgers.edu/rutgerslib/40209/record>
- 32 McKenzie, T., & Kahan, D. (2008). Physical activity, public health, and elementary schools. *The Elementary School Journal*, 108(3): 171180..
- 33 Murray, R., & Ramstetter, C. (2013). The crucial role of recess in school. *American Academy of Pediatrics. Pediatrics*, 131(1). Retrieved from <http://pediatrics.aappublications.org/content/131/1/183.full>
- 34 Barros, R., Silver, E., & Stein, R. (2009). School recess and group classroom behavior. *Pediatrics*, 123(2), 431436.
- 35 Active Living Research. Infographic. Retrieved from [http://activelivingresearch.org/sites/default/files/ALR\\_Infographic\\_ActiveKidsLearnBetter\\_BetterGrades\\_Tile.jpg](http://activelivingresearch.org/sites/default/files/ALR_Infographic_ActiveKidsLearnBetter_BetterGrades_Tile.jpg)
- 36 Harvard T.H. Chan School of Public Health. (2013). Poll finds lack of physical education in school a concern of parents. Retrieved from <http://www.hsph.harvard.edu/news/pressreleases/lackofphysicaleducationinschoolsconcernsparents/>
- 37 Centers for Disease Control and Prevention. (2010). The association between school-based physical activity including physical education and academic performance. U.S. Department of Health and Human Services. Retrieved from: [http://www.cdc.gov/healthyyouth/health\\_and\\_academics/pdf/pape\\_paper.pdf](http://www.cdc.gov/healthyyouth/health_and_academics/pdf/pape_paper.pdf)
- 38 Kaiser Family Foundation. (2010). Generation M2: Media in the lives of 8 to 18 year olds. Retrieved from <http://kff.org/other/event/generationm2mediainthelivesof/>
- 39 Centers for Disease Control and Prevention. (2008). Retrieved from <https://www.nrpa.org/uploadedFiles/nrpa.org/Advocacy/ChildreninNature.pdf>
- 40 Ambrose, S., Bridges, W., DiPietro, M., Lovett, C., & Norman, K. (2010). *How learning works: 7 research-based principles for smart teaching*. San Francisco, CA: Jossey Bass. via <http://ctl.utexas.edu/teaching/engagement/experientiallearning/defined>
- 41 Linn, P., Howard, A., & Miller, E. (Eds). (2004). *The handbook for research in cooperative education and internships*. Mahwah, NJ: Lawrence Erlbaum Associates. via <http://ctl.utexas.edu/teaching/engagement/experientiallearning/defined>
- 42 American Institutes for Research. (2005). Effects of outdoor education programs for children in California. Retrieved from [http://www.air.org/sites/default/files/downloads/report/Outdoorschoolreport\\_0.pdf](http://www.air.org/sites/default/files/downloads/report/Outdoorschoolreport_0.pdf) AND National Wildlife Foundation. (2010). Back to school: Back outside. Retrieved from <http://www.nwf.org/pdf/Be%20Out%20There/Back%20to%20School%20Full%20report.pdf>
- 43 Food and Nutrition Service. (2015) Nutrition standards for school meals. U.S. Department of Agriculture. Retrieved from <http://www.fns.usda.gov/schoolmeals/nutritionstandardschoolmeals>
- 44 Matsuoka, R. (2008). High school landscapes and student performance. The University of Michigan. Retrieved from [http://deepblue.lib.umich.edu/bitstream/handle/2027.42/61641/rmatsuok\\_1.pdf](http://deepblue.lib.umich.edu/bitstream/handle/2027.42/61641/rmatsuok_1.pdf)
- 45 Gallagher, L. (2013). The end of the suburbs. *Time*. Retrieved from <http://ideas.time.com/2013/07/31/theendofthesuburbs/>
- 46 Sherer, P. (2006). *The benefits of parks: Why America needs more city parks and open space*. San Francisco: The Trust for Public Land. Retrieved from [http://www.eastshorepark.org/benefits\\_of\\_parks%20tpl.pdf](http://www.eastshorepark.org/benefits_of_parks%20tpl.pdf)
- 47 American Planning Association. (2015). How cities can use parks to create safer neighborhoods. Retrieved from <https://www.planning.org/cityparks/briefingpapers/saferneighborhoods.htm>
- 48 Weinstein, N., Przybylski, K., & Ryan, R. (2009). Can nature make us more caring? Effects of immersion in nature on intrinsic aspirations and generosity. *Personality and Social Psychology Bulletin*, 35: 13151329
- 49 Kuo, F., Sullivan, W., Coley, R., & Brunson, L. (1998). Fertile ground for community: Innerscity neighborhood common spaces. *American Journal of Community Psychology*, 26(6):823851. Retrieved from <http://illinoisonline.org/krassa/ps450/Readings/Kuo%20Fertile%20Ground%20Innerscity%20Common%20Space.pdf>
- 50 Yates, D. (2009). The science suggests access to nature is essential to human health. Illinois News Bureau. Retrieved from <http://www.news.illinois.edu/news/09/0213nature.html>
- 51 Kondo, M., Low, S., Henning, J., & Branas, C. (2015). The impact of green stormwater infrastructure installation on surrounding health and safety. *American Journal of Public Health*. 105(3). Retrieved from [http://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs\\_2015\\_kondo\\_001.pdf](http://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs_2015_kondo_001.pdf)
- 52 Sallis, J., et al. (2009). Neighborhood built environment and income: Examining multiple health outcomes. *Social Science & Medicine*, 68: 12851293. Retrieved from <http://depts.washington.edu/epidem/Epi583/Sallis%20NQLS.pdf>
- 53 AmericanTrails.org. (2015). The economic benefits of trails. Retrieved from <http://www.americantrails.org/resources/economics/EconomicBenefitsTrailsOpenSpaceWalkableCommunity.html>
- 54 Seto, K., Guneralp, B., & Hutya, L. (2012). Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. *PNAS*. Retrieved from <http://www.pnas.org/content/109/40/16083.abstract>
- 55 Natural Resources Defense Council. (2015). Study finds safety of drinking water in U.S. cities at risk. Retrieved from <http://www.nrdc.org/water/drinking/uscities.asp>
- 56 U.S. Government Accountability Office. (2014). Freshwater: Supply concerns continue and uncertainties complicate planning. Retrieved from <http://www.gao.gov/assets/670/663344.pdf>
- 57 Openlands. (2014). Openlands Study: Gardens reduce flooding and pollution. Retrieved from <http://www.openlands.org/openlandsstudygardensreducefloodingandpollution>
- 58 Wells, N., & Lekies, K. (2006). Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism. *Children, Youth and Environments* 16(1): 124. Retrieved from <http://www.outdoorfoundation.org/pdf/NatureAndTheLifeCourse.pdf>



# NATIONAL GREEN SCHOOLYARDS SUMMIT

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In May 2015, 60 leaders met in Chicago for the National Green Schoolyards Summit, a two-day conference organized to place the green schoolyard movement in a broader context and galvanize the work that cities, schools and advocates are doing all over the country to bring better outdoor spaces to their communities. The summit was co-hosted by Healthy Schools Campaign and Openlands with partnership from the Children & Nature Network. The summit was supported by the W.K. Kellogg Foundation and Grantmakers In Health.

The summit brought together advocates and experts in the green schoolyards movement from across the nation. Attendees heard innovative green schoolyard success stories from Houston, New York City, Philadelphia, San Francisco, Chicago and other cities. Government agencies including the U.S. Environmental Protection Agency (EPA), the U.S. Department of Education and public utilities shared their expertise and identified potential resources and funding strategies to support this work. Researchers, economists and scientists shared their latest findings. Philanthropic leaders spoke about their support for green schoolyards and the multidisciplinary research that makes the case for these projects while policy experts weighed in on specific tactics to gain support and create momentum for the development of green schoolyards. Sessions on effective models, funding streams, evaluation and movement-building engaged audiences and sparked a rich dialogue that carried through the entire summit.

Keynote speaker Dr. Gail C. Christopher, vice president for policy and senior advisor at the W.K. Kellogg Foundation, delivered an address that set an optimistic yet urgent tone for the summit and emphasized how green schoolyards can bring value to the lives of children, families and communities. Dr. Christopher remarked: “It seems almost like a no-brainer. Why wouldn’t you take all this land and make it green, enhance it and make it better for children, their families and communities?”

Dr. Christopher used the Centers for Disease Control and Prevention’s **Adverse Childhood Experiences (ACE) Study**, which connects chronic disease and premature death with childhood adversity, to frame the case for green schoolyards. She emphasized how green schoolyards can mitigate exposure to adversity in poor urban environments.

Margaret Lamar, director of strategic partnerships with the Children & Nature Network, described a “listening tour” she conducted that gathered valuable feedback and observations from community members, students and parents who benefited from green schoolyards. the Children & Nature Network recently released a report, **Building a National Movement for Green Schoolyards in Every Community**, based on the findings from this tour. The report highlights research, promising programs and practices across the U.S. and includes a framework for action for creating green schoolyards throughout the country.

With exciting schoolyard projects taking place in cities across the country, this national conversation was an important step in helping this valuable work become a national priority. The discussions, conclusions, questions and answers that were raised during the summit have helped to inform this report.



(ABOVE & BELOW)  
Photo Credit: Tony Armour and Lisa Miller, courtesy of Openlands







# CASE STUDIES

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This section of the report examines green schoolyard programs in six cities across the country. These programs are in varying stages of completion; some are in early pilot phases while others have been successfully building green schoolyards since the 1990s. Key stakeholders from each program were interviewed to assemble a full picture of each program, from start to finish. A review of these programs shows common themes: diverse partnerships, funding mechanisms from multiple sectors, careful leveraging of existing policy and documented evaluations that build a case for green schoolyards.

These stories, and the themes that emerge from them, can be used to advocate for new green schoolyard projects or anticipate and successfully navigate challenges. The case studies provided here examine the important factors that helped these programs achieve success. Based on these case studies, the important factors to take into consideration when planning a green schoolyard project include identifying diverse partners, finding ways to fund the project through these partnerships, exploring existing policy considerations that can help the cause and evaluating projects carefully to gather information that can win support and grow the project. These factors are further explored in the Partnership & Funding Strategies section.

## **DIVERSE PARTNERSHIPS & FUNDING STREAMS**

The diverse array of organizations that stand to benefit from green schoolyards is key to their success. Green schoolyard projects provide the opportunity to build partnerships in unlikely places, such as with public utilities in New York, Philadelphia and Chicago, neighborhood organizations in Newark and a university in Denver.

The programs in these case studies don't rely on one key partner, but rather diversify their partnerships and funding sources. Each program has multiple partners, with varying levels of involvement and funding commitments from each. Part of that is necessity: the programs are costly and schools need the help. Yet diversification has proven to be a valuable asset that helps assure project completion. Multiple funding mechanisms and diverse partners have helped the programs in these studies to remain flexible, achieve multiple goals, realize a myriad of benefits, and keep stakeholders vested in the process and end-product.

## LEVERAGING POLICY

Policy plays a vital role in moving change. When it comes to green schoolyards, policy at the district, state and even federal level can be used to greenlight, fund and grow equitable green schoolyard projects. For example, in Chicago's more middle-class communities, parents have been able to leverage resources to rebuild schoolyards. However, in low-income communities, public dollars and advocacy were needed to make sure that a similar investment was made.

In Chicago, the school district's adoption of policies that reinstated recess and daily physical education was central to their interest in redeveloping their schoolyards. In Chicago and Philadelphia, compliance with the Clean Water Act requires local water agencies to invest in green stormwater infrastructure in addition to more traditional infrastructure like tunnels, sewers and reservoirs, and schoolyards presented a unique opportunity. Most of the programs detailed in these studies have utilized shared use agreements to partner with city government, parks and recreation departments and other community influencers to fund, design and construct their schoolyards. The program in San Francisco was able to work with the school board and state government to earmark funding for facility upgrades that benefited green schoolyards.

## DOCUMENTING IMPACT TO WIN SUPPORT

These case studies distill anecdotal information from school stakeholders into common stories of impact that include better behavior on the playground, happier students and more engaged community members. Whenever possible, programs have documented this impact in formal evaluations conducted by third parties. These evaluations have been instrumental in communicating the benefits of green schoolyards and building support. In fact, once green schoolyard projects get off the ground, the support from local communities, school stakeholders and even government officials is resoundingly supportive. In San Francisco and Denver, public support translated to voter-approved bond measures that funded the program. In Denver and New York, the completion of green schoolyards caused a clamor for more green schoolyards among nearby residents.



(ABOVE & BELOW)  
Photo Credit: Allison Williams, courtesy of Space to Grow





Photo Credit: The Trust for Public Land

# THE TRUST FOR PUBLIC LAND

*New York, New York; Newark, New Jersey and Philadelphia, Pennsylvania*

The Trust for Public Land (TPL) is a national nonprofit organization whose programs focus on connecting people to nature through land conservation and creating parks and playgrounds in urban areas. Today, more than 10,000,000 people live within a 10-minute walk to a TPL park or conserved area. The Parks for People initiative of TPL works in cities across the U.S. to ensure that everyone—in particular every child—enjoys close-to-home access to a park, playground or natural area. Among its many projects are green schoolyard initiatives in major cities including New York City, Newark and Philadelphia. The Trust for Public Land schoolyards include playground equipment, athletic areas, outdoor classrooms, art and gardening areas.

Participatory design is a signature of all of TPL's green schoolyard projects. Skilled staff members and landscape architects facilitate a process that includes students, school staff, and community representatives. The process is described as both educational and rewarding and helps establish a community investment in the new parks and playgrounds. The New York, Newark and Philadelphia schoolyard programs are built on this vision, but vary in their management and specific goals. All three programs keep their schoolyards open to the public after school hours and on the weekends.

TPL's NYC Playgrounds Program was launched in 1996 and has already transformed 185 schoolyards from asphalt lots into green schoolyards featuring trees, gardens, updated play equipment, outdoor classrooms and unique design elements contributed by students.

TPL launched Parks for People-Newark in 1995 and has since transformed seven school playgrounds as part of a \$16.8 million citywide initiative to create and renovate parks throughout Newark and to mobilize plans for developing a waterfront park on the Passaic River.

TPL's Parks for People-Philadelphia program was launched in 2012 and has completed two schoolyard renovations. Three more Philadelphia schools are in design development and will be completed in 2016.

## THE NEED

New York City, Philadelphia and Newark face an imminent need for better park space, safer places to play and improved quality of life. The underserved populations in these three cities have limited access to quality green space and face safety concerns. Schoolyards and other public facilities provide opportunities for improving quality of life through connection to nature in underserved communities.

New York and Philadelphia have embraced the use of green infrastructure to manage stormwater, which has helped leverage funding toward the schoolyard transformations. Philadelphia has a mandate from the EPA to use green infrastructure as part of a comprehensive solution to

managing stormwater, and asphalt playlots and schoolyards present a huge opportunity for doing this in highly urbanized areas. In 2010, New York began implementing the NYC Green Infrastructure Plan: A Sustainable Strategy for Clean Water. This plan identified several goals for reducing combined sewer overflows, including capturing rainfall from 10 percent of impervious surface using green infrastructure.

In Newark, crime is a harsh reality. In 2007, three teens were shot and killed on the cracked asphalt playground at the Mt. Vernon Elementary schoolyard. This tragedy served as a devastating reminder of the dangers presented by the city's untended schoolyards. The schoolyard at Mt. Vernon was later transformed by the Parks for People Program.

In Philadelphia, schools face significant funding challenges and overcrowding. In 2013, 24 Philadelphia schools, most within vulnerable neighborhoods, were shuttered in response to a \$304 million budget shortfall. The students from these schools were moved into schools with open seats. The changing educational environment, combined with under-resourced teachers and staff, contributed to an increase in the number of behavior incidents both within the school and the schoolyard. These schoolyards offer only blank asphalt with few or no amenities to support active and positive use. The Parks for People program is targeting these asphalt landscapes as sites of opportunity to improve quality of life for students and the community.

## **PARTNERS**

TPL is able to leverage unique partnerships to help guide its green schoolyard projects. The varying functions of different partners from city to city highlight TPL's adaptability and the need for an open mind and evolving partnership expectations when developing green schoolyard projects. In all cities, the local community is included in all phases of design and construction and recognized as a key stakeholder.

The TPL program in New York City has a formal partnership with the New York Department of Education (which runs the city's public school system), New York City Council and The New York City Department of Environmental Protection (the water department). In Philadelphia, TPL, the Philadelphia School District and Philadelphia Water Department forged a formal partnership. In both cities, the water department's interest is to use these new schoolyards to help manage stormwater.

In Newark, partnerships are more fluid. There is no set agreement with a public utility or department in the local government for building green schoolyards in the city schools. Newark Public Schools is not in a position to contribute funding directly although the district is an active partner in fundraising, planning, construction and maintenance of the schoolyards. In the absence of formalized partnerships, TPL has leveraged unique neighborhood partnerships to fund, build and promote the Newark schoolyard projects. For example, Newark's first schoolyard in the city's east ward was built in partnership with the local church, St. Columba Catholic Church in the 1990s, which had a vested interest in building a better playground next to its school. Today, the church is closed but the playground is now owned by a community development organization, La Casa de Don Pedro, and the school is now a charter school. More recently, TPL partnered with

Ahavas Sholom synagogue to renovate the playground at Sussex Avenue Renew School, which was completed in 2014.

## FUNDING

The funding formula varies greatly for each of the cities. However, they all rely heavily on philanthropy and dedicated fundraising from TPL. The program in Philadelphia benefits from a consent order with the Commonwealth of Pennsylvania and a partnership agreement with the EPA that allocates a \$1 billion investment in green infrastructure methods to help address stormwater and sewer overflows. New York City has been successful in part because of capital funds that came from PlaNYC 2030, an initiative by Mayor Michael Bloomberg that promised to make New York City more livable by 2030, with more green spaces and expanded access to parks. Each New York schoolyard project costs more than \$1 million, with costs split among the city council, the New York City Department of Environmental Protection, the New York City Department of Education and TPL.

Half of the funding for the Philadelphia schoolyards comes from public sources and the other half is provided by TPL. As discussed above, a consent order requires the Philadelphia Water Department to invest in green infrastructure. The Water Department contributes \$100,000 per green acre of runoff water managed at the schoolyards toward the green infrastructures installed in schoolyard projects.

The funding resources for the green schoolyards in Newark can change depending on the project. Once a project begins, TPL begins raising money for the project. Much of this money comes from public grants such as the New Jersey State Department of Environmental Protection's Green Acres program or from the Community Development Block Grant Program run by the U.S. Department of Housing and Urban Development and managed by the city of Newark.

## IMPACT AND EVALUATION

The three cities have experienced positive social impact in the communities and schools where they built green schoolyards. Harlem has seen a marked decrease in tardiness because students want to come to school early and play on the playground before school. In Brooklyn, a parent group stays after drop-off to walk around the track, getting exercise and deepening their connections to each other and the school.

At William Dick Elementary School in Philadelphia, the principal has noticed a dramatic reduction in the level of behavior incidents that need to be reported on the playground since the renovation. This is worth noting because William Dick is a receiver school that has seen its student population almost double since the school closings of 2013.

The true impact of the new schoolyards is a matter of supporting students, said Scott Dvorak, the Parks for People-Newark Program Director. "The green schoolyards we have built show a commitment to the students," said Dvorak. "It shows that people care about them. We hear from teachers that the students really deserve this. We want the students to know they do deserve this playground."

Formal evaluations also document the impact in New York City and Philadelphia. TPL conducted an evaluation with ActKnowledge, studying three playgrounds before and after construction over a two-year period. The results showed a significant increase in community use. The study also showed an increase in activity levels for girls during the school day related to the increase in opportunities for unstructured uses on the schoolyard. A higher proportion of girls than boys engage in unstructured activities in areas like stages, ping pong tables and volleyball nets, which were created in response to students' ideas during design. TPL is currently raising funds for a second, wider evaluation of ten sites in New York City.

The Parks for People-Philadelphia program is currently evaluating its participatory design process with pro-bono support from the University of Pennsylvania's Urban Health Lab. The objective is to determine if the participatory design process helped students with self-assurance and other classroom skills.

## NEXT STEPS

The green schoolyards programs in these three cities are forging ahead at different paces. This is due to varying degrees of public partnerships and funding. The existing green schoolyards in all three cities continue to be supported by TPL.

TPL's New York City program recently announced a partnership with the city to build 40 playgrounds with green infrastructure elements. Eight have already been built, two are currently in construction and 13 are in various stages of design. The Parks for People-Newark program is currently planning on redeveloping the playground at Lafayette Street Elementary School in Newark's Ironbound neighborhood in the east ward. The space has been used as a parking lot until recently. The Parks for People-Philadelphia program is currently preparing lessons learned from its pilot program. The goal is to learn from the initial work and expand beyond the current 10 sites.

## WHAT WAS INNOVATIVE?

For all TPL green schoolyard projects, the participatory design process is a well-structured and instrumental innovative strategy. The results themselves are the best testament to the programs' innovation. In New York City, schoolyards in Harlem now have hair braiding areas with seating for two people where one seat is a fraction higher than the other. This was a direct response to student input during the participatory design process.

In New York City, representatives of TPL come into the classroom regularly for three months for the design process. The students and teachers become comfortable with the team and this opens up a welcoming environment where they can share their ideas. TPL orchestrates a field trip to a completed project to ignite creativity among students. Part of the design process includes student sketches, which are painted on the ground of the new schoolyard so that many ideas and perspectives are incorporated in the finished project.



In Philadelphia, the participatory design process is part of a 14-week curriculum that is similar to the process in New York City. This process includes instruction on the stormwater management issues that tie into the district's STEM curriculum. TPL hosts a field trip to Philadelphia's Fairmount Water Works Interpretive Center, an interactive exhibit about the city's watershed, and brings the students to a green playground so they can experiment with different types of play equipment and observe stormwater management in action.

The process in Newark is less structured but still inclusive. Once TPL has a commitment for a project, they work with the school itself to build a strong partnership with the principal, then engage other teachers, targeting art and physical education teachers. A steering committee is then developed that includes community members and neighborhood organizations with an attachment to the school.





# LEARNING LANDSCAPES

## *Denver, Colorado*

Denver now has 96 green schoolyards where it once had 96 barren lots. Through shared use agreements, each green schoolyard in the city serves as a multi-generational play space for the schoolchildren and the community. These schoolyards, also known as Learning Landscapes, are used to grow plants for classroom instruction, accommodate neighbors and most importantly, provide places where children play.

The Learning Landscapes program unofficially started in 1992 at Bromwell Elementary school. Shocked by the inadequate playground there, Lois Brink (whose daughter attended Bromwell) and a team of parents and advocates were motivated to raise funds and build a new one. Brink used her expertise in landscape architecture and access to the resources and students at the University of Colorado Denver, where she is a professor of landscape architecture, to help redesign Bromwell's schoolyard. This resulted in greater awareness of the dilapidated state of schoolyards throughout Denver.

In 1998, Brink officially founded Learning Landscapes in partnership with Denver Public Schools (DPS). By engaging stakeholders and key public officials early on, the program gained widespread support and secured funding in excess of \$40 million. Within 15 years, the city had almost 100 new green schoolyards where fifth grade boys were queuing up to swing, rather than fighting for a turn, at schools where teachers were gaining an extra 20 minutes of focused classroom time each day as a result of more enriching recess.

## THE NEED

In Denver in the 1990s, school playgrounds were mostly rundown asphalt areas with outdated or unsafe play equipment, if they had play equipment at all. Most playgrounds featured vast stretches of barren space filled with pea gravel. Virtually no grass grew at any playground in the city. These playgrounds didn't meet ADA requirements and provided no protective shade in a town where skin cancer rates are among the highest in the nation.

## THE VISION

Learning Landscapes schoolyards employ an holistic approach. "We have always believed that children love nature, but they also love play equipment," said Brink. These are multi-generational spaces that function under joint-use agreements so that they stay open for community members to enjoy after hours and on the weekends. Each Learning Landscapes schoolyard serves functionality but also provides an aesthetically pleasing focal point for the neighborhood.

While individual communities chose the specific components of their schoolyards, the Learning Landscapes schoolyards share common components as well. To highlight their service to both the school and the community, all Learning Landscapes schoolyards feature a welcoming gateway. Each schoolyard is made up of participatory landscapes that support outdoor learning

as well as play and exercise. They also include natural habitats, shaded areas, age-appropriate play equipment and asphalt spaces for basketball. Boulders are a staple in Learning Landscapes schoolyards. They can be used as a natural form of play equipment, for seating in an outdoor classroom, or as a place for community members to convene or relax. In keeping with Denver's natural environment, Learning Landscapes schoolyards are home to prairie grasses and views of the big, blue Colorado sky. Even though trees are not very common in natural Denver landscapes, they serve an important purpose in Learning Landscapes schoolyards by providing protection from the sun and shading buildings to contribute to energy efficiency.

## THE PARTNERSHIP

The first Learning Landscapes schoolyard was built in a relatively well-off neighborhood. From there, Learning Landscapes schoolyards were scaled to 22 schools in the poorest neighborhoods in Denver. The Learning Landscapes Alliance, a public-private partnership that combined grassroots motivation with the involvement of key influencers, was instrumental in this process. This organization received significant political support and the attention of Denver's Office of Economic Development, which had dedicated funds to the Focus Neighborhood Initiative.

From the very beginning, Lois Brink and her team of students worked closely with DPS and school boards. The process of developing each Learning Landscapes schoolyard was a true community undertaking. School neighbors were involved from the early design phases straight through the build. Support and engagement from citizens grew by word of mouth and through grassroots publicity among neighborhoods. Soon, public demand for Learning Landscapes schoolyards was high, which helped drive the program's success.

When the DPS school board successfully passed a bond measure to fund even more schools in 2003, the Learning Landscapes Alliance dissolved. Learning Landscapes became a program at the University of Colorado Denver's Department of Landscape Architecture in partnership with DPS. A year-round service learning curriculum at the university enlisted graduate students to design and build Learning Landscapes schoolyards. The university has played a critical role in engaging communities through service learning, designing innovative spaces with student involvement and evaluating these spaces to help propel green schoolyards at the national level.

## FUNDING

Funding for Learning Landscapes came from a range of people, private corporations, nonprofits and government agencies. From a school principal who gave \$10,000 of her own money to local businesses that hosted fundraisers to grants from philanthropic foundations, contributors were diverse.

Key funding sources included state grants that required shared use agreements. A sizable grant from the Robert Wood Johnson Foundation helped fund evaluation of how these schoolyards affect play. The Bill & Melinda Gates Foundation invested \$1.2 million in Learning Landscapes in Denver. That grant and significant public buy-in and demand served as the impetus for two bond measures proposed by the Denver Public School Board, one in 2003 and one in 2008, that funded \$39 million to expand Learning Landscapes to every schoolyard in Denver.

Each school was required to fund one to two percent of the cost of the schoolyard through parent donations, school fundraisers, cold calls to local businesses, local press appeals and in-kind donations for materials. One of the keys to Denver's successful grassroots fundraising was direct beneficiary advocacy. The children themselves made the case for the project. Students wrote to their local politicians about their playground woes. Their testimonials included stories of broken monkey bars, rusty swings and metal slides that were scorching hot. At one school board meeting, students showed up with a wheelbarrow full of change to showcase their own fundraising and inspire officials.

## IMPACT AND EVALUATION

In qualitative surveys, principals, teachers, students and members of the community have reported that the playgrounds are getting more use, that children are more active and that the spaces have become a source of community pride. Of teachers surveyed, 80 percent agreed that students were more physically active during recess as a result of the Learning Landscapes schoolyards. Meanwhile, parents agreed that the new playgrounds increased their pride in their schools and instilled a stronger sense of community identity.

The Learning Landscapes schoolyards have been the subject of several studies that look at everything from graffiti levels to wellness. One evaluation looked specifically at the effects of Learning Landscapes schoolyards on physical activity in children. The resulting data strongly suggests that schools with a renovated playground have higher physical activity levels. This is crucial documentation that can help drive schoolyard transformations across the nation.

The involvement of graduate students at the University of Colorado Denver has contributed significantly to evaluation. One qualitative research methods course examined behavior on the Learning Landscapes schoolyards and found an increase in more democratic social interactions based on responsibility and equality. Correspondingly, the research found less direct supervision was needed. This data can be shared with programs in cities across the nation to help gain support and funding to transform schoolyards. These evaluations have been compiled and can be found on the [Learning Landscapes website](#).

## NEXT STEPS

Since 2012, the capital improvements in Denver have been complete. As the schoolyards are evaluated, new programs emerge. For example, informal reports have shown that the DPS schools with vegetable gardens experience less vandalism and more school and community involvement. Now vegetable gardens are being built into existing Learning Landscapes schoolyards through partners such as Slow Food Denver and The Kitchen Community. Some schools introduced a farm to table program where students are able to grow produce and sell it to their school cafeterias.

When Learning Landscapes started, part of the plan was to integrate schoolyards with curriculum. The next phase of the project will be to develop this plan closely with DPS. Friends of Learning Landscapes is a future project that will look to raise community awareness and make the process of community engagement more seamless. DPS is also developing online resources and videos to help schools maintain their schoolyards.

## WHAT WAS INNOVATIVE?

The scalability of the Learning Landscapes project in Denver required an innovative approach to collaboration. Learning Landscapes schoolyards were successfully implemented in a diverse range of elementary schools across the city of Denver, including wealthy and low-income schools, schools in industrial areas and schools located closer to suburban areas. The key to this wide-ranging success lay partially in a collective impact approach that encouraged community members to take ownership of their schoolyards.

The involvement of the university is a significant component of Denver's success. In addition to the opportunity for evaluation, the involvement of the university contributes creative capital. "Their [the students'] involvement helps to advance the discipline and the green schoolyards movement because these engaged student thinkers will eventually become urban planners, landscape architects and designers who have been involved in a significant project," said Brink. The hope is that they will take this meaningful work with them beyond graduation.





(LEFT, ABOVE & BELOW)  
Photo Credit: Learning Landscapes





# SAN FRANCISCO UNIFIED SCHOOL DISTRICT

## *San Francisco, California*

As you enter the school grounds of Tule Elk Park School off of a bustling street in San Francisco, you find 20,000 feet of outdoor learning opportunities, including a grove of trees, a butterfly habitat, native plants, a vegetable garden and a grassy amphitheater. There's a seven-foot peace pole made by the school community, a contemplation garden, plenty of spaces for digging and handwritten signs in the vegetable garden.

In the 1990s, the school was surrounded by edge-to-edge asphalt. A new principal, Lynne Juarez, decided this was inappropriate for young children. Juarez engaged Tule Elk Park School neighbors to develop a fundraising campaign that yielded \$400,000 from grants and philanthropists. (While the school serves primarily low-income children, it is located in an affluent neighborhood.)

Completed in 1997, the gardens at Tule Elk Park School marked a radical shift in thinking about schoolyards in San Francisco. Seeing how transformational the schoolyard project was, the school district, city government and greater community took action to replicate that success across the city. To date, San Francisco Unified School District (SFUSD) has greened 70 of its schoolyards, with 25 yet to be completed. Millions of dollars in bonds have helped fund these projects and from them have grown innovative educational programming and statewide recognition that's putting SFUSD on track to becoming one of the greenest districts in the country.

## THE VISION

The mission of the green schoolyard and garden project within SFUSD is to “inspire and enable communities across San Francisco to enrich their school grounds and use them to improve children’s wellbeing, learning and play while promoting community engagement and contributing to the ecological health and resilience of the city.”<sup>59</sup> The partners, through Education Outside (formerly the San Francisco Green Schoolyard Alliance), share a vision to transform all San Francisco schoolyards into school gardens that double as living laboratories that support a standards-based curriculum.

## THE NEED

Because of civic policies dating back to the 1950s and '60s, San Francisco’s schoolyards were once composed mostly of asphalt. Most of these schoolyards contained a metal basketball hoop and perhaps some lines for foursquare. “There was no place to touch a leaf, or see a flower bloom,” said Rachel Fudge, Education Outside’s Director of Communications. “The blacktop had no shade structures, and the playgrounds were hot and hostile places for kids.” The asphalt amplified the heat island effect and was generally unsafe for play.

As playgrounds and facilities were rundown, the classrooms were suffering, too. California has consistently ranked in the bottom 10 states for education funding. The combination of limited funding and existing policy meant that schools throughout the state were struggling to make room for “extras” like art, PE and even science.

## THE PARTNERSHIP

The green schoolyard and school garden program in SFUSD is a collaboration among a long list of dedicated groups and individuals. The early champions of the program formed a grassroots coalition that was then called the San Francisco Green Schoolyard Alliance. (It is now called Education Outside.) The Alliance led a successful campaign to secure funding so SFUSD could design and construct green schoolyards at all of its elementary schools. Seventy public schools throughout SFUSD have been renovated to date. The 23 members of the Alliance included nonprofits, city agencies and individuals such as Sharon Danks, CEO of Green Schoolyards America. Early, key support also came from Occidental Arts and Ecology Center, based an hour north of San Francisco, which trained teams from dozens of schools in San Francisco over the last decade.

The green schoolyard renovation program in San Francisco is unique because it has always been implemented and overseen by the district itself. In the early days, the San Francisco Green Schoolyard Alliance helped consult with schools on how to develop their green schoolyards, ensuring an inclusive design and planning process. Now, Education Outside’s focus has shifted from schoolyard renovation to helping schools incorporate their new gardens and green schoolyards into the curriculum. Education Outside raises resources for and then trains and manages elementary school instructors for a two-year term of service during which they become teachers in outdoor classrooms and lead sustainability efforts in schools. Education Outside’s service corps currently serves 37 elementary schools, with more being added every year.

Public utilities are also becoming important partners in San Francisco’s green schoolyard projects, with the San Francisco Public Utilities Commission starting to invest in stormwater management and education projects at schools.

“This work in San Francisco is also part of a wider, deeper regional and statewide movement to improve school grounds,” said Green Schoolyards America’s CEO, Sharon Danks. “The progress we see locally today rests on the excellent foundation laid by hundreds of organizations across the state over the last twenty years. The ‘Garden in Every School’ movement was one key building block that helped these later efforts succeed.” Launched in 1995 by Delaine Eastin, then California State Superintendent of Public Instruction, and chef Alice Waters, the Garden in Every School program encouraged all schools in California to have a garden and take kids outside for academic instruction. The work in San Francisco and across the state has also succeeded, participants say, in part because it’s part of a wider regional society that values agriculture, high quality local food, and environmental sustainability.

## FUNDING

SFUSD's Proposition A Bond Program has contributed significantly to the schoolyard renovations. The program comprises three local bonds passed by San Francisco voters in 2003, 2006 and 2011. These are facilities bonds intended to modernize school buildings, upgrade safety features and install fire and life safety improvements, with high priority placed on bringing SFUSD school sites into compliance with the Americans with Disabilities Act (ADA). The Green Schoolyard Alliance members and organizations advocated for approximately \$14 million of that money to be used for schoolyard greening. Through these bonds, each elementary school receives \$150,000 to green its schoolyard, and some middle and high school projects have also been funded.

The San Francisco Public Utilities Commission has begun investing in these schoolyards, including supporting rainwater harvesting cisterns at schools and giving community action grants to plant gardens and trees and to remove asphalt. The Commission is also thinking outside of infrastructure and investing in education, and has both partnered with and awarded grants to Education Outside's efforts to teach in the gardens. The Commission sees the value in Education Outside's lesson plans, which focus on earth and life sciences and incorporate sustainability, including the watershed, composting and energy reduction. "They are truly community minded," said Danks. "And it also makes a lot of sense to invest in educating future energy and water users."

A few generous philanthropic foundations and smaller individual donors have contributed to Education Outside's programming (which does not contribute to the schoolyard infrastructure). Money is also collected from schools that want to participate in Education Outside's program. Each school pays a site fee that is calculated based on the school's percentage of students eligible for free and reduced lunch; this serves as a significant funding source for Education Outside.

## IMPACT AND EVALUATION

Education Outside's direct programming began with just four service members at four schools in 2011. Today, 37 schools participate, directly reaching over 14,000 students—more than half the elementary students in the SFUSD. A few schools run smaller-scale garden education programs using part-time teachers. Still other schools work with small nonprofits including Community Grows and Urban Sprouts to support their green schoolyards with educational programming.

"Principals are seeing a transformation in their school communities," said Fudge. "Gardens are being brought to life." According to Fudge, kids who never used to like to eat vegetables now want to make kale smoothies at home, and those who were afraid of getting dirty are coming home covered in mud.

Education Outside is currently working with the University of California Berkeley's Lawrence Hall of Science to begin the process of measuring students' science activation and environmental literacy. The evaluation also aims to measure student connection to the natural world.

## NEXT STEPS

Just last year, San Francisco's State Assembly member Phil Ting passed a state resolution (ACR128) to support green schoolyards. The resolution designates May as Living Schoolyards Month in California, and urges all school districts across the state "to prioritize the design and construction of student-accessible green space on school campuses and to integrate use of this space into the teaching of standards-based curriculum."<sup>60</sup> The text of the resolution recognizes the value of green schoolyards for student activity levels and development as well as for the environment. In honor of this resolution and through supporter Sharon Danks' involvement, Green Schoolyards America created and published a schoolyard activity guide, with written contributions from more than 40 organizations around the state. The Living Schoolyard Month Activity Guide encourages schools to take their students outside for academic lessons of all types, and to engage them in a wider range of recreational opportunities, art and music projects, while welcoming the community to use these shared public lands. The [Activity Guide](#) can be downloaded for free online.

Those who are leading the green schoolyard movement in San Francisco hope that SFUSD's success, along with the Living Schoolyard Month resolution, will help them create a living schoolyard network in California. They would like to see even more legislation that supports the greening of schoolyards across the state so that the government can contribute funding in addition to its support.

## WHAT WAS INNOVATIVE?

One of the most innovative aspects of the green schoolyards movement in San Francisco is the continued involvement of Education Outside. This program's ability to adapt according to what the city needs in order to foster its green schoolyards program has been notable. Early advocates quickly identified that schools needed a dedicated staff person to coordinate the educational programming and ground maintenance in order to keep the schoolyards relevant and the community and schools engaged. That's where the Education Outside service corps idea was born.

It is also a testament to the effectiveness of the program that it has been able to continue growing after the shift in its advocates' focus. The school district is able to continue planning, designing and building new schoolyards on its own. As Sharon Danks puts it: "In San Francisco, the really innovative thing was thinking big, and beyond one school or community and finding a way to institutionalize the effort."



(ABOVE & BELOW)  
Photo Credit: Paige Green, courtesy of Education Outside





Photo Credit: Space to Grow

# SPACE TO GROW: GREENING CHICAGO SCHOOLYARDS

## *Chicago, Illinois*

At Donald J. Morrill Math & Science Elementary School in southwest Chicago, the schoolyard includes a large turf field, a jogging track, two half-court basketball courts, safe and sturdy play equipment, life-sized checker and chess boards, two outdoor classrooms, rain gardens with native plants, and bountiful vegetable gardens. Before school hours, one might find children from the neighborhood arriving early to spend as much time in the schoolyard as possible. During the school day, there are pickup games of basketball and art classes in the garden. On the weekends, young parents play with their toddlers by the slides and community members meet in outdoor classrooms. At recess, children race out the doors as fast as they can to the field.

Morrill is one of the first four Space to Grow: Greening Chicago Schoolyards projects that have transformed schoolyards in vulnerable Chicago neighborhoods into engaging community spaces and their schools into healthier places.

## THE VISION

Space to Grow brings green space to the most underserved neighborhoods in Chicago and prioritizes physical activity, play, learning, connection to nature and community engagement at schoolyards. The schoolyards are used by the school during school hours, and remain open to the broader community after school and on the weekends.

Space to Grow schoolyards incorporate landscape features that capture a significant amount of rainfall, helping to keep Chicago's waterways clean and curbing neighborhood flooding. While each schoolyard is unique, they all include a combination of green stormwater infrastructure designed to absorb water during the heaviest of storms, such as: permeable asphalt, permeable pavers, poured rubber playground surfaces, turf fields, rain gardens and bioretention areas, and downspout disconnections. Interpretive signage in each schoolyard shows how these techniques work and their value to the community.

One of the key components of the Space to Grow program is community engagement. Space to Grow partners use an inclusive school community planning process that engages stakeholders (administrators, teachers, staff, parents, area residents and students) from the school and the broader community to prepare conceptual plans for each schoolyard. The plans serve as the foundation for the construction documents followed by Chicago Public Schools (CPS) contractors. This planning process is vital to the success of the program.

## THE NEED

For decades, most Chicago schools did not have recess. District policy was only recently passed to reinstate recess in city schools. Over those years without recess, many Chicago schoolyards fell into disrepair. In 2011, 99 CPS elementary schools (over 15 percent) had no playground equipment.<sup>61</sup> Most CPS schoolyards are covered in asphalt; many were converted to parking lots during the long recess drought and to reduce the perceived costs of grass maintenance.

In addition to the playground problem, many Chicago residents lack access to green space. Ten percent of the city's total population does not live within half a mile of a park. Those most affected by the lack of parks are in the lowest quarter for median household income.<sup>62</sup> Chicago is also up against some challenging statistics when it comes to the health and wellness of its youngest residents. Forty-three percent of CPS students are overweight or obese.<sup>63</sup> As a result of advocacy from parents and nonprofit organizations including Healthy Schools Campaign (a Space to Grow managing partner), CPS has addressed these concerns by reinstating recess, expanding physical education and supporting school gardening—but schools need better outdoor spaces to put these policies in practice.

When you're talking about the city of Chicago, the conversation inevitably moves to the weather. Flooding and combined sewer overflows are big problems in Chicago due to large rain events that its current infrastructure cannot handle. Until recently, schoolyards were an untapped resource for green stormwater infrastructure. Forty percent of Chicago is covered with impermeable pavement, and it is estimated that CPS schoolyards represent 33,244,244 square feet (763 acres) of impermeable blacktop. Traditional concrete and asphalt were designed to quickly move water to the sewers, which can overload the system and lead to basement backups and combined sewer overflows across the city. Transforming these impermeable surfaces on CPS properties means these schoolyards can become part of an integrated stormwater management solution.

## THE PARTNERSHIP

Healthy Schools Campaign and Openlands serve as the managing partners for Space to Grow. Healthy Schools Campaign (HSC) has been working for years to make schools healthier places for all students, from advocating for healthier school food to reinstating recess and helping the district revamp its physical education program to meet the health and wellness needs of all students. Through that work, HSC realized that schoolyards at many Chicago schools were in disrepair and couldn't support all the positive changes the district was making. Openlands is a 52-year-old organization dedicated to protecting the Chicago region's natural and open spaces and connecting people of all ages with nature. Openlands has a long history of working with Chicago schools to connect students and communities with nature and build school gardens. Both organizations saw Space to Grow as a powerful extension of their previous work and came together to create a vision for green schoolyards.

Space to Grow is a partnership between these nonprofits, CPS and the region's two public water utilities: the City of Chicago Department of Water Management (CDWM) and the Metropolitan Water Reclamation District of Greater Chicago (MWRD). These partners each had different goals and had not previously worked together as a group. Despite this, the partners created a joint vision to move this program forward.



The circumstances that led to the participation of the water utilities are worth mentioning because they highlight how shared interests can be leveraged to secure funding and widespread support. Through a consent decree, MWRD had a directive from the U.S. Environmental Protection Agency (EPA) to install green infrastructure within its geographic area. As Openlands' focus includes water conservation, it identified that MWRD had money to invest and a shared interest in positively impacting and engaging communities with this mandate. CDWM was also making a financial commitment to support the installation of green stormwater infrastructure in its effort to help offset basement flooding. Making these links was instrumental in creating a mutually beneficial opportunity for not only the water utilities in Chicago, but also Openlands, HSC and CPS.

The water utilities provide capital funding, help to identify schools in neighborhoods with flooding problems, and also contribute expertise to the design and construction of green infrastructure elements. CPS provides capital funding and expertise, hires the design teams, and manages the construction of the schoolyards.

The school communities come together to help design and build the new schoolyards. Involved in meetings with Healthy Schools Campaign and Openlands from the very beginning, administrators, parents, teachers, area residents and students contribute ideas and concerns during the planning phase and the architects design the schoolyards to fit the needs of each school community. After the schoolyards are complete, Openlands and HSC work with the schools and communities to ensure that the schoolyards are maintained, and that the students, staff and community members have the knowledge and skills to take full advantage of their new assets. In total, Openlands and HSC commit to three years of support and programming for each Space to Grow schoolyard.

Through a partnership with The Kitchen Community, Learning Gardens—raised beds used for growing food that include bench and stone seating—were installed in many Space to Grow schoolyards. The Kitchen Community provided seeds, trained students to plant and grow gardens and taught lessons about food and nutrition along the way. The Kitchen Community also conducted workshops for teachers and provides resources for lesson plans.

## FUNDING

Each Space to Grow schoolyard costs around \$1.5 million to design and build. The cost is shared equally between the three capital partners: CDWM, MWRD and CPS. Partners have set a goal of building 34 schoolyards by 2019 and the water agencies have committed \$17 million each to make that happen.

HSC and Openlands jointly raise their funding through philanthropic and corporate dollars. This investment funds the coordination of the partnership, engagement with the school communities and ongoing training and support, and is in addition to the schoolyard costs listed above.

## IMPACT AND EVALUATION

The first four Space to Grow schoolyards were completed in 2014. Almost immediately, positive impact at these schools and in their communities was observed. Focus groups with parents and community members, conducted by the Children & Nature Network, revealed that discipline issues and bad behavior decreased and that children are eager to go outside now, regardless of the weather conditions. Community members are using the schoolyards for activities such as walking and jogging on the track, sitting on benches to drink coffee or taking small children to play after school hours. School leaders at Morrill noted the absence of criminal activity, graffiti and teenagers smoking and drinking on school grounds since the new schoolyard opened. Members of the surrounding communities have expressed higher interest in attending schools with Space to Grow schoolyards.

The benefits of the green stormwater infrastructure components are very encouraging. Space to Grow school Grissom Elementary has a projected two-year 100 percent reduction in runoff volume and is projected to hold and use all stormwater that falls on the site for about 99 percent of all storms. For over 99 percent of all storms, the green schoolyard will remove virtually 100 percent of all pollutants.

Because Space to Grow is such a new program, evaluation is a work in progress. Openlands worked with Conservation Design Forum to monitor and assess how the rain garden at Morrill Elementary performed in rainstorm events of varying sizes. The findings have been published in an executive summary<sup>64</sup> showing the potential for water conservation and emphasizing the importance of measuring it. Space to Grow partners are working together to evaluate the program's green stormwater infrastructure goals, tracking the effectiveness of the project in capturing stormwater, and developing a framework for creating a cost/benefit analysis of the impact of green infrastructure in schools on stormwater management. Those involved in evaluating the program hope that the information collected through these evaluations will help move the field forward. "We not only want to show that this is working, but we also want to motivate others in the field to adopt these practices," said Jaime Zaplatosch, Education Director with Openlands.

Project partners are also working to evaluate the impact of Space to Grow on student health and wellness. The Consortium to Lower Obesity in Chicago Children (CLOCC) collected data from two of the first four schoolyards using accelerometers and observational tools. This data showed impressive results. Data collected through accelerometers showed a statistically significant increase in moderate to vigorous physical activity among boys as a result of the schoolyard. While not statistically significant (likely due to sample size), physical activity in girls increased as well. In addition, CLOCC collected data to measure the impact of schoolyards on social cohesion. While not statistically significant (likely due to sample size), an increase in social cohesion was seen in the Space to Grow schools.

Space to Grow partners are now working with researchers at Loyola University Chicago and the Nutrition Policy Institute at the University of California to conduct a larger, longitudinal study to carry forward with and build on the initial evaluation. This evaluation plan is designed to inform the broader public health, education, public policy and green infrastructure communities about the benefits of the Space to Grow initiative (as well as investing in schools and the built environment). The evaluation team will focus on assessing changes in schoolyard utilization, impacts to student academic performance and wellbeing, changes to the school environment and post-transformation changes in community engagement and cohesion.

## NEXT STEPS

Once each Space to Grow schoolyard is completed, Healthy Schools Campaign and Openlands are committed to implementing a comprehensive program to ensure the school fully integrates their schoolyard into the learning experience. This includes community events and workshops, as well as school capacity-building through professional development and staff trainings. These staff trainings include instruction on how to use and maintain the new gardens; a session on how and why to teach outdoors; and green infrastructure workshops (for teachers and community members) where teachers learn how to use the new features designed to capture rainwater as a teaching tool and community members learn how to bring green infrastructure elements to their homes. The partners also support the establishment of wellness teams to ensure the new schoolyard is incorporated into physical education and recess plans; support garden teams in taking ownership of the various gardens; and support the development of parent leadership at the schools. This comprehensive approach helps to ensure that integration of the schoolyard into school life can survive any principal or staff turnover that occurs.

Two more schoolyards were opened in the fall of 2015 for a total of six completed schoolyard transformations. Four more are planned for construction in the spring of 2016 with another five planned for construction in summer 2016. The schoolyards have been met with open arms by their communities and have exceeded the expectations of program partners. The partners are currently working together to build a total of 28 more green schoolyards.

“Space to Grow meets so many different goals in such an innovative way—we’re thrilled to be working with such a diverse set of partners. While it isn’t easy to navigate the financial challenges our city and schools are currently facing, I’m confident that we will be able to build schoolyards across the city and fundamentally transform the landscape of Chicago—especially in the low-income communities of color that will benefit so significantly from these community assets,” said Rochelle Davis, HSC’s President and CEO.

## WHAT WAS INNOVATIVE?

One of the most innovative aspects of Space to Grow is how unique partnerships have been leveraged to create positive results for all parties. Space to Grow maximized spending from two water agencies by designing schoolyards with features that absorb large amounts of rainwater. All of the partners involved have different priorities; through many meetings and a commitment to working together, the partnership developed site selection criteria and a transparent process for selecting sites that prioritize low-income communities with significant flooding risks.

Space to Grow uses innovative approaches to include the entire community in the design of its schoolyards. The partners are intentional about how, when, where and with whom they hold meetings in order to guarantee that participation is open and engaged. For example, the school principals are not invited to meetings with the parents, students or teaching staff to ensure that all participants feel comfortable speaking candidly about their concerns and ideas. This has proven to be a key component of the program's success and has ensured that the various stakeholders feel ownership of the finished product.

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59 Green Schoolyards America. (2015). Retrieved from <http://www.greenschoolyardsamerica.org/>

60 California Legislative Information. (2014). ACR128 Living Schoolyard Month.

Retrieved from [http://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=201320140ACR128](http://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201320140ACR128)

61 AhmedUllah, N. (2011). Schools face new challenge: Return of recess. Chicago Tribune.

Retrieved from [http://articles.chicagotribune.com/20111025/news/ctmetcpsplayground20111013\\_1\\_recessmiddleschoolsschoolday](http://articles.chicagotribune.com/20111025/news/ctmetcpsplayground20111013_1_recessmiddleschoolsschoolday)

62 Trust for Public Land. (2015). Park Score. Retrieved from <http://parkscore.tpl.org/city.php?city=Chicago>

63 City of Chicago. (2013). Overweight and Obesity among Chicago Public Schools Students, 201011.

Retrieved from <http://www.cityofchicago.org/content/dam/city/depts/cdph/CDPH/OverweightObesityReportFeb272013.pdf>

64 Openlands. (2014). Openlands Study: Gardens reduce flooding and pollution.

Retrieved from <http://www.openlands.org/openlandsstudygardensreducefloodingandpollution>



(ABOVE & BELOW)  
Photo Credit: Space to Grow



# PARTNERSHIP & FUNDING STRATEGIES

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A number of themes emerged from the case studies that are important to consider when planning a green schoolyard project. They include identifying diverse partners, finding ways to fund the project through these partnerships, exploring existing policy considerations that can help the cause, identifying new policies and documenting impact. This section provides context about some of the green schoolyard partners from the highlighted projects as well as innovative approaches that were discussed at the National Green Schoolyards Summit. The information is intended to provide a useful starting point for local governments, school districts and nonprofit organizations that want to build green schoolyards.

The opportunity to build and maintain green schoolyards is shaped by a set of complex policies at the federal, state and local level. In addition to identifying opportunities at the local level, supporters of green schoolyards can work together and with others to create a broader policy environment supportive of green schoolyards. Committed advocacy under the appropriate policy umbrella can help to secure government funding for green schoolyard projects.

# LESSONS LEARNED FROM CASE STUDIES

Below is further information, including opportunities for action, for some of the partnership and funding mechanisms that emerged in the case studies section of this report.

## FUNDING SCHOOLS

Green schoolyards can require a significant financial investment. As we know, schools (especially urban ones) are notoriously underfunded. This means the schools that are the best candidates for green schoolyards are generally also the ones that can't contribute financial resources to the overhaul. Currently, school funding is largely the province of state government and local school districts. The average school construction project receives less than one percent of its funding from the federal government.<sup>65</sup> However, national attention is turning toward school facilities as construction is becoming greener and organizations like the U.S. Green Building Council (USGBC) advocate for more attention on school facilities.

Even without taking into account green schoolyards, there is a significant need for investment in school facilities at the national level. According to the USGBC's Center for Green Schools, *State of our Schools 2013*, U.S. schools have more than \$271 billion in deferred maintenance and \$542 billion in modernization needs. Efforts led by the Center for Green Schools are underway to require the federal government to regularly assess the condition of school facilities. The last time there was an official determination of the capital needs of schools was in 1995. Documenting schools' infrastructure needs is an important part of making the case to policymakers about the need for investment in schools' capital development. In San Francisco Unified School District, a district-wide green schoolyard program was made possible because the district was undergoing updates to modernize its facilities and make them ADA compliant, and a portion of that state funding was earmarked for schoolyard renovations. (This is further discussed in the case study.) Green schoolyard supporters have the opportunity to advocate for the inclusion of green schoolyards as part of the next nationwide assessment of school facilities.

School construction projects are required to meet state and local codes. Within these codes, requirements for outdoor space are limited at best, and rarely address issues of quality outdoor space. For example, the state of Florida school construction requirements state that outdoor play space shall be protected from access to streets and there should be shade access.<sup>66</sup> In Illinois, there is no mention of requirements at all for outdoor play space.<sup>67</sup>

According to the Center for Green Schools, *the three pillars of a green school* include environmental impact, human health and eco-literacy. Several agencies, organizations and consortiums have developed standards and design guidelines to help schools and districts incorporate and uphold these pillars. It is important to note that 13 states and the District of Columbia require school construction projects to meet the standards of either the USGBC's LEED for Schools, the Collaborative for High Performing Schools (CHPS), or other comparable standards. While these programs do not specifically mention schoolyards, a green schoolyard



would satisfy many of the requirements of these programs. In fact, up to ten percent of LEED points could be allocated to support elements of a green schoolyard.

In addition to state and local building and design codes, many states and municipalities have school construction guidance or recommendations. These may address sustainability and energy efficiency. In fact, the U.S. Department of Education's Education Facilities Clearinghouse has a guidance document on schoolyards ([Developing Great Schoolyards: Handbook for Elementary Schools](#)). Incorporating schoolyards more explicitly in state code or state guidance can be an important way to promote green schoolyards.

### **Take Action**

At the national level, there is an opportunity for further inclusion of green schoolyards into existing standards. For example, USGBC or CHPS could develop guidance within their existing standards to help local projects comply with the requirements of a green project by incorporating green schoolyards. Additionally, advocates might want to consider working with USGBC or CHPS to explicitly include schoolyards as part of LEED or CHPS standards. You can review your state's requirement and guidance and suggest including green schoolyards as part of these documents.

## **WATER COMPANIES AND PUBLIC UTILITIES**

Some big city green schoolyard projects are receiving significant support from public water utilities. Water infrastructure is one of the biggest budgets in a city and often much larger than the education budget. Schoolyards cover valuable ground in most neighborhoods, and with the right green stormwater infrastructure, they can contribute to water conservation, prevent combined sewer overflows and protect local waterways. In New York, Chicago and Philadelphia, city water utilities are investing millions of dollars in green infrastructure at schoolyards. (These partnerships are explored in the case studies.)

In some cities, green schoolyard projects are an opportunity for some water utilities to implement consent decrees handed down from the U.S. Environmental Protection Agency (EPA) that ask them to put money back into their local environment. Under the Clean Water Act, the EPA has been leaning on water agencies to prevent stormwater overflow and subsequent water contamination. The EPA may sue a water company for infractions against the Clean Water Act, asking the utility to invest money in efforts to clean up their city's water. When this happens, the water utility may allocate a significant amount of money that it needs to invest in green infrastructure in the community.

A water management agency does not need a consent order to invest in green stormwater infrastructure. Many municipalities recognize the economic value and multiple benefits of managing stormwater through green infrastructure and have pro-actively allocated money for such projects as part of a comprehensive approach to reducing combined sewer overflows, pollution and/or local flooding. In addition, municipalities of a certain size with separated storm sewer systems are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit and develop a stormwater management program; a cost effective way to implement such programs includes use of green infrastructure, especially on public property.

Power companies might also be interested in funding a portion of a green schoolyard. If included in the schoolyard redesign, trees provide shade which helps reduce energy consumption in schools. Truly community-minded organizations will understand the value in educating the energy users of tomorrow about conservation and protection of the environment. For example, the San Francisco Public Utilities Commission is a generous supporter of green schoolyards in its city, giving money not only to green infrastructure but also to programs that help educate students on energy and water conservation, as discussed in the case study.

When utilities expand their operations and energy production, compliance with state permitting and federal regulations such as the Endangered Species Act often requires planning and mitigation to ensure protection or conservation of sensitive resources. This can open up sources of funding for habitat conservation, environmental enhancement, stormwater management or other projects for which schoolyards could be a prime candidate for greening.

### **Take Action**

To find out if your local water agency has a mandate to invest in green infrastructure, view the [settled enforcement cases](#) that have a green infrastructure component, contact the [Wastewater Management office at the EPA](#) or connect with environmental organizations that work on local water issues to see if there are any stormwater concerns or mandates in your area. Keep in mind that the local water agency might be unfamiliar with green schoolyards and require some more background information.

Check your local municipality's or water management agency's sustainability plans. Green infrastructure is a recognized approach to cost effectively managing stormwater, and many cities are investing in green stormwater management and may be interested in partnerships. There is significant opportunity in urban areas, where an abundance of impermeable surfaces contribute to stormwater issues; transforming these public spaces is both effective and smart politically since the benefits reach far beyond just stormwater. As Aaron Koch, deputy commissioner for sustainability at the City of Chicago Department of Water Management, and a key Space to Grow partner, put it: "An elected official is much happier to cut a ribbon on a schoolyard than a sewer." Check whether your local municipality maintains a National Pollutant Discharge Elimination System permit. If so, significant opportunities for greening schoolyards may exist in the plans and programs developed to satisfy permit requirements. In addition, consult your local power company's community programs department; many companies provide grants and assistance to the local communities they serve for greening projects that help offset their environmental impact and maintain compliance with their permits.

## **SHARED USE AGREEMENTS**

A shared use agreement is a formal agreement between two separate government entities, often a school district or a park district and a city or county, setting forth the terms and conditions for the shared use of public property. Typically, each party under a shared use agreement helps fund the development, operation and maintenance of the facilities that will be shared. In so doing, no single party is fully liable for the costs and responsibilities associated with the recreational facilities.

Many schoolyards present the perfect opportunity for shared use, or joint venture, agreements with other city organizations. These include libraries, parks and recreation departments and local businesses. In fact, school facilities are often an untapped resource for community members. The conditions in a successful shared use agreement often hinge on keeping the schoolyard open after school hours and on weekends, which is beneficial to all parties. Every program examined in the case studies in this report was built on the premise that the schoolyards would remain open after hours and on the weekends, to be enjoyed by the larger community. Whether this was dictated by a formal shared use agreement or a more casual promise to community stakeholders, shared use is a foundational component of successful green schoolyard projects.

### **Take Action**

If shared use agreements are allowed in your state or locale, there are at least two opportunities to use them to support green schoolyards. One way is to create an agreement around the development and construction of a renovated or new schoolyard. For example, California's **Office of Public School Construction** granted almost \$190 million to schools to build nearly 250 shared use facilities. Additionally, shared use of existing schoolyards can be a cost effective way to promote physical activity among students and community members alike. Costs of equipment and supplies, water, electricity, maintenance and staffing can all be shared. Shared use agreements often include a cost assessment that helps each partner better understand and address the costs associated with sharing facilities. In addition to costs, partner groups can share staff and resources, such as custodial and maintenance staff.

## **PUBLIC-PRIVATE PARTNERSHIPS**

Some large-scale green schoolyard projects benefit significantly from private partnerships. In New York City, where corporations have funds to contribute, The Trust for Public Land has been successful due in part to generous contributions and longstanding partnerships with companies such as MetLife. Learning Landscapes in Denver, a city with less money and lower costs, drew donations from local businesses that were eager to throw fundraisers and get involved in community-minded programs. Read more about Learning Landscapes in the case study in this report.

### **Take Action**

Whether you're working in a small town or a big city, it's always useful to take an open-minded approach to partnerships. You may be surprised at how many seemingly unrelated entities are interested in contributing to your schoolyard project.

# INNOVATIVE APPROACHES

Here we provide further information, including opportunities for action, for some of the new and emerging partnership and funding ideas that were discussed at the National Green Schoolyards Summit.

## HEALTHCARE SECTOR

Hospitals and other organizations in the healthcare industry are focusing their attention and resources on community wellness programs. This is in large part due to the community health needs assessment (CHNA) element of the Affordable Care Act, which was enacted in 2010. This means that all nonprofit hospitals are now required to identify and address the health needs of their communities in order to qualify as tax-exempt. In other words, hospitals are looking for evidence-based research that solves community health issues as well as wellness initiatives in their communities. This presents an opportunity to partner on green schoolyard projects. Green schoolyards are supported by ample evidence that speaks to their positive impact on childhood obesity and community physical activity, among other health issues.

Hospitals are not expected to do this work alone, but they are becoming key partners in collective impact programs that are contributing to healthier communities. Nonprofits, schools and public health departments are prime examples of partners that could work toward a common goal of increased public health through green schoolyards. The IRS is responsible for this part of the Affordable Care Act, which means that this is being enforced and there is a major incentive for hospitals to comply. The IRS issued a rule that requires hospitals to take into account input from people who represent the broad interests of its community, including those with special knowledge of or expertise in public health. This opens the door for members of the community including schools, nonprofits and green schoolyard advocates to present their data to hospitals—and the hospitals have a strong incentive to listen.

Evaluation is a key component of CHNAs. Hospitals are required to have well-documented data showing that their investments in the community's health are making a difference. Green schoolyards lend themselves very well to evaluation because of the opportunity for direct observation, the participation of schools and the direct impact that these schoolyards have on the activity levels of people throughout the community.

This is a relatively new policy and it represents a radical shift in the way hospitals work. Foundations are starting to partner more and more with hospitals to infuse these programs with money and guidance. Healthcare organizations might be willing to partner on smaller scale items in addition to broader project-wide partnerships. For example, in Chicago's Space to Grow project, the healthcare organization Advocate Health Care organized a volunteer day where 125 volunteers planted and mulched 5,000 plants at a new green schoolyard. (Read more about the Space to Grow program in the case study in this report.)

### **Take Action**

To work successfully with a hospital under the CHNA, contact the nonprofit hospitals serving your community to inquire where they are in the CHNA process. If the hospital is in the early stages of the process, a school could join the team conducting the needs assessment or share data concerning the health needs of the school community. Even if the hospital is further along in the process, it is wise to establish the school as a partner in the process.

## **SOCIAL IMPACT BONDS**

Social impact bonds are a new way of financing projects that are becoming a part of mainstream understanding. This innovative funding strategy means private investors (such as banks or other big companies) invest money and help to manage a project (such as a green schoolyard) that's going to improve the social outcome for at-risk populations (such as vulnerable children in urban neighborhoods). The ultimate goal is reducing government spending in the longterm, so the investors pay all the costs and then are paid back by the government when the social outcome is achieved. The investors are paid with interest when that happens. Congress is currently considering legislation that would give the government \$300 billion to invest in social impact bonds.

Independent evaluators who are not associated with any of the vested parties play a significant role in social impact bonds. These entities, hired by the government agency that provided the initial funding, perform rigorous testing to measure the benefits of the program. The results of that testing determine whether the government pays back its initial loan to the private donor. Social impact bonds require a scaling vision that encompasses a wide cross-section of the population to obtain the evaluation necessary to judge its success. While at first a project can be approved for a bond with impact on only one school, these bonds would be more likely to work in a scenario with a larger scope and a definitive scaling plan.

Government officials and investors are looking to invest in projects that combine social benefits with monetizable savings that produce a benefit to the investors and taxpayers. Green schoolyards are unique in that they have the ability to meet both of these needs, but they must be positioned accordingly. The monetizable savings for green schoolyards is most clearly shown in the money saved by the city water departments when green infrastructure elements are included in the schoolyards. Other monetizable benefits that are not as easy to measure include less strain on the healthcare system that comes from decreased childhood obesity and higher property values that result from the new schoolyard. Additionally, these entities want to invest in programs that are backed by effective organizations with a history of commitment and project completion.

### **Take Action**

[Harvard University's Social Impact Bond Technical Assistance guide](#) is a good starter resource for organizations interested in exploring funding through this type of bond. Your first step in pursuing a social impact bond might be to seek out the advice of a lending institution or foundation that has invested in this type of instrument before.

## FINANCIAL INSTITUTIONS

The Community Reinvestment Act (CRA) has been around since 1975. It was enacted to combat redlining and requires that all financial institutions make credit available in areas where it takes deposits. Many banks have money in the form of grants and community development loans to invest in their communities, especially those in low and moderate income neighborhoods. Banks are particularly interested in projects like green schoolyards because they are so visible and have such a positive and immediate effect on the surrounding community.

### *Take Action*

To find out if a bank in a specific neighborhood has money under the CRA to give to a green schoolyard project, start by identifying their CRA officer. The [FDIC's CRA index](#) has in-depth information on the CRA standings of banks.

## COMMUNITY PARTNERS AND GRANTS

The development of green schoolyards is part of a broader movement that works to support more sustainable and livable communities. While there needs to be a concerted effort to ensure that schoolyards are integrated into these programs, schoolyard supporters have the opportunity to reach out to these programs at the grassroots level to develop relationships, access technical assistance and potentially tap into grant funding to support green schoolyard development.

A number of federal efforts promote sustainable communities. Advocates should connect with people and organizations in their communities who may be interested in partnering on these types of grants and discuss whether green schoolyards can be integrated into those programs. The U.S. Forest Service's Stewardship Mapping and Assessment Program ([Stew-MAP](#)) may be a useful tool to help advocates find potential community partners. Grants can come from anywhere. For example, in Newark, one grant comes from a funder in Newark devoted to providing chess tables to parks in the city. By including chess tables in the green schoolyards it builds, The Trust for Public Land is able to secure a small portion of the overall project funding from this donor and supports the chess programs at the school. (The Newark project is discussed in detail in the case studies in this report.)

### *Take Action*

Some sustainable community programs that are relevant to green schoolyards include:

#### [National Oceanic and Atmospheric Administration \(NOAA\): Coastal Zone Management](#)

The National Coastal Zone Management Program comprehensively addresses the nation's coastal issues through a voluntary partnership between the federal government and coastal and Great Lakes states and territories. Authorized by the Coastal Zone Management Act of 1972, the program provides the basis for protecting, restoring and responsibly developing our nation's diverse coastal communities and resources. Currently 34 coastal states participate. While state partners must follow basic requirements, the program also gives states the flexibility to design

unique programs that best address their coastal challenges and regulations. This includes projects that protect and restore coastal habitat, address polluted runoff and stormwater management and other issues to which green schoolyards may contribute. [Learn more about the program priorities or find contacts and information about your state's program.](#)

#### **U.S. Fish and Wildlife Service (USFWS): Schoolyard Habitat Program**

Green schoolyards are not only beneficial for humans and their communities, they are ecological communities in themselves. The USFWS recognizes the value of green schoolyards as local wildlife habitat, and provides on-site technical assistance to school communities seeking to create outdoor classrooms. The [Schoolyard Habitat Program guides](#) give community members the planning tools needed to seek funding for their project, build an ecologically sound outdoor classroom, and integrate it into their school's curriculum. Although there are no grants associated with this program at the federal level, advocates reach out to their [state USFWS office](#) to determine if local funding is available.

#### **U.S. Fish and Wildlife Service: Endangered Species Act Grants**

A variety of tools are available under the Endangered Species Act (ESA) to help states and landowners plan and implement projects to conserve species. One of the tools, the Cooperative Endangered Species Conservation Fund (section 6 of the ESA), provides grants to states and territories to participate in a wide array of voluntary conservation projects for candidate, proposed and listed species. Green schoolyard projects may be located in areas important for endangered species protection, recovery or education and assistance may be available through funding and partnerships. Green schoolyards may benefit in restoring or protecting habitat, and may also serve as hands-on educational tools. [Review the various grant programs](#) and contact your [local Endangered Species Specialist](#) for more information.

#### **U.S. Environmental Protection Agency (EPA): Building Blocks for Sustainable Communities**

Through this program, EPA offers technical assistance designed to help a community gain stakeholder involvement in a sustainable growth project and determine a plan of action that will help make the project a reality. This program is likely to be appropriate for green schoolyard advocates whose project is part of a community revitalization strategy, particularly one pertaining to walkability, stormwater management, green streets or bike-sharing, or for projects in small cities and rural areas.

#### **U.S. Environmental Protection Agency: 319 Grant Program**

Green schoolyard projects that help manage stormwater or address polluted runoff may be eligible for funding assistance from the [Section 319 Nonpoint Source \(NPS\) Management Program](#). Under Section 319, states, territories and tribes receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects. Funding priorities and cycles vary by state—contact [your state NPS coordinator](#) for more information.

### U.S. Department of Agriculture (USDA): Rural Development Initiatives

Through its competitive Rural Community Development Initiative Grants program, the USDA awards between \$50,000 and \$250,000 per grant annually to public bodies, nonprofit organizations and federally recognized tribes seeking funds for the improvement of community facilities. As a green schoolyard serves as a resource for both the school and the community as a whole, rural green space advocates seeking funding and technical assistance for their schoolyard projects are encouraged to explore this grant program.

## ENVIRONMENTAL JUSTICE

In an effort to revitalize communities that have historically experienced inequities pertaining to environmental and public health issues, several federal and state agencies have created environmental justice grant programs. Communities seeking to address local environmental justice and community health issues through green schoolyard projects should explore grants at the local, state and federal level, as well as nonprofit organizations that work in this area.

### EPA: Environmental Justice Small Grants Program

This EPA annual competitive grant program is an opportunity for nonprofits, tribal governments, or tribal organizations to receive up to \$30,000 for projects that address local environmental and public health issues in traditionally underserved communities. Green schoolyard projects accomplish both environmental and public health goals, as they represent a means of revitalizing and increasing community access to green space and provide an outdoor environment that encourages physical activity. This grant program focuses on creating opportunities for community engagement around local issues, making it a good fit for advocates seeking to mobilize their communities around creating green schoolyards.

### EPA: Environmental Justice Collaborative Problem-Solving Cooperative Agreements Program

Nonprofits, tribal governments, or tribal organizations may apply to this EPA program for funding (up to \$120,000 over two years) to address local environmental and public health issues using the EPA's Collaborative Problem-Solving Model. The model requires that projects make use of community-based processes and involve a diverse group of stakeholders who can contribute to the project. This program is likely to be appropriate for green schoolyard advocates whose projects are part of a larger community development strategy that offers a plan for revitalizing a traditionally underserved area.

### Take Action

Contact the [regional coordinator for your state](#) to receive more information about EPA grants that pertain to your project and learn if your project can be incorporated into local or regional efforts related to [EJ 2020](#), the EPA's national environmental justice action agenda. If you are new to environmental justice, the Center for Health, Environment & Justice's [Community Organizing Workshops and Training](#) may provide a valuable starting point.



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65 Filardo, M., Cheng, S., Allen, M., Bar, M., & Ulsoy, J. (2010). State capital spending on Pk12 school facilities. 21st Century School Fund. Retrieved from [http://www.ncef.org/pubs/state\\_capital\\_spending\\_on\\_school\\_facilities.pdf](http://www.ncef.org/pubs/state_capital_spending_on_school_facilities.pdf)

66 Office of Education Facilities. (2014). State requirements for educational facilities. Florida Department of Education. Retrieved from <http://www.fldoe.org/core/fileparse.php/7738/urlt/srefrule14.pdf>

67 Illinois Board of Education. Title 23: Educational and Cultural Resources. Retrieved from <http://www.isbe.state.il.us/%5C/rules/archive/pdfs/151ark.pdf>





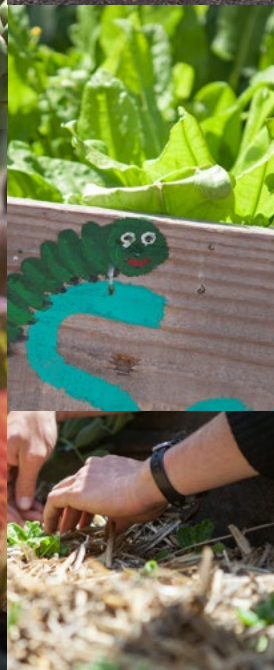
# CONCLUSION

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Green schoolyards expand the footprint of schools by creating healthy and safe outdoor spaces where students and their families can learn, play, connect with nature, grow food and be physically active. Every day, new studies report the importance of these elements and activities to the growth, development and success of young people. Green schoolyards, if well designed and thoughtfully built, are projected to have a positive impact on the physical, social and emotional health of children. While green schoolyards are good for everyone, they are especially important to low-income students of color. In addition to making schools more beautiful and enriching communities, green schoolyards provide the opportunity for a timely public discussion about disparities related to health, education, open space, access to nature and public resources.

The National Green Schoolyards Summit hosted by Healthy Schools Campaign and Openlands in May 2015 gathered leaders in the field to develop strategies for building this movement, many of which are detailed in the Partnerships & Funding Strategies section of this report. The case studies outlined in this report prove that success is tangible and show the common considerations that help secure success in green schoolyard projects in varying forms and scales. With diverse partnerships built on the fact that green schoolyards benefit many sectors of the community and corresponding funding mechanisms that are flexible and can be grown in many different ways, green schoolyard projects can flourish. In addition, there are ample opportunities, at every level, to leverage policy to get green schoolyard projects off the ground. Support is won by communicating successes. Documented impact and formal evaluations play a significant role in not only building schoolyards, but also building the movement.

Right now, the green schoolyard movement has ardent support from a growing group of school stakeholders, nonprofit organizations, civic organizations and urban planners who are working to build green schoolyards in pockets of the United States. The movement is poised to gain increasing national attention. The research proving the benefits of green space and outdoor play is abundantly available, success stories with complete evaluations exist and coinciding national campaigns such as those focused on childhood obesity awareness, green school buildings and wellness and prevention are growing. There is an opportunity to galvanize parents, students, teachers, school board members, government officials and community members to rally behind the belief that every child deserves a green space to play.





(LEFT)  
Photo Credit:  
DJ Glisson  
Allison Williams, courtesy of Space to Grow  
Paige Green, courtesy of Education Outside  
Tony Armour and Lisa Miller, courtesy of Openlands  
Space to Grow

(RIGHT)  
Photo Credit: Tony Armour and Lisa Miller, courtesy of Openlands



openlands

conserving nature for life

 healthy  
 schools  
campaign