

DENVER, COLORADO: LEARNING LANDSCAPES

LINKING PLAY AND LEARNING

A SCHOOL-COMMUNITY PARTNERSHIP INSPIRES CIVIC LEADERS

Learning Landscapes is an entrepreneurial public-private partnership that designs and builds comprehensive outdoor play spaces at schools across Denver. The design-and-build process provided an opportunity to work with schools to engage parents, students, businesses, and civic leaders. Through joint-use agreements, these play spaces were opened up to the community after school hours. The popularity of Learning Landscapes inspired broad public support and the public financing necessary to expand the program to every school playground in Denver.

CONTEXT: A DEGRADED SCHOOLYARD ENVIRONMENT

Denver was at a turning point during the 1990s. The city's schoolyards primarily consisted of asphalt and pea gravel, with few play structures and limited green space. Most did not meet ADA requirements, provided little protection from the sun, and had limited lighting. They were underutilized, and gravel-related accidents were common. A significant investment would be necessary to replace what playground equipment existed, install irrigation systems, and develop safe, age-appropriate spaces and structures.

During this same period of time, federally mandated busing was lifted from Denver Public Schools and children once again began attending schools in their own neighborhoods. One result was greater awareness of the degradation of the local neighborhood schoolyards.

THE INITIATIVE: CREATING A REAL CONNECTION

In 1992, Lois Brink, a parent at Bromwell Elementary School and a landscape architecture professor, initiated and led a grassroots effort to improve the school's playground space. Brink engaged some of her landscape architecture students to design a playground tailored to the needs of the school and members of the community.

Brink came to the University of Colorado at Denver in 1988 as a practitioner with a particular passion for utilizing the art of landscape architecture to effect real change in communities. She challenged the University and her students to move beyond "superficial beautification" to find ways to promote education and learning in their designs. It was in this context that she engaged her students in an independent study program to re-design the Bromwell playground. The University's Urban Agenda, focused on neighborhood and community engagement, supported both Brink's work and her personal commitment to community outreach.

Brink and her students developed a model they call a "Learning Landscape." A Learning Landscape is an outdoor area that supports physical activity, learning, and improved social interaction. The process of developing a Learning Landscape is a community undertaking as local residents provide input during the design process and then participate in the build. The intention is for these spaces to be unique, dynamic, and colorful and to provide engaging focal points for the community, drawing together not only students but area residents across generations.

PLAY MATTERS
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AND PROCESS IN SUPPORT
OF CHILDREN'S PLAY





AmeriCorps members work with students to add drought-resistant plantings.

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Fundraising for the pilot playground at Bromwell was a multi-year process. Various tactics were used to raise the \$250,000 necessary to complete the project, including parent donations through brick sales, cold calls to local businesses with flyers, local press appeals, and significant in-kind donations for materials.

Early Engagement and Alignment with Key Public Officials.

Early in the process, Brink reached out to officials from the city and Denver Public Schools (DPS), building trust and engaging them in the process. They were invited to planning meetings and to participate in the build. Mike Langley, former executive director of DPS’s facility management, described the process of bringing volunteer parents and community members to the school to assemble the playgrounds as “old-fashioned barn raising.”

Langley became a key partner and champion, providing management oversight of future projects and budgetary decisions. Given limited resources, Langley contends that he would much rather invest in a learning landscape than in books. “If kids get in a fight on the playground and come in not ready to learn, then books will not be relevant,” says Langley. According to Elaine Gantz Berman, a member of the school board at the time, “too often advocates try to work outside of the system or in an adversarial way and are not successful. Brink worked closely and respectfully with Mike Langley at DPS, and this relationship was key.”

As part of this collaboration with DPS officials, Brink worked closely with the staff in risk management to test materials and overcome concerns. Through this collaboration, Brink was able to develop risk management solutions. For example, there was a perception that climbing boulders present safety risks. She and DPS officials in risk management agreed to define climbing boulders as a piece of play equipment and place the boulders in play pits with the same fall zones that are provided for other kinds of climbing structures.

DENVER, COLORADO: LEARNING LANDSCAPES

Bromwell provided the test case for what is possible when a local champion is clear in her vision and persistent. Brink did not compromise on her vision of a full-scale renovation of the playground. And it was precisely the scale of change and the degree of citizen engagement—as volunteers and financial donors—that inspired broader support from public officials. The 2000 launch not only generated excitement and energy among civic leaders and DPS officials but also fueled interest in seeing if this model could be replicated beyond the affluent area that is home to Bromwell School.

Testing the Model’s Viability: Garden Place Elementary

Garden Place Elementary, located in a heavily industrial neighborhood, became the first test case in an underserved area of Denver. According to Brink, there were prison yards in better shape than Garden Place’s playground. The project was successful, in large part, because of the vision, passion, determination and resourcefulness of the school’s principal at the time, Alvina Crouse.

Following construction of the Bromwell learning landscape, there was some DPS interest in trying the model at another school but there was insufficient political will at the district or city level to fund the attempt. While the Bromwell model provided an example of what could be achieved, it had yet to be proved possible in a school community with fewer resources. In order to fully test this model, local leadership would have to raise seed funds for the project.

Crouse became the driver in this process. She understood the value of play, and she had the time, resources, and relationships to implement an aggressive and year-long campaign to renovate the schoolyard. She viewed building high-quality play space as central and essential to her job as an education administrator, rather than secondary or peripheral, saying that “our children get into trouble because they don’t have anything to do on the schoolyard...play is children’s work and where they learn interpersonal skills.”

The willingness of Crouse to commit \$10,000 of her own money to the project at its outset was critical to overcoming initial skepticism and securing the support of DPS. When Craig Cook, then DPS CEO, asked Crouse how the schoolyard would be maintained, she offered to commit an additional \$5,000 per year to ensure its maintenance. This unusual dedication on the part of a principal was instrumental in moving the Garden Place playground initiative forward.

Developing Champions

To raise resources necessary for the \$283,000 project, Crouse relied on members of her school community to tell the story of Garden Place’s unacceptable playground conditions. Hosting regular school visits became a successful tactic.

Early in the process, Crouse realized that potential funders needed to experience the poorly equipped and unsafe playgrounds and hear directly from the students themselves in order to move past resistance and misconceptions—such as their lack of understanding of the educational value of play. Initial letter and grant writing was less successful than anticipated. Funders in the education field, for example, did not connect playgrounds with education. When Crouse first approached Tom Kaesemeyer, head of the local Gates Family Foundation, he told her their foundation supported only education-related initiatives. The principal learned that “people know how to give to libraries and hospitals, but they do not know how to give to playgrounds.”

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AND PROCESS IN SUPPORT
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School visits became a successful tactic for developing champions. Inviting potential supporters to visit the schoolyard and experience the lack of safe, engaging play equipment gave Crouse an opportunity to showcase rather than simply write about or describe the need for change and the community will to bring it about. She credits a school visit with inspiring the engagement of Kaesemeyer, who became a key funder for the Garden Place playground.

Direct beneficiary advocacy was effective. The children were able to make a case for play in a way that the adults could not. The students wrote to elected officials about broken monkey bars, metal slides that were too hot to touch, and rusted swings that squeaked. They also appeared before the state legislature, city council, and school board to explain why they needed a new playground. At one school board meeting, the students brought in a wheelbarrow full of change to showcase their own fundraising and to challenge officials to step up to do their part. The students' testimonials, the example of their initiative, and the evidence of broader school and community backing inspired public support.

Principal Crouse took personal responsibility for mobilizing a group of school and community leaders to raise funds necessary to complete the project. Noel Cunningham, a restaurant owner and local philanthropist, hosted regular dinners to convene foundation and business leaders for the project. According to Crouse, her staff played a vital role in helping to organize events and mobilize the parent community.

Ultimately, Garden Place, launched in 2001, is the model that inspired political engagement and commitment, rather than mere interest. Crouse and her allies raised \$283,000 to transform an asphalt surface into a colorful play space with a welcoming archway, student artwork, an irrigated grass playfield, a shade structure, trees, and gardens. The playground was designed and constructed in collaboration with members of the community, is accessible to students and neighbors, and serves as a source of community pride and a model for expansion. Garden Place proved that this model of community mobilization could be replicated beyond the more affluent and politically engaged neighborhoods in Denver.

SCALING UP

The mechanism for systematically expanding these play areas to underserved communities in Denver was an entrepreneurial public-private partnership called the Learning Landscape Alliance (LLA). As LLA was building grassroots support, the Denver Office of Economic Development (OED) introduced an initiative to invest in underserved communities and schools. The alignment of grassroots and grasstops initiatives accelerated the LLA's plan and provided a curbside and visual testament of these play spaces in targeted neighborhoods. This, in turn, generated broad citizen support and political pressure for scaling these play spaces to every schoolyard in Denver.

The examples of both Bromwell and Garden Place inspired key public and private sector leaders to form LLA in 2001. LLA's mission and plan was to recreate the Garden Place process and outcome at 22 underserved schools throughout Denver. The group was spearheaded by Kaesemeyer, Brink, and Langley. They recruited key stakeholders, including city officials, to serve on the steering and advisory committees.

Allegra Haynes, then a city councilwoman, credits Kaesemeyer with being the catalyst whose personal vision, commitment, reputation, experience, and assets accounted for the momentum

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DENVER, COLORADO: LEARNING LANDSCAPES

and success of LLA. According to Haynes, Kaesemeyer saw “schools as the beacon of the neighborhood and effectively painted this picture for potential stakeholders and funders.” He had a deep conviction regarding the project, the experience to manage a project of this scale—recognizing and avoiding pitfalls—and the credibility to engage key stakeholders, such as city council and school board members.

Kaesemeyer developed a detailed marketing packet, including an introductory letter, funding level options for corporations, a donor list, a budget breakdown for costs per site, and plans for upcoming playgrounds. He created a high-profile board of advisers to help the organization connect with Denver’s business and political elites. And he constantly pitched the project. Like Crouse, Kaesemeyer encountered objections and a lack of appreciation of the role that play serves in the child’s school day. To address these hurdles, Kaesemeyer developed a learning landscapes video. It was a reliable marketing tool; without a visual of the children and how they were benefiting, securing engagement was otherwise difficult.

Grassroots and Grasstops Alignment: Denver’s Office of Economic Development

Denver’s Office of Economic Development acted as a financial catalyst to accelerate LLA’s plan. LLA was looking for seed money just as the city launched an \$80 million Focus Neighborhood Initiative. OED’s charge was to identify projects that would revitalize underserved neighborhoods, and they were particularly looking for school-based initiatives. LLA was well-positioned to illustrate public-private partnership development, significant community engagement, and civic pride—crucial components in securing funding. LLA, with Garden Place as a case study in school and community revitalization, was able to prove its model and secure funding. OED awarded LLA an initial grant of \$1 million and then a total of \$4.1 million over three years. These resources were leveraged to secure further private sector and in-kind donations.

Joint-Use Requirements to Expand Access

In order to obtain state funding for learning landscapes, schools were required to open the playgrounds to the community after school hours.

In 1994, Colorado voters elected to dedicate a portion of state lottery proceeds to projects that preserve, protect, and enhance Colorado’s parks, trails, and open spaces. The grant program was called Great Outdoors Colorado (GOCO). Beginning in 2000, LLA started writing and receiving GOCO grants in collaboration with the City of Denver Parks and Recreation Department. The GOCO grants provided materials such as plants and mulch. A key requirement of the GOCO grant was that schools receiving this funding needed to be open to the community after hours. LLA was able to leverage this funding to open up schools where principals had previously been resistant. As the project manager for these learning landscapes at UC Denver reports, the grants were “not a lot of money, but they did provide a lot of political power.”

Community Mobilization Inspired Support

The Learning Landscapes model, which engages members of the school and community throughout the process, helps to build community, inspire civic engagement, and engender investment in the play areas. The effectiveness of this model, often showcased during the build and launch process, inspired the support of key stakeholders.



Community coming together to build a new playground through volunteer efforts.

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Colfax Elementary School, with one of the city's highest homeless family populations, was among the first schools targeted by LLA. It took three years to raise \$500,000 and replace an asphalt playground with an irrigation system, greenway, sod, a track, age-appropriate climbing structures, trees, climbing rocks, shade structures, and wood chips. Parents, staff, local business leaders, and alumni participated in the fundraising. As part of the campaign, students filled up a jar with pennies and presented it to the mayor. When 80% of the school community at Colfax Elementary came out for the build day, civic leaders took notice. According to Langley, the head of facility management for DPS, entire families came out for the build, reflecting the sweat equity they had invested in the project.

According to Tom Burella, Colfax's physical education teacher, the Learning Landscape has changed the environment of the school. Students come early for class so they can play, they are more active, they can be active in hot weather, and they play better together. Burella is able to defuse conflicts by sending students to various areas and activities within the schoolyard. He had one schoolyard fight the first year of Learning Landscapes, down from multiple conflicts and injuries each month the previous year. There have been few incidents of vandalism, and Burella reports that the playground is well-used after school hours by students, their families, and the broader community.

In qualitative surveys conducted in 2003, principals, teachers, students, and members of the community report that the playgrounds are getting more use, that children are more active on them, and that they have become a source of community pride. Of teachers surveyed, 80% agreed that students were more physically active during recess as a result of the learning landscapes. Meanwhile, 68% of parents agreed that the playground is a focal point in the community.

In three years, LLA raised a total of \$9 million, improved 22 playgrounds, and generated significant political support. No one group contributed more than 25% to the cost of any playground re-build and every school community is required to raise 1–2% of the cost of the project. LLA received in-kind support from AmeriCorps, Colorado Youth Corps, businesses, and each school community.

DENVER, COLORADO: LEARNING LANDSCAPES

According to OED’s Jerry Garcia, significant pressure started to build as “every school wanted learning landscapes, but the city could not fund schools outside of their target neighborhoods.” Elaine Gantz Berman, a school board member at the time, said that “there was initial skepticism about these projects—they almost sounded too good to be true. But when they actually delivered on them, everyone wanted one. These learning landscapes in the 16 focus neighborhoods were the ‘spark plug’ that ignited citywide political support for these play spaces.” According to Langley the success of Learning Landscapes “turned the supply and demand balance [for quality play spaces] on its head.”

Public Buy-In: General Obligation Bonds in 2003 and 2008

In response to this demand, the Denver Public School Board proposed two bond measures for \$39 million to expand these Learning Landscapes to every schoolyard in Denver. The 2003 bond measure included \$10 million for 24 additional sites across the city. It proved successful, reflecting the political momentum that LLA had developed in Denver. More affluent and politically engaged communities were aware of sites in the target neighborhoods, wanted to see them constructed in their neighborhoods, and backed the bond measure. With the 2003 bond and funding, the Learning Landscape Alliance dissolved. Under Brink’s management, Learning Landscapes became a program under the UC Denver School of Landscape Architecture in partnership with the Denver Public School District.

In 2008, Denver voters approved a second bond measure of \$29 million to finance learning landscapes in the remaining 37 schoolyards. In the view of former Councilwoman Haynes, the strength of the learning landscapes model is the extent of citizen engagement, motivation, and pride. She contends that to say “no” to the 2008 bond measure would have been to say “no” to citizen engagement.

Developing the Data

In 2009, Learning Landscapes received a grant from the Robert Wood Johnson Foundation to examine whether playground redevelopment leads to an increase in children’s physical activity levels and what aspects of playground design most impact children’s physical activity. The results are currently in review at the American Journal of Public Health.

In this study, Learning Landscapes measured physical activity levels through the tool SOPLAY (System for Observing Play and Leisure Activity in Youth) at three schools with renovated playgrounds for at least two years, at three schools with a playground built within the year, and at three control schools without a playground renovation. Each of the playgrounds designated for observation was divided into activity areas to identify which playground variables had the greatest impact on children’s physical activity. These observations were conducted before and after school hours.

The observation results illustrate that schools with a renovated playground had significantly higher levels of physical activity. The significant increase in energy expenditure on Learning Landscape playgrounds validates the importance of the quality of the environment in promoting a more active lifestyle in children. The increase in quantity and variety of elements may account for the rise in activity.

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Average number of sightings per observation, by gender and school type

School Type	Number of Sedentary Boys	Number of Active Boys	Number of Sedentary Girls	Number of Active Girls	Total Sedentary Students	Total Active Students
Control	657	1,272	602	1,020	1,259	2,280
Built	910	2,103	1,074	1,771	1,984	3,874
Recent Built	1,151	2,691	1,305	1,951	2,453	4,642
Total	2,718	6,066	2,981	4,742	5,696	10,808

The study also found that certain play surfaces significantly increased the number of children who were active and without any bias for gender. Analysis by surface type—Hard Surface Structured (HSS), Hard Surface Unstructured (HSU), Soft Surface Structured (SSS), and Soft Surface Unstructured (SSU)—proved informative. Both boys’ and girls’ activity rates are significantly greater at the Learning Landscape SSS areas than in the control environments. These areas include a grass field and play equipment.

Percentage of “Active” observations according to surface type, school, gender, and their comparative p-values

Surface Type	School Type	% Active Boys	% Active Girls	% Active Combined	Boys vs. Girls p-values
HSS	non-LL	67.6	57.2	65.7	<.02
	LL	70.1	53.1	62.2	<.0001
	<i>p-value</i>	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	
HSU	non-LL	49.6	56.2	52.2	<i>n.s.</i>
	LL	63.3	54.0	58.7	<.0001
	<i>p-value</i>	<.0001	<i>n.s.</i>	<.003	
SSS	non-LL	70.6	65.2	67.9	<.006
	LL	73.6	68.3	71.2	<.0001
	<i>p-value</i>	<.05	<.058	<.003	
SSU	non-LL	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
	LL	67.1	66.5	66.8	<i>n.s.</i>
	<i>p-value</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	

SUSTAINABILITY

The scale of this initiative is significant. As such, the successful care and maintenance of these spaces requires ongoing cross-sector planning and collaboration.

In order to plan for the sustainability of the play spaces, Kaesemeyer brokered a deal with DPS regarding maintenance. Kaesemeyer’s local foundation, the Gates Family Foundation, agreed to provide initial funding for the project, but only if DPS ensured maintenance of

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DENVER, COLORADO: LEARNING LANDSCAPES

the spaces. As part of this initial agreement, DPS budgets roughly \$25,000 per site per year for maintenance, which includes such activity as re-seeding, fertilizing, and watering. An estimated \$26,000 worth of labor and materials is contributed by volunteers at each site per year.

The learning landscapes model assumes that the community will play a role in caring for the space. There are often lower incidents of vandalism on the schoolyard following these projects; community members who built the play spaces also take care to protect them. Projects led by a parent, rather than a teacher or principal, are especially likely to be protected by the community.

A key challenge has been the multifaceted nature of the spaces, in some cases requiring work that is beyond the expertise of DPS ground crews. For example, the crews are often not trained to care for the natural grasses and plants. Over time and with DPS funding, Learning Landscapes has taken responsibility for overseeing the maintenance that is beyond the capability of DPS personnel.

Continuity of champions of these play spaces has been another challenge. The initial community-based champions—perhaps a principal, teacher, or parent—may eventually move on. School closures are another factor. Once a school is shuttered, the community is left with a playground that is not supported by DPS maintenance resources. The learning landscapes model assumes that the community will step in and take a larger role in taking care of these spaces.

Development of more integrated master plans, considering DPS' priorities and plans as well as the broad park and playground needs of the community, would help mitigate closure of schools with learning landscapes in high-needs areas. Both Denver Public Schools and the Denver Park and Recreation Department are working more closely to coordinate their planning.

Finally, the initial model for learning landscapes called for these spaces to be integrated into the school curriculum. This aspect of implementation has been more difficult to introduce and institutionalize than was initially anticipated. Once institutionalized, the assumption is that the learning landscapes would have greater utility and, therefore, could sustain champions or supporters. To focus on the effort, Learning Landscapes has a partnership with the Denver Schoolyard Consortium to help to integrate these spaces into the curriculum. Learning Landscapes also has a grant from the Gates Family Foundation to create and implement a technical assistance training program for teachers.

OUTCOMES

Citizen-led initiatives to upgrade neighborhood schoolyards inspired the launch of a public-private partnership to bring the same improvements to underserved neighborhoods across the city. The popularity of these play spaces led to public demand, and \$39 million in public funding, to expand the model program to every schoolyard across Denver.

Quantity: There have been 48 playgrounds built across Denver, serving 18,000 students; not all created new space for play, but many old schoolyards lacked play equipment.

Quality: The 48 new playgrounds replaced or repaired dilapidated asphalt areas and outdated or unsafe play equipment with age-appropriate climbing and play structures, artwork, gathering places, shade structures, and green areas. There was virtually no grass at any of the sites before the learning landscapes were developed.

Access: State grants required that the play spaces be accessible to the public after school hours, resulting in 46 new playground facilities open to local communities.

CORE FINDINGS

Support a local champion to mobilize the community. External champions became important later in the process as learning landscapes spread across the city, but the launch of the Learning Landscape Alliance would not have been possible without the initiative and leadership of key local champions.

Engage stakeholders through firsthand experience. Potential stakeholders needed to witness firsthand, rather than hear or read about, the necessity for high-quality play spaces in order to overcome cost objections and to make the association between play and learning.

Engage key public officials early in the process. Lois Brink worked in partnership with officials from the city and with the Denver Public Schools, building trust and engaging them early in the process. The partnership with key DPS staff was critical to the success of the initiative.

Enlist direct beneficiaries in advocacy. LLA was able to command the attention of public officials when they began to hear directly from the students; student presentations to the city council and school board were an effective tactic.

Mobilize the community to inspire civic leaders. The engagement of school and community members, particularly in the underserved neighborhoods of Denver, and the resulting ownership and pride in their play space inspired the support of key civic leaders. When 80% of the school community at Colfax Elementary School came out for the build day, civic leaders took notice.

Expand access through joint-use agreements. The COGO grant, which required schools to extend the use of their schoolyard to the community after hours, was the primary impetus for some principals to participate in these joint-use agreements.

Use private funding to spark public funding. While many private investors supported the Learning Landscape Alliance, the Gates Foundation was the leading contributor. By its accounting, an initial Gates Foundation investment of \$1.2 million was a catalyst, through the bond measures, for \$19 million in public funding.

Align grassroots and grasstops. The pace of the Learning Landscapes expansion was made possible by the alignment of an effective grassroots campaign and willingness of the city to invest in playground development.

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CONCLUSIONS AND QUESTIONS

The University of Colorado played a key role in propelling Learning Landscapes, from inception to the development of supporting research. What other opportunities exist for partnerships with the academic sector to expand play options in urban areas? This case study raises the importance of interagency collaboration in determining priorities for play facilities. What are the best practices for coordinating play facility placement across jurisdictions? How can parks departments and school districts best collaborate to determine play priorities? Would a play space audit across jurisdictions have been helpful in identifying and aligning priorities?



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AND PROCESS IN SUPPORT
OF CHILDREN'S PLAY