Placemaking with Children and Youth

Participatory Practices For Planning Sustainable Communities

Victoria Derr, Louise Chawla, and Mara Mintzer

"Cities have the capability of providing something for everybody only because, and only when, they are created by everybody."[1]

2

Supporting Young People's Engagement

How do we engage young people in creating places they will care for and love? As discussed in Chapter 1, participation is a right of all people, no matter their age, and many cities and countries have developed provisions to facilitate it. Yet there is no one-size-fits-all template for every city and every goal. Approaches should be tailored to project and partner needs, from short-term and small-scale projects to longer-term, institutionalized programs for participation that may include a variety of different projects over the years.

The heart of participation is actively involving local people in decisions that affect them. Participation shifts the emphasis from government action and decision-making to democratic engagement, where all members of a community have expertise on the places where they live, and can meaningfully contribute to shaping their physical structure and policies. Characteristics of effective participatory planning include:[2]

Local and place-based. People are most interested and engaged when they can speak about their own lived experiences and influence decisions that will directly affect their lives. Place-based participation makes sense because young people want opportunities to shape where they live. Local contexts also influence how a project is conceptualized, influence partner selection, methods employed, and final deliverables.

Transparent. Throughout a project, all participants should understand who is participating, participant roles, and project expectations. It is important to communicate the practical limits for a project. For example, in designing a park, participants can learn to work within a budget or limitations on the types of features that can be included. In this way, everyone shares realistic expectations. Sometimes adults are concerned that if young people do not get what they ask for in a project, they will become disengaged. Our experience has been that young people understand and accept limitations and appreciate transparency.

Inclusive. All people have a right to participate. It is not always possible to include everyone in a project, so it is important to think about partners that can help facilitate the greatest inclusion. Children from marginalized communities, such as recent immigrants, are not likely to participate in political or social systems. It is important to make a special commitment to include young people who are least likely to be heard, due to immigration status, ethnicity, income, language, physical barriers, or disabilities.

1. Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

2. Adapted and expanded upon from David Driskell, *Creating Better Cities with Children and Youth*. (London: Earthscan Publications, 2002), 32–34.

Relevant. For *participation* to be relevant, it should focus on local issues that have signifiance for those involved. A project should be relevant to the city leaders, community members, and staff of child- and youth-serving organizations who participate. Special attention also should be given to developing projects and methods that are culturally relevant. Many issues of relevance at a local scale also have significance at regional, state, national, or global scales. It can be helpful to think about issues as they are experienced locally, but also draw from examples of best practices at multiple scales, to inspire participants' thinking, develop expertise, and generate meaningful recommendations.

Educational for all parties. Participation is not a one-way street. In effective participation, all parties learn from each other. Children and youth learn from experts and also each other. They develop their capacity for listening, expressing ideas, working in teams, and solving problems—essential components of a democratic society. Project leaders, community members, city staff, and officials also can learn, when they bring open minds and attitudes to how young people's ideas can shape their thinking and work. Reflection is an important means of learning from each other—with young people and adults reflecting together not only on the project topic, but also on the process, with the goal of continual learning and improvement.

Sustainable. Participation is a means to achieving an initiative's long-term continuation, through the personal investment, understanding, and sense of stewardship it fosters. Programs are easier to sustain when all parties share in the investment and see personal relevance. At a larger scale, participation is a means to achieving social, economic, and environmental sustainability. When young people develop a sense of personal responsibility, have opportunities to develop and express their voice, share ideas with city leaders, and develop a sense of stewardship and investment in their community, they are contributing to a more sustainable society.

Voluntary. For participation to be meaningful, as well as ethical, it should be voluntary. Children and youth should be able to choose whether they participate, and positive options should be provided in school or after-school settings so that no one feels pressured to join.

Playful. It is important to remember the importance of play and humor in participation. Young people want to contribute their perspectives to urban planning, but they also want to enjoy themselves. Methods that use multiple senses, integrate arts and creativity, and allow flexibility and freedom of expression are more effective in sustaining young people's interest. Playfulness can influence the methods we choose, ideas we generate for design (Figure 2.1–2.2) or simply the way we think of participation—enjoying each other, and each other's ideas, can be part of participatory processes.

Box 5.16. **Using Music Video to Spread the Word:** Youth Becoming Flood Resilient Citizen Scientists with Dr. Merrie Koester, University of South Carolina Center for Science Education

Figure 5.19. The Gadsden Creek context for a music video about development and environmental racism. Photo credit: Jared Bramblett

In many cultures and traditions, music is a form of storytelling used to transmit knowledge and experience. In the urban hip hop culture, rap music often conveys stories of profoundly unbalanced systems in the world. Working with Dr. Merrie Koester of the University of South Carolina Center for Science Education and a team of community mentors in Charleston, South Carolina, a class of eighth-grade African American students, ages 13–14, from Charleston Development Academy explored the causes of flooding in their neighborhood, a public housing site built adjacent to what was once a thriving tidal creek. Gadsden Creek was historically a place of swimming and recreation and a vital habitat for many marine plants and animals. Over time, much of the creek was filled in with trash and debris, and then paved over for development.

As a result, vital ecosystem services were lost, and the housing project area has been experiencing severe flooding, especially during high tides (Figure 5.19). Sea level rise is making matters even worse. The most common sign near the school is a ROAD CLOSED sign.

Dr. Merrie Koester, a science and arts integration specialist, employed principles of place-based learning to position students as resources of knowledge about flooding and development impacts on their community. With significant support from community artists, stormwater engineers, climate scientists, environmental justice specialists, and city officials, students learned about the marsh ecosystem, its history and development, moon phase and tide relationships and then developed artistic digital media competencies to share their knowledge and perspectives at a community event.

The short music video shows the students moving out of their school into the marsh. They rap about the degradation of Gadsden Creek and the ecological and social consequences that come from ignoring nature. They describe the natural cycles of the tides:

> "Hi-Lo, Do Re Neap
> All these tides are flooding our streets.
> Spring, King, not the same thing.
> It all depends on the moon's swing . . ."

And their goals for their neighborhood:

> ". . . We're on a mission—
> Not asking for permission.
> Find a solution for our city's evolution
> Gadsden Creek is filled with trash.
> Now the flooding is a pain in the
> AS-phalt . . ."

Through their music, they express their concerns for wildlife and their hopes for a better solution than continuing to develop the tidal creek and wetlands. Youth shared this video at a large community gathering and called for the developers to consider green infrastructure and a reduction in impervious surfacing in their current plans, garnering support from the city's stormwater engineer along the way.[1]

Figure 5.20. Making a music video requires practice and preparation. In this image, youth stand next to receding floodwaters in their neighborhood as they rehearse the video. Photo credit: Merrie Koester

1. M. Koester. "On a mission: Creating a climate for rising 'C' levels in science education." Work in Progress. Kids Teaching Flood Resilience: https://www.kidsteachingfloodresilience.com/

Digital Stories

Some youth express preferences for sharing their ideas in digital media.[16] Digital stories move storytelling into a digital process that can be used in face-to-face groups or shared across time and space. A wide range of programs support digital stories, including the Center for Digital Storytelling.[17] Its director, Joe Lambert, has developed an excellent resource on digital storytelling methods.[18] He describes approaches to facilitate a wide range of stories including reflection, intergenerational connection, identity, and activism. Here we provide simple methods that can be helpful in engaging young people in urban planning processes.

There are three basic steps to the digital storytelling process: create a narrative, take or compile pictures that reflect this narrative, discuss and collate into a digital story. Digital stories can be developed from a series of photographs (still images) or from video or film. The images are compiled in a sequence with the narrator telling his or her story. The end product is a personal story that is told digitally.

Ages. 10 and up

Materials. Existing photographs; cameras or video recording technology; computers with

16. Joe Lambert, *Digital Storytelling: Capturing Lives, Creating Community*, 2nd Edition. (Berkeley, CA: Digital Diner Press, 2006).

17. The Center for Digital Storytelling provides support for participatory media and storytelling to communities around the world. StoryCenter. "Listen Deeply, Tell Stories." StoryCenter.org. www.storycenter.org. (Retrieved September 24, 2017).

18. Lambert, *Digital Storytelling.*

stories using movie-maker software. While the specifics will vary by software program, the process should include the following steps:

- Upload and process all images
- Generate the text that will become subtitles for the story
- Record the storyline
- Find and download any royalty free music that will be used as background

- Assemble and edit the digital story

Sharing with community members and decision makers

When all participants have developed their stories, host a venue to share the stories with others. This can be through a gathering with school or city leaders, a film shorts festival open to the community, and/or a virtual sharing of stories on the internet. Growing Up Boulder, for example, scheduled a special evening with city council members that began with a screening of young teens' digital stories. Most of the storytellers and some of their family members were present. The stories prompted councilors to ask questions, and opened up conversations with the young people about their experiences. Facilitators needed to mediate the evening to ensure that young people felt appreciated and that they understood the councilors' questions as invitations to a discussion—not a cross-examination. (See Chapter 8 for other examples for sharing projects.)

Participatory Video

Participatory Video began in the 1960s as a means of facilitating dialogue between community members and government officials. Participatory video enables collaboration as many participants can shape a story, contribute with different skills, and share in knowledge generation.[20] Like many of the participatory methods described in this chapter, the *process* of generating the film contributes to social change more than the physical product.[21] Participatory video has been used in a wide range of contexts including environmental and public health, social action, safe schools, parks planning and youth identity. It has also been employed widely in the context of international development.[22, 23] Because filmmaking requires a certain degree of training, participatory video can empower youth by giving them skills in documentary methods as well as developing their capacity to speak up as active citizens.[24]

The steps to creating participatory videos are similar to digital stories. Because of the additional filmmaking skills required, the process is typically implemented over the course of a week-long intensive workshop or over a full year. No matter the time allotted, participatory video requires identification of facilitators with the skills and resources to teach filmmaking. Lunch and Lunch have written an accessible guide to participatory video,[25] and an increasing number of websites share these processes for working with youth.[26]

---

20. Aline Gubrium and Krista Harper, *Participatory Visual and Digital Methods* (Walnut Creek, CA: Left Coast Press, 2013).
21. Katharine Haynes and Thomas M. Tanner, "Empowering young people and strengthening resilience: Youth-centred participatory video as a tool for climate change adaptation and disaster risk reduction." *Children's Geographies* 13, no. 3 (2015): 357–371.
22. Nick Lunch and Chris Lunch, *Insights into Participatory Video: A Handbook for the Field*. InsightShare, 2006. http://insightshare.org/resources/insights-into-participatory-video-a-handbook-for-the-field/. (Retrieved March 10, 2017).
23. Gubrium and Harper, *Participatory Visual and Digital Methods*.
24. Arjun Appadurai, "The right to research." *Globalisation, Societies and Education* 4, no. 2 (2006):167–177.
25. Lunch and Lunch, *Insights into Participatory Video.*
26. For example, see Pukar. "Youth and Urban Knowledge Production." Pukar.org. http://www.pukar.org.in/youth-and-urban-knowledge-production/ (Retrieved September 24, 2017).

Box 5.18. **Lens on Climate Change**

The Lens on Climate Change (LOCC) project, developed by the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado, Boulder, engaged youth in developing short films that explore the effects of climate change on young people's lives and communities. Film topics varied—from "Eco-Warriors" who demonstrate the pitfalls of poor environmental behaviors in the home, to "Coyote and the Drought," which builds on Navajo stories to tell the tale of area lakes drying up in the Southwest U.S. All shared common ground in using humor to address a dire issue, valuing collaborative decision-making, demonstrating young people's interest in sharing their lived experiences and culture, and stressing ways to make an impact now.

Youth in the project reflected that they enjoyed using art as a form of expression, learning more about their communities, working collaboratively with peers and mentors, and using film as a means to educate others. One student reflected, "The best experience of LOCC is they let me use my talent in art . . . This is a rare experience for me, and it helps me in so many ways to learn other skills such as leadership, teamwork, and how to cooperate with others." Another student said, "I understand now that the world isn't doomed, but we can fix it and make it better." Similarly, another student said that "the best thing about the LOCC experience is making a film about how people could make a change for the better. . . These films . . . will hopefully make others do their best to help the earth."[1]

1. Adapted from: Victoria Derr, "Young people focus their lens on climate change." *European Network of Child Friendly Cities*, January 12, 2017. http://www.childinthecity.eu/2017/01/12/young-people-focus-their-lens-on-climate-change/. (Retrieved September 24, 2017).

Figure 5.22. Youth selected topics to research related to climate change. In this case, youth interviewed farmers and climate scientists as they investigated the links between ranching, water, and climate change in "Snow to Steak." Photo credit: Lens on Climate Change

Figure 5.23. Youth can engage in all aspects of video production, from interviews and film footage to editing. Photo credit: Lens on Climate Change

Ages. 13 and up

Materials. Video equipment; capacity to upload to YouTube or other storage and sharing space

Time to Complete:. The amount of time varies widely, from a one-week intensive workshop to a year with multiple workshops and phases

Participatory video often involves four stages: an early knowledge and skill building series of exercises; identification of priority issues and storyboarding of messages; an iterative process of learning, filming, and editing; and a final stage that involves a screening, dialogue, and identification of action.

Method—Identifying issues and developing the storyline

- Introduce the method and what participants will be doing.
- The process can begin with open-ended prompts as in the digital story process, such as

  What do you like about your city? What about your city is friendly and supportive to you? What can the city do so that it is a better place for young people?

  Or it can be focused on a more specific set of questions or issues, such as flooding (Box 5.16) or climate change adaptation (Boxes 5.18 and 5.19).
- For open-ended questions, it may be helpful to introduce a series of exercises, such as other arts-based methods in this chapter, to help youth identify an issue for focus with participatory video.[27]
- For a focused topic, such as climate change adaptation, this stage also involves bringing experts and youth together to explore a subject.
- In this stage of participatory video, facilitators will lead a series of exercises that build knowledge and skills about film-making as well as any subject matter needed.

Method—Identifying priority issues and storyboards

- After an initial phase in which youth explore a topic more broadly, each youth or group will determine an area of focus for their film.
- Youth create a storyboard. A storyboard is a sequence of images and words that show the progression of the story planned for a film or video. Participants can hand sketch these ideas onto frames (Figure 5.21) that represent the sequence of ideas they will share in their film.
- This phase is usually iterative, meaning that youth develop a storyline, get feedback from peers, community members, or experts, and refine their thinking before producing the film.
- When the story board is complete, it should reflect a basic outline of the images and ideas that will be conveyed in the film.

Method—Create the film

- Once the storyboard is created, participants can begin to create their own films. While the specifics will vary by software program, the process should include the following steps:
  - Generate footage
  - Edit the footage
  - Add any subtitles
  - Publish and/or share the film through a screening or workshop

As with digital stories, host a screening or other venue for participants to share and discuss their videos. Establish ground rules for sharing films so that youth retain the feelings of empowerment they developed in the process of production (Box 5.19).

27. Lunch and Lunch, *Insights into Participatory Video* provides many exercises that help build a storyline and film content.

Box 5.19. **Participatory Video for Climate Change Adaptation and Disaster Risk-Reduction**

Like the Lens on Climate Change project (Box 5.18), researchers in Eastern Samar, the Philippines have also used participatory video as a means for children and youth to express their ideas about how to respond to climate change.

This extensive research project provided in-depth training for young people in climate change adaptation and disaster risk reduction as well as documentary filmmaking. When the films were ready for screening, young people and adult researchers and facilitators worked together to develop a process for screening workshops. The process involved screenings in three locations, with government officials, community members, and project participants in attendance. In this process, discussion focused on which problems could be solved by the community and which needed governmental involvement or intervention.

Adult participants and facilitators held briefings with youth both before and after these workshops to discuss likely outcomes of their screenings, identify positive outcomes, identify social and political constraints, and reinforce that, while decision-making is often long-term, actions could happen.

The participatory video project had a significant impact on its participants, with one youth stating, "Our inspiration in making the film is our fellow youth . . . We believe and claim that children hold the future, so let us lessen the risks." Another reflected that "I don't want this to end only after the film. We want [the government] to adopt those practices which could benefit our community."[1]

1. Haynes and Tanner, "Empowering young people and strengthening resilience"

Box 5.2. **Drawings to Understand Resilience:** Assets and Vulnerabilities

In 2013, Boulder, Colorado and Mexico City, Mexico became part of the Rockefeller Foundation's 100 Resilient Cities initiative to help communities around the world become more resilient to the physical, social and economic challenges cities face today. The 100 RC approach framed resilience in terms of understanding "acute shocks," such as floods or fires, and "chronic stresses," such as poverty and endemic violence. Growing Up Boulder and researchers in Mexico City partnered to explore children's perceptions of resilience in the two cities using a paired participatory research approach.

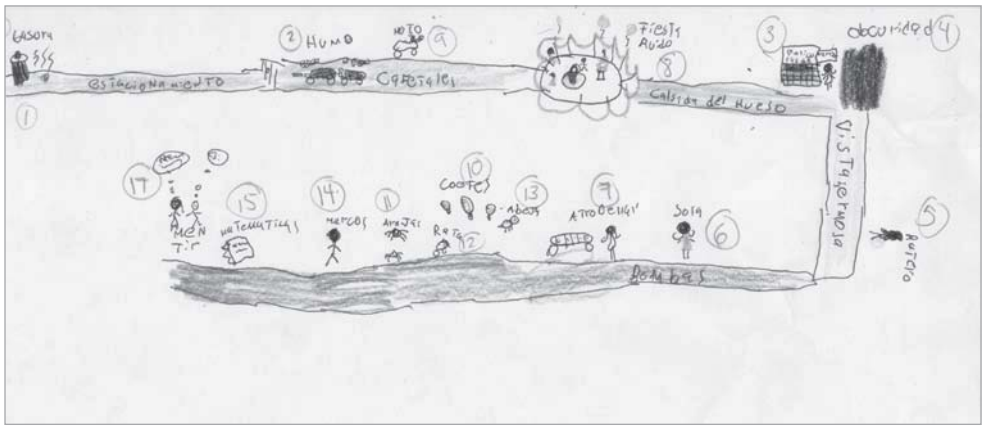
Figure 5.3. One student drew the flood, a natural disaster which had affected the city of Boulder two years prior, as a vulnerability. This drawing depicts aerial views of homes surrounded by water, as the child experienced during the storm. Image credit: Growing Up Boulder

As an initial way to understand children's understanding of their city, we asked children (ages eight to ten) to draw assets and vulnerabilities at their home, school, street, neighborhood, and city scales. We defined an asset as a "valuable person, place or thing that helps you feel safe and supported" and vulnerabilities as "people, places, or things that make you feel afraid, unsafe, unsure, that make you feel exposed, open to being hurt, or that you don't belong."

Students generated asset and vulnerability drawings on two separate visits. At the end of each drawing session, students shared and discussed their drawings as a group. These drawings became the basis for mural collages (Figure 5.6) and a video exchange between children in the two cities. While some children focused on a single asset or vulnerability (such as in Figure 5.3), others compiled many ideas into a single drawing (Figure 5.4).[1]

1. Victoria Derr, Yolanda Corona, and Tuline Gülgönen, "Children's perceptions of and engagement in urban resilience in the United States and Mexico." *Journal of Planning Education and Research* (2017): doi: 0739456X 17723436.

Figure 5.4. This student drew many types of vulnerabilities, including car fumes, loud parties, dark places, and stinging bees. Image credit: Yolanda Corona Caraveo



Box 5.4. **Whittier International Elementary School, City Values Mural**

As part of a project to understand children's perceptions of resilience, Growing Up Boulder engaged primary students, aged 8 to 9, in developing a mural. Before beginning the mural, school children discussed their city and identified assets and values that they felt represented their city. These values included open space and parks, care for animals, shelter for people, healthy lifestyles, education, and the arts. Once these values were identified, each student ranked the values from those that they thought were "well done" in the city to those that "need more work."

From their individual assessments, children chose one of the values that was most important to them and drew a picture that reflected their thinking about this value and how it was, or could be, represented in the city.Project facilitators sorted the drawings and created a framework for a mural that would have four quadrants with drawings that reflected: the arts and care for animals; safe neighborhoods; healthy lifestyles, including food for the homeless; and parks and nature. The mural was ringed by Boulder's mountains, as drawn by one student who particularly loved the mountains. After images were transferred to the canvas, students collaboratively painted the mural, with much negotiation over colors and embellishments that gave the mural character.

The completed mural (Figure 5.6) was part of a public presentation to the school board, city planning staff, and community about how to support resilience in the city. It was hung in the school for the remainder of the year. After mural completion, students conducted research and developed recommendations for how to improve those areas of the city that needed "more work."[1]

Figure 5.6. Children painting group mural that reflects what they care about in the city. This mural was generated as a part of a resilience project with primary school students. Photo credit: Victoria Derr

1. Derr, Corona, Gülgönen, "Children's perceptions of and engagement in urban resilience"

Drama

Dramatic productions can be entirely planned, scripted, and enacted by youth, with youth composing or selecting the music, making the costumes, and building the sets.[36] In this case, adults just play a facilitating role and enjoy and celebrate the results. These dramas can be contained within workshops that enable youth to explore material theatrically without the goal of a public performance, or they can be planned and performed to increase others' awareness and action in response

36. Beth Osnes, *Performance for Resilience: Engaging Youth on Energy and Climate through Music, Movement, and Theatre.* (Cham, Switzerland: Springer, 2017); Bethany Nelson. "'I made myself': Playmaking as a pedagogy of change with urban youth." *RiDE: The Journal of Applied Theatre and Performance* 16, no. 2 (2011): 157–172; Kathleen Gallagher, Rebecca Starkman, and Rachel Rhoades. "Performing counter-narratives and mining creative resilience: using applied theatre to theorize notions of youth resilience." *Journal of Youth Studies* 20, no. 2 (2017): 216–233.

to environmental issues that affect young people's lives.[37] In either case, adults can contribute by helping young people learn the many skills that a theater production requires.

Twentieth and twenty-first century traditions like applied theater, community-based theater, and theater of the oppressed bring actors, musicians, dancers and directors together with communities in more collaborative roles to co-create performances, although the goal of enabling a community to explore and articulate its own social and environmental issues remains primary.[38] While the purpose is often to inspire collective problem-solving, it can be as simple as increasing understanding and appreciation of different groups in the community and valuing local cultures and traditions. The musical *Shine* features such a collaboration between professional artists, young people, and in this case climate scientists, around the theme of climate change and community resilience (Box 5.23).

37. For examples of theater workshops with young people in post-Katrina New Orleans and a brief guide to workshop processes, see Jan Cohen-Cruz's chapter on "Gathering assets" in her book *Engaging Performance: Theatre as Call and Response* (Abingdon: Routledge, 2010), 111–133.

38. Cohen-Cruz, *Engaging Performance*.

Box 5.23. ***Shine*: Young People Perform for Urban Resilience**

Shine is a play co-created by Beth Osnes, a theater professor at the University of Colorado Boulder, performing artists in music and dance, climate scientists, and local youth in seven cities where it toured. It presents young people as resources who can contribute to their community's resilience: its capacity to survive and even thrive despite social stresses and environmental shocks such as climate change and extreme weather events. It combines information from climate-change experts with community-based solutions proposed by youth.

Figure 5.32. Youth as ancient plants and animals and the Sun in a performance of *Shine* for scientists and the general public at the National Center for Atmospheric Research in Boulder, Colorado in June of 2015. Photo credit: Conner James Callahan

Act One and the play's concluding scene consist of dialogue, song, and dance scripted by Beth Osnes in collaboration with a professional song writer, musician, and choreographer, with climate scientists serving as advisors. About a dozen older children and adolescents enacted the performance in each city where the play has toured. Two teens play the leading roles of Sol (the sun) and Foss (fossil fuel) while other actors are costumed as plants and animals who portray 300 million years of geological history as the sun's energy is captured by plants and stored in the earth's reserves of coal, oil, and natural gas. They weave a fabric that represents their interdependent community. In the end, as the industrial revolution begins humanity's accelerating consumption of fossil fuels, Foss and his team tear through this fabric. As young people rehearse this act, they learn climate science and how human history has brought us to our current dependence on fossil fuels that is impacting the global climate. The act ends with the questions, "What story do we want to tell for our city? How

(Box 5.23 continued on the next page)

(Box 5.23 continued)

do we want to get from this point in history to a resilient future?"

Act Two is authored by local youth, who develop ideas to address climate change and their city's resilience challenges. In small groups, they present a series of skits that show people taking a variety of actions. In the end, the whole cast sings and dances the play's theme song, "Shine," that celebrates what has been accomplished. The play as a whole takes about 30 minutes.

Shine is an example of applied theater that brings professional artists together with community members to generate ideas to address local problems—solutions infused with imagination and humor as well as serious intent. Young people "shine" at doing this. The process is as valuable as the finished product, from initial steps to identify local advocates for resilience planning who agree to host the performance, through action plans to implement the young people's ideas.

The play's director, Beth Osnes, and university theater students begin a few days in advance of the performance by rehearsing with the teen actors who will speak the roles of Sol and Foss. The songs and music are prerecorded for the cast to sing along and dance. In one intense day, the whole cast gathers in the morning to learn about the play's purpose, do ice-breaking exercises, make simple props, and rehearse Act One. They share lunch with local climate scientists or activists, which gives them an opportunity to discuss their ideas for strengthening their city's resilience in the face of climate change. After lunch, the cast breaks into groups to create several two-minute skits for Act Two that show people taking action, facilitated by adults who ask questions to help them develop their thinking. Each group also writes down its suggestions and they seal them together in an envelope. As the play ends, the cast presents the envelope to city leaders in the audience, asking them to make plans to carry the ideas forward. The performance ends with a community discussion about the ideas generated and other possibilities.[1]

1. Osnes, *Performance for Resilience*; for free lyrics, curriculum guides, costume directions, and videos that show the choreography of each scene of *Shine*, see http://www.insidethegreenhouse.org/shine/.

Box 5.24. **Performance Art and Co-Design to Facilitate Expressions of the City**

with Susan J. Wake

This co-design example was developed following the inspiring performance art project called "Lookout" that was part of the Auckland Fringe Arts Festival in March, 2017. Lookout engaged 16 inner-city schoolchildren, ages 9–10, in an example of "pedagogical theater" that was developed by London artist Andy Fields.[1] The performance has since toured a number of cities globally. Each show is a unique one-on-one conversation between one adult theater-goer and one child who joins them to share their views and memories of the city. The title "Lookout" refers to the location of the conversations: somewhere high up in the city, from which participants each look out and reflect on the past, present, and future of the city. Through preparatory workshops the children explored themes intended to provide the adults with a future-focused vision of their city, including natural-disaster conditions that might occur due to climate change. In preparation for Lookout, children workshopped material for two weeks prior to the start of the performances. Performances were partly scripted

1. Andy Field, "Lookout Interactive." Andy Field.com. http://andytfield.co.uk/project/lookout/ (Retrieved December 19, 2017).

and delivered via recording to the adult, while standing and "looking out" at Auckland city. Then the adult was joined by a child who gave his or her views and posed questions to the adult, such as "what have you done to improve your city?"

This catalyst performance project also led to an interest in investigating, via design, the ideas of the children about how to improve their city. This occurred as a result of the children's teacher wishing to continue to investigate these ideas with the children after the performances ended. Focus groups that build on the co-design approach (Chapter 8) asked children to recap their experiences of the performance process and suggest urban design ideas that came from this, that they felt would make their city more child-friendly. Their comments and drawings were analyzed and provided strong direction for the design. For example, they wanted their city to be safer, more fun, provide more play opportunities and green space, plus encourage people to be more environmentally friendly. This led to a variety of design drawings, focusing on the streets around the school that the children regularly walked, and the children reviewed these for popularity and suggested design changes. As one example, the children loved the funky rubbish bins that were a part of the design suggestions (Figure 5.33). These bins encouraged recycling and composting in a fun way, but the children wanted teeth added to the landfill bin to make it look more disapproving (Figure 5.34).

Figure 5.33. A rendering of rubbish bins designed in collaboration with children to make the street more fun and cared for. Image credit: Yi Luo

Figure 5.34. Children asked for the landfill bin to have more "teeth" since it is less environmentally friendly than the other disposal bins. Image credit: Yi Luo

Box 6.11. **Youth Creating Disaster Recovery and Resilience Project**

The Youth Creating Disaster Recovery and Resilience project is a Canadian-U.S. partnership between the ResiliencebyDesign Research Lab and Colorado State University. The project has used arts-based methods to engage youth in participatory workshops in communities affected by natural disasters. Through a series of workshops, project leaders engaged youth, ages 13–22, in a series of trust- and team-building activities. They employed art as a storytelling method for youth to share their recovery experiences from disasters and to identify ways youth had contributed, or would like to contribute, to recovery. Methods included the Magic Carpet Ride, Visual Explorer, Photostory, Graphic Recording, and Digital Stories. (For instructions for creating Digital Stories, see Chapter 5.)

For the "Magic Carpet Ride," participants stood on a tarp, imagined themselves flying over their community, and attempted to turn the tarp over without anyone falling off. By successfully managing the challenge of flipping the tarp carpet, the youth experienced the ride as a metaphor for the collaborative aspects of disaster recovery.

Facilitators also adapted the photo-elicitation method developed by the Center for Creative Leadership called Visual Explorer. The Visual Explorer method provided participants with a set of 200 photographs designed to elicit discussion about "what it means to be a youth in your community?" Participants were given the question, then they walked around a gallery of photos, choosing those that reflected their perspectives. They then shared their picture selections and reflections, in pairs and then as a larger group.

The Photostory method was employed in a similar fashion to photovoice, in which participants took their own photographs and wrote narratives in response to prompts. The facilitators added Graphic Recording by combining graphic images with phrases and colors that resulted in wall-sized projected murals.

In Canada, facilitators also used stop-motion animation as a kind of digital story. Working with a professional spoken-word artist, youth crafted their personal stories of experiencing disaster and recovery. They used mixed media to develop their stories, for a final product in stop-motion digital animation.[1]

1. Sarah Fletcher, Robin S. Cox, Leila Scannell, Cheryl Heykoop, Jennifer Tobin-Gurley, and Lori Peek. "Youth creating disaster recovery and resilience: A multi-site arts based youth engagement research project." *Children, Youth and Environments* 26, no. 1 (2016): 148–163.

Box 6.20. **Visual Preference Survey for Park Design**

When the City of Boulder's Parks and Recreation Department began to develop a Valmont City Park concept plan, they partnered with Growing Up Boulder in a range of participatory methods that included a field trip to the park and a visual preference survey with youth aged 11–16. The visual preference survey was presented using Power Point slides. A total of 22 slides presented images related to the categories of: *transport*, both to and within the park; *social spaces*, including seating and picnic options; *playground* structures and settings; and *food vendors*. Slides presented two, three, or four images for each category. Most also included a short verbal description to clarify which aspect of the image youth should respond to. In this survey, youth were asked to distribute their responses along a spectrum of most-preferred to least-preferred image. Some of the most-preferred results were compiled into collages for a final report.

Box 6.21. **The Use of Precedents:** Parks that Flood

When the City of Boulder began planning a redevelopment of its downtown Civic Area, Growing Up Boulder engaged young people in primary, middle, and secondary school in a process of co-design for the "Park at the Core" of this public space. (See Chapter 8.) After a series of initial activities, including *nicho* boxes with primary-school students (Chapter 5) and field trips (Chapter 7), students reviewed precedents for "Parks that Flood" as a visual preference survey. Because the city park was located in the immediate flood zone of Boulder Creek, whose waters rise and fall with seasonal snowmelt from the mountains, students could learn from other parks that were located in the flood zones of rivers and use these examples to creatively think about their own park designs.

For the survey, examples were drawn from parks all over the world, including Mill Race Park in Columbus, Indiana, and the Bishan-Ang Mo Kio Park's ecological restoration in Singapore. In this context, the visual preference survey was used to deepen young people's thinking by showing them design examples and enabling them to discuss with each other what they liked and did not like in these images, within the context of flood zones. The images inspired children to think about the creek and its banks not only as a place where they liked to play but also as an integrated part of flood plain management. Children's ideas included underwater viewing areas, a series of "monkey bars" that spanned the bottom of a creek bridge, and treehouses above the creek where people could read books, learn about nature, and hear the sounds of the creek and the birds.[1]

1. Victoria Derr and Emily Tarantini, "'Because we are all people': Outcomes and reflections from young people's participation in the planning and design of child-friendly public spaces." *Local Environment* 21, no. 12 (2016): 534–1556.

Box 8.4. **Combining Workshops and Social Media:** #OurChangingClimate

Participatory planning is especially important as a tool for engaging vulnerable and less heard groups within a community. This pertains to climate change and resilience planning because young people will inherit this challenge and should have a right to influence planning for their futures. A research team from the University of California, Davis, sought to explore engagement strategies with youth using digital communication technologies including social media and the creation of digital narratives. #OurChangingClimate was developed as a participatory design project to engage youth in multiple cities with the goals: 1) learning to visualize local impacts from climate change; 2) creating images and narratives from young people's neighborhoods that reflect vulnerabilities or signs of resilience; 3) encouraging intergenerational conversations about climate-change resilience.

To accomplish this, researchers conducted a series of workshops in six communities. Workshops were one or two half-day events in the cities of Oakland, San Francisco, Davis, and Santa Barbara, California; Milwaukee, Wisconsin; and Plymouth, England. In these workshops, participants learned about projections of climate-change impacts on their own communities through imagery such as regional vulnerability maps, aerial photography, and street-view maps.

After the workshops, youth participants were asked to record evidence of vulnerabilities and resilience in their communities and to share images and narratives about the images through their chosen social media accounts. Youth contributed posts from their community for approximately six weeks.

Youth then returned for a second workshop. Their images and narratives were sorted onto white cards (resilience) and magenta cards (vulnerabilities). Youth generated social media hashtags and selected photographs that they wanted to share as a means of coding the images and narratives, using terms such as #foodwaste, #heat, or #theview. The images were also geotagged to connect the images and text with specific physical locations.

Youth then chose a theme from the initial process and developed a longer narrative. These stories told a personal experience of climate change using Storify or Wordpress digital media. In this process, youth explored a range of topics that relate to climate change including food and waste, health, transportation, green space, flooding, storm vulnerability, and safety features. Some youth also explored alternate futures, from an underwater subway to a transformation of degraded spaces into parks.

This mixing of workshops and technology allowed youth to build their understanding of the science behind climate change while also making personally relevant connections and recommendations for resilience planning.[1]

---

1. N. Claire Napawan, Sheryl-Ann Simpson, and Brett Snyder, "Engaging youth in climate resilience planning with social media: Lessons from #OurChangingClimate. *Urban Planning* 2, no. 4 (2017): 51–63. OurChangingClimate.us

Participatory Schoolyard Design: London, Ontario, Canada

With Janet Loebach

At a Glance

Project Lead: Janet Loebach, Thrive Design Consulting

Location: Blessed Sacrament Elementary School, London, Ontario, Canada

Partners: London District Catholic School Board, ReForest London, City of London, school staff and community members, Department of Geography at the University of Western Ontario

Goals: Participatory design of natural play spaces, reducing air pollution, community awareness and capacity building for local environmental action

Participant Age Range: 5–14 years

Timeframe: Three years, including air quality testing both pre- and post- participatory redesign

Methods

- Pre- and post-testing air quality
- Thermal imaging
- Site measurements and scaled base plans
- Site inventory and assets mapping
- Interviews with users (students and staff)
- Behavior mapping
- Identifying opportunities and constraints
- Concept drawings
- Advanced design work (scaled drawings with plant palettes)
- Model building
- Presentations
- Costing
- Prioritizing
- Community Build

Project Overview

This project began with a focus on air quality and health of children attending an urban school in the City of London, Ontario, Canada. The school was located next to a road with very high volumes of traffic, and the adjacent schoolyard area was deemed off-limits to students due to concerns related to the car traffic and air quality. The school approached Janet Loebach, of Thrive Design Consulting, to develop a design solution to minimize these hazards and improve the quality of the space. Janet recognized the opportunity of greening a school ground as a means of improving local air quality. The school administrators agreed that this was an area of interest and approved the project. Children are more vulnerable to the effects of air pollution, with greater incidence of asthma in areas with high air pollution.[9] By combining the study of air quality and potential health improvement with schoolyard greening, the school was able to obtain funding that included a participatory design process which would integrate the study of air quality with landscape design.

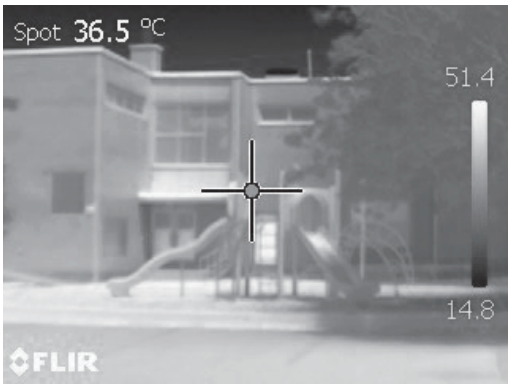


Figure 11.1. Urban heat image. Light areas show areas of higher urban heat; darker areas show lower temperatures associated with vegetation. Image courtesy: Janet Loebach

Figure 11.2. Urban heat image. Youth demonstrated the contrast between body temperature (dark areas) and the heat of concrete (light areas). Image courtesy: Janet Loebach

Project Implementation

The project began with initial assessments of air quality and heat islands and found that the most-concentrated air pollutants were within 150 meters of the roadway—the majority of the schoolyard fell within this zone. At the time, Janet was a Ph.D. student in the Human Environments Analysis Laboratory (HEALab) at the University of Western Ontario. The HEALab Director brought in additional university students and loaned particulate meters to assess air quality with the elementary students. This created a focal area where vegetation might create a buffer zone to trap pollutants between the roadway and school play areas. In addition, students from the geography department's Climate Lab assisted elementary students in the use of thermal cameras to see the influences of hard surfaces versus vegetation on ground temperatures (Figures 11.1 and 11.2).

The participatory design process involved two stages—understanding the design process and designing—followed by a community design-build.

9. H. Ross Anderson, Graziella Favarato, and Richard W. Atkinson. "Long-term exposure to air pollution and the incidence of asthma: meta-analysis of cohort studies." *Air Quality, Atmosphere & Health* 6, no. 1 (2013): 47–56; Katherine K. Nishimura, Joshua M. Galanter, Lindsey A. Roth, Sam S. Oh, Neeta Thakur, Elizabeth A. Nguyen, Shannon Thyne et al. "Early-life air pollution and asthma risk in minority children. The GALA II and SAGE II studies." *American Journal of Respiratory and Critical Care Medicine* 188, no. 3 (2013): 309–318; Michael Guarnieri, and John R. Balmes. "Outdoor air pollution and asthma." *The Lancet* 383, no. 9928 (2014): 1581–1592.

Box 11.1. **What We Need to Know**

Space considerations when designing

- How much area do we have?
- What are our space limits?
- Seasonal and weather considerations
- Will the space be used year-round?
- What weather conditions do we need to think about?
- Do we need a structure for different climates (e.g., rain, sun)?
- Layout of the environment?
- What type of environment is needed?
- What type of design should be made for this type of land?
- Overall look: What should go where?
- What will look visually appealing?
- Will our design be unique (in visual appearance)?
- What should (or should not) be included in the space?
- What do we need to add or take away?
- Do we want more pavement than greenery?
- Should we take out pavement because it gives off heat?
- What equipment is needed for children to enjoy sports?
- Seating needed?
- Storage needed?

Stage 1: Understanding the design process

This initial stage introduced students to the design process. Students were introduced to the project by learning that they would be the primary designers and had a responsibility to both users and maintainers of the site. This stage also introduced students to the design process—what it is, who designs, and what are the steps in the design process. Facilitators asked students to identify what designers need to know, and how they can find this information. Students brainstormed ideas and grouped them into categories: what they need to know about *users and clients*, the *space/environment*, and *constraints and resources*.

One of the first democratic processes was to determine a project name and "design firm" identity as a class. Students used an iterative voting process and agreed upon the project name Green Direction. Then students broke into firms —groups of three to four members—who would work through the design process as a team and ultimately generate a proposed design plan. Each firm received a binder for notes to record their design process and a sketchbook for each student in the firm. Each firm then also chose its design firm name.

Stage 2: Designing

Assessment

In the design phase, students began by researching questions they had identified in the "what we need to know" brainstorming process of Stage 1 (Box 11.1). They then proceeded to map the existing conditions of the playground. Students learned to draw scaled base maps to show the existing configuration of the site. They also used a site inventory and mapping checklist to develop an amenities map (Box 11.2; Figure 11.3 and 11.4).

After completing base maps and inventories, students conducted behavior mapping exercises (see Chapter 4) in order to highlight places where children of different ages and interests played. Students noted conditions that

Figure 11.3. Students developed base maps and inventories of existing conditions as a way to learn about and evaluate the existing school grounds. Photo credit: Janet Loebach

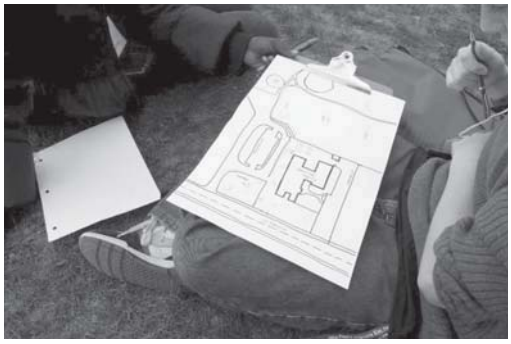


Figure 11.4. The base map provided just enough outline of buildings and landscape features for students to add in their own observations. Photo credit: Janet Loebach

BEHAVIOUR MAPPING EXERCISE
BLESSED SACRAMENT

Names: Megan, Becca
Weather: Ra Cloudy/Windy
Date: Thursday April 26 2012

☐ morning recess
☑ afternoon recess

OBSERVATION	ACTIVITY	WHO #	GENDER	GRADE
1	playing soccer	2 4	girls boys	gr. 5 gr. 5
2	standing & talking	3	girls	gr. 1
3	climbing	1	boy	gr. 3
1 ☆	Duck tuck tag	4	girs	gr 4/5
2 ☆	Skipping	4	girls	gr. 1
3 ☺	Playing with chalk	2	girls	Kindergarten
4 ☆	talking	2	girls	gr 3
5 ☺	Playing war	7	Boys	~~Girls~~ gr 3-4

* Alot of girls were playing games or talking and boys playing war or running games.
* Noticed that the little kids play in the west tarmack area!

Figure 11.5. Sample behavior mapping exercise: the data sheet was used to record date and time of day, as well as play activities by gender, grade, and location on the map. Image credit: Janet Loebach

Box 11.2. **Site Inventory and Mapping Checklist**

- ✔ Existing facilities/resources (basketball nets, soccer fields, play structures)
- ✔ Places for active game playing
- ✔ Places for quiet activities or hanging out
- ✔ Living things (trees, grass, gardens, shrubs, plants, flowers)
- ✔ Natural materials or landscape forms (boulders, hills, ditches)
- ✔ Places where trash or leaves collect
- ✔ Places where water collects after a rain
- ✔ Hot places
- ✔ Cold places
- ✔ Windy places
- ✔ Sunny places
- ✔ Shady places
- ✔ Places to enter and exit the school grounds
- ✔ Your favorite place (and why)

supported or inhibited play and highlighted any areas of conflict related to the social or physical environment (Figures 11.5 and 11.6).

They then turned to generating interview questions to understand different users' interests for a redesigned schoolyard. They developed three basic interview questions: How do you use the schoolyard now? What would you like to be able to do in the schoolyard? What natural things might you like to see?

Each firm was assigned one class of students, one teacher, and one staff member for their interviews. They then reported back what they had learned to all the design firms in

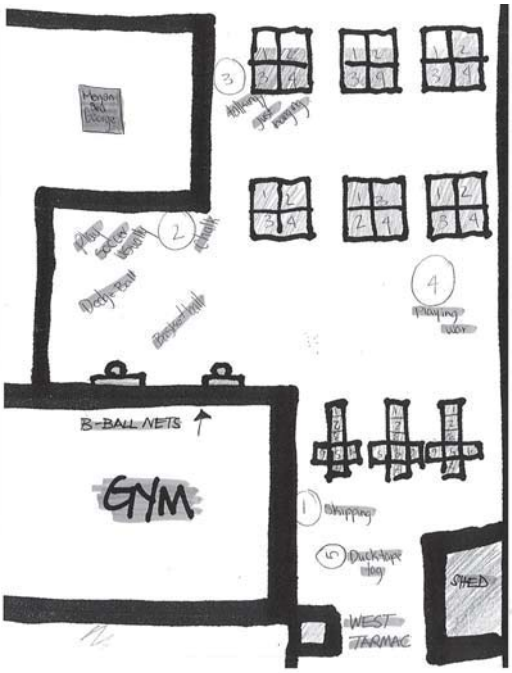


Figure 11.6. Sample behavior map: students recorded their observation codes onto the base map based on observations recorded on the data sheet (Figure 11.5). Image credit: Janet Loebach

the class. From these evaluations, the students as a whole chose priorities for creating their own designs that included the needs of students, teachers, and staff at the school.

Design Research

After their assessments, students studied "good places to play" and model "natural areas" for school grounds in order to generate ideas for their own school redesign. Through the use of precedent study and computer research, they explored habitat gardens, plants native to south-western Ontario, and usage of plants for different purposes. Students developed a Materials Palette of plants and landscape materials, including deciduous and coniferous trees, native perennial plants, types of ground cover, and surface materials. All materials in the palette had an associated unit cost; students were responsible for creating a design that would meet the $15,000 target budget.

Conceptual Design

Once research was completed to understand the site, users, and suitable materials, students began developing concept drawings for their school's greening. Concept drawings were then developed into scaled base drawings, using the initial base maps they had generated. Students then made three-dimensional models (Chapter 5) to represent their final designs.

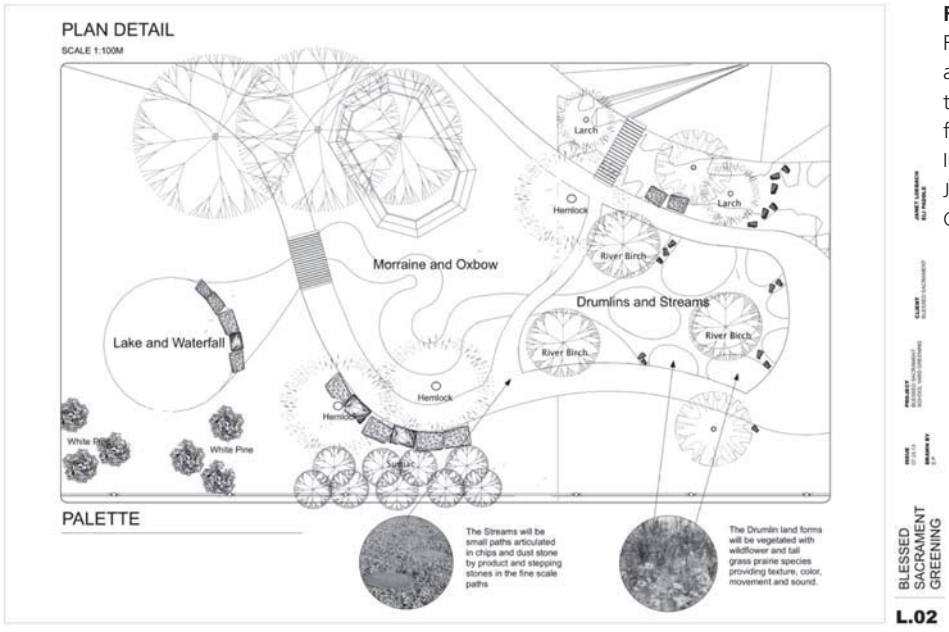


Figure 11.7. Final plan as drawn by the project facilitators. Image credit: J. Loebach Consulting

The design firms presented their designs to one another, providing details of their drawings, priorities, and rationale for their design choices. Janet then facilitated discussions with the students to synthesize ideas from the presented designs and establish priorities for the final site design. Janet worked with colleague Eli Paddle, a registered landscape architect, to prepare drawings of a merged design which reflected the collective priorities and ideas of the students. Janet and Eli brought the design plan back to the students for feedback. This helped generate a final plan that considered users as well as budgets. Site plans for the final merged design were generated by Eli Paddle with J. Loebach Consulting (Figures 11.7 and 11.8).

Stage 3: Construction

After large sections of asphalt were removed, planting beds and pathways were installed with the help of school-board personnel and local contractors. Students from various classes participated in most stages of the construction including the planting of more than 25 trees and large shrubs around the site, prepping beds for planting, and distributing mulch. The entire school community was then invited to participate in a Community Build Day to assist with the final planting of small shrubs and flowers and cleaning up all planting beds. Students and community members volunteered to continue watering and caring for the garden.

Students created a structure to continue this program indefinitely, ensuring a tangible, ongoing connection between students and the new greened space. The program includes a Green Shirt program in which students don a green shirt at recess time and act as garden supervisors, ensuring all plants are protected and healthy, pulling weeds, and picking up any garbage. Project leaders and students decided to give the plantings time to mature before measuring the post-installation air quality and thermal indices.

Project Strengths and Reflection

One of the strengths of this process was the authentic decision-making power that students had and the associated responsibilities that came with it, including researching and costing. The project used multiple methods to assess the site, understand users, and learn about the design process. This provided multiple means for students to

Figure 11.8. Rendering to show anticipated playground design. Image credit: J. Loebach Consulting

learn about design and strengthened the design outcomes. Such a comprehensive process requires time and commitment among facilitators, teachers, and students. However, it was easy to connect the project to a wide range of curricular topics and goals. For example, conducting field measurements of the site and translating these to scaled base plans fit well with the math curriculum. Writing a script to describe their firm's proposed design, and then verbally presenting this material to their peers, tied into language and communication goals within the curriculum. In the process, students moved beyond their own ideas and wishes for the site in order to establish priorities for all the school's users.

School staff supported the project in multiple ways, including facilitating student focus groups within their classrooms, participating in the staff interviews about their own use and wishes for the space, and allowing their students to participate in planting and watering activities. Parents in the community supported the project during the Community Build Day, as well as after completion of the planting by setting up a volunteer group to water and care for the garden during the summer months. Several municipal staff, including from Planning and Children's Services, volunteered their time to help facilitate the in-class participatory design process. Several local contractors also donated labor time and materials to the greening project. Project leaders reflected that if they were to do the project again, they would devote more time to developing short- and long-term maintenance plans for the school grounds, including ways to involve students of all ages, beyond those that were consistently involved in the design process. While a maintenance plan was not part of the design process and curriculum, the school did develop one on their own to address this need in the following year.

This project demonstrated that when children are given the right tools and support, they are more than capable of developing and articulating interesting and appropriate designs. Consistent with other participatory projects, children's designs reflected not only their own wishes but also the needs and interests of others in the school community. Students continue to be protective of the space and show interest in its upkeep and continued development.

Great Neighborhoods:
Young People's Perspectives for a Comprehensive Housing Strategy, Boulder, Colorado, United States

At a Glance

Project Leads: Mara Mintzer, Victoria Derr, and Flaminia Martufi, Growing Up Boulder; Michael Tavel, Senior Instructor, University of Colorado Environmental Design Program

Location: Boulder, Colorado

Partners: City of Boulder Community Planning, Housing and Sustainability Department; Whittier International Elementary School teachers and third-grade students; Boulder High School's Advancement via Individual Determination (AVID) Program teacher and ninth grade students; University of Colorado Environmental Design Program; University of Colorado architect; Boulder City Council; Boulder Planning Board.

Goals: To understand young people's views on making a child-friendly neighborhood in the context of the city's needs for increased density and affordable housing; to inform Boulder's Housing Strategy.

Participant Age Range: Children aged 8–16

Timeframe: One year of planning and implementation. Several years to inform the housing strategy

Methods

- Drawings
- Presentations and films about exemplary neighborhoods, green building, and green cities
- Field trips, with photo-framing
- Independent research
- Reflection writing
- Model making
- Presentations to city staff and officials
- Dialogue with university undergraduates, university architects, and city staff
- Child-friendly cities assessment

Project Overview

In 2013, the City of Boulder began preparing its Comprehensive Housing Strategy to address the need for higher density, affordable housing primarily for middle-income residents within the city. At the time, the city's Executive Director of Community Planning, Housing, and Sustainability and GUB Executive Committee member David Driskell wondered: "What would dense, affordable, child-friendly housing look like?" Thus was launched a year-long initiative, the "Great Neighborhoods" project (from 2013–2014) to explore this question with children, ages 8–16, to integrate young people's perspectives into a semester-long undergraduate planning studio focused on this same question, and to share these perspectives during the year and beyond with Boulder City Council members and Boulder's Planning Board members.[26]

This project utilized many methods shared in this book, including drawing, model making, learning from experts, and presentations to community members and city leaders. This project also highlights the value of training professionals in participatory processes and in engaging with young people as a part of their professional practice. Housing Strategy goals created in 2014 included those to inform family-friendly higher density housing for the Boulder Valley Comprehensive Plan update in 2015–2016. Integration of the housing strategy into long-term plans continues. This project thus also emphasizes the importance of sustained advocacy for the

26. This case study was derived in part from an article by Victoria Derr and Ildikó G. Kovács. "How participatory processes impact children and contribute to planning: a case study of neighborhood design from Boulder, Colorado, USA." *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* 10, no. 1 (2017): 29–48. https://doi.org/10.1080/17549175.2015.1111925.

integration of young people's perspectives into long-term planning projects.

Project Implementation

The engagement strategy was conceptualized by leaders of the child- and youth- friendly city initiative, Growing Up Boulder, and a university faculty member who would be teaching the undergraduate planning studio. They chose to focus on a single site so that it would provide an intelligible scale for primary and secondary students while also being large enough to consider integration of housing into the larger urban system. The site chosen included forty acres of land for redevelopment as well as twenty acres of a riparian corridor along the Boulder Creek. This site included both city and university land and a mix of existing housing including university student and family housing, single family homes, and apartments. Further from the site but within the primary school catchment were also a mobile home park, a large apartment complex, cohousing, and public housing. Both primary and secondary school students lived in all these housing types (including university and single-family housing).[27]

Engagement was developed such that intensive involvement of primary and secondary students would occur in the fall semester followed by strategic integration of young people into an undergraduate planning studio in the spring.

Just as the project was about to begin in September 2013, Boulder experienced a 1000-year rain event throughout the city, and a 100-year flood along the Boulder Creek. Many Boulder residents were temporarily or permanently displaced by this event, with the community impacted flooding and debris, home damage and property loss. Families who lived in university housing in the project site were evacuated but allowed to return to their homes. This experience shaped students' interest in flood mitigation and home protection as a part of this project.[28]

Young People as Experts on their Neighborhoods

In keeping with Growing Up Boulder's approach to beginning with children as experts, children and youth were asked to create a drawing of their home, its surroundings, and their favorite nearby places. They were asked to add additional places or drawings to represent their school, after-school, and weekend activities and to draw the routes they traveled and their modes of transportation (e.g., foot, bicycle, scooter, bus, or car). After completing their drawings, students then shared their drawings with each other and shared the types of housing they live in. Almost immediately, young people began to see that there were diverse types of housing in the city to support different families' needs.

Young People Developing Planning Competence

Interactive Presentation. Growing Up Boulder introduced the topic of density through an interactive presentation tailored to each age group (primary and secondary). This presentation introduced the ideas of density and affordable housing, gave visual examples of varying housing types, building heights, configurations of yards, shared green spaces, and housing types and styles from around the world. Each group then developed a definition of dense, affordable housing in their own words.[29]

Field Trips with Photography. Primary school students walked to an award-winning affordable infill development.[30] They learned about

27. Derr and Kovács, "How participatory processes impact children and contribute to planning."

28. Ibid.

29. Ibid.

30. Urban Land Institute (ULI). "Red Oak Park – 2012 Global Award for Excellence Winner." Urban Land Institute .org. http://uli.org/global-awards-for-excellence/red-oak

Figure 11.19. Primary school students visited a model housing development as a way to learn about features of neighborhood design. Photo credit: Growing Up Boulder

some of the features of this development from the property manager and took photographs to identify features of the development that they liked and did not like (Figure 11.19). (See Chapter 7 for a discussion of this method.) Secondary school students visited the university housing site that was identified as the project site for the planning studio and also used photo-framing to discuss aspects of the existing housing they liked or would change. Because of the flood and time restrictions that resulted, primary school students were not able to visit the project site as a class, though most students were familiar with it and some lived there.[31]

Guest Lectures and Films. Both groups of students watched a film, which included exemplary neighborhood design from Europe and the United States.[32] Primary school students also learned from visiting architects, engineers, and flood mitigation specialists. These experts visited the classroom in the early stages of children conceptualizing design ideas for their child-friendly neighborhood.[33]

Young People Synthesizing and Sharing their Ideas

Models. Primary school children each worked as a class to construct a single classroom model, creating a total of three. The students determined appropriate materials (through in-class research and classroom visits from experts), established design details such as features, colors, and materials, and collaboratively built their model of a dense, affordable housing site specific to the city of Boulder. Models were constructed from art supplies and recycled and repurposed materials, and some features were labeled (Figure 11.20, see also Chapter 5, Figure 5.25).

Digital Presentations. Primary school classes (three total) and the secondary school students prepared digital presentations using PowerPoint or Prezi software. Classes were broken into groups to conduct research and prepare recommendations for housing, mixed-use features (commercial development and services integrated with housing), landscape, and transportation. These presentations were given to city staff members, city council members, school administrators, university faculty, and community members in the classrooms of the students.[34]

Reflection Essays. All students were asked to reflect on their favorite aspect of the project and what they would change about the project's implementation. Primary school students also reflected on what they learned about designing dense, affordable housing, what makes a child-friendly community, and their greatest challenges during this project and how they overcame them.[35]

-park-2012-global-award-for-excellence-winner (Retrieved December 7, 2014.)

31. Derr and Kovács, "How participatory processes impact children and contribute to planning."

32. Timothy Beatley, *The Nature of Cities* (Boulder, CO: Throughline Productions, 2008).

33. Derr and Kovács, "How participatory processes impact children and contribute to planning."

34. Ibid

35. Ibid.

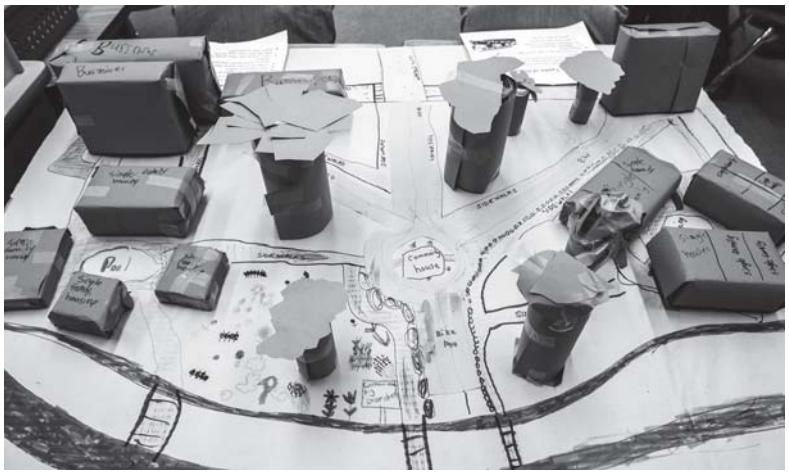


Figure 11.20. Model neighborhoods were developed using repurposed and recycled materials, including juice containers, straws, and cardboard boxes. Photo credit: Growing Up Boulder

Child-Friendly City Assessments. Both age groups of students also completed a pre- and post-project assessment using a subset of three questions (Box 11.6) from the *Child-Friendly Cities and Communities Assessment Toolkit*.[36] Pre-tests were administered on the first day of the project, and post-tests were give after the final presentations.[37] After project completion, these results were analyzed using statistical tests.[38]

Box 11.6. **Child-Friendly City Assessments**

Children and youth were asked three questions derived from the *Child-Friendly Cities and Communities Assessment Toolkit* (Chapter 6). For each question, they could respond "never true," "sometimes true," "mostly true," or "does not apply." Young people responded to these questions at the outset of the project and the week following their presentations to city officials.

"I help with projects to change my community"

"I am involved in planning or decisions for the community"

"The government (city council, mayor, etc.) asks me my opinions about my life or my community"

Undergraduate Planning Studio

Undergraduate students began their semester by visiting both the primary and secondary school students' classrooms to hear the presentations students had given to the community and to ask questions about young people's perspectives on good neighborhoods. The university students then went through a similar process of learning about neighborhood design, exploring precedents, and developing design concepts. Undergraduates then shared their preliminary ideas with students in the primary school classrooms and with secondary students visiting the campus studio (Figure 11.21). Through a series of design reviews and dialogues, the undergraduates learned from young people, planners, city officials, and university architects, and developed master plans and detailed design features, such as housing designs, street treatments, or parks and green spaces that responded to young people's ideas (Figure 11.22). In addition to a gallery-style formal review during the semester

36. IRC/CERG, *Child-Friendly Cities and Communities Assessment Toolkit*. ChildWatch International Research Network. http://www.childwatch.uio.no/projects/activities/child-friendly-cities-and-communities-research-project/finaltoolkit2011.html. (Retrieved June 6, 2014).

37. Derr and Kovács, "How participatory processes impact children and contribute to planning."

38. Ibid.

Figure 11.21. Secondary students visited the university design studio to provide feedback and suggest revisions to master plans and design concepts.
Photo credit: Lynn M. Lickteig

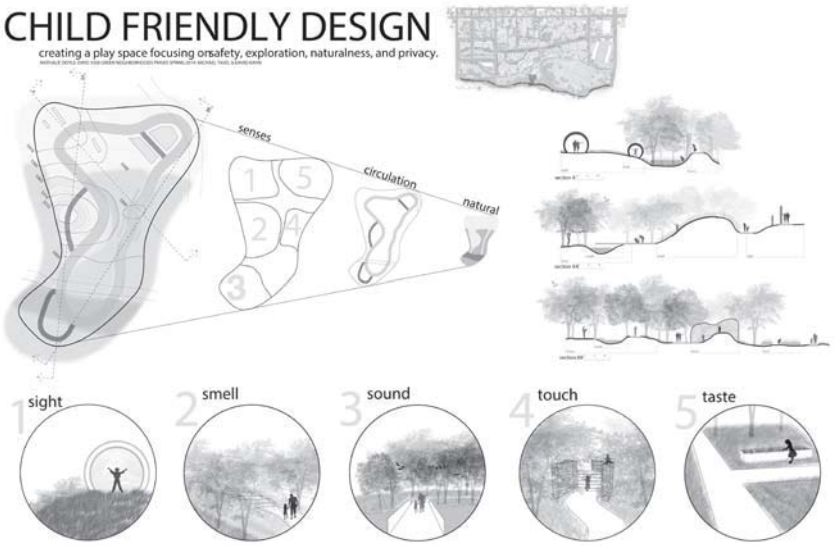


Figure 11.22. One of the university students conceptualized a design that would facilitate play spaces that promoted safety, exploration, nature, and privacy. Image credit: Nathalie Doyle

which included young people and adult partners, a subset of university students presented these ideas to approximately twenty city representatives the following fall, including officials from Boulder's housing division, community planning department, planning board, and design board to promote integration of young people's ideas into the Comprehensive Housing Strategy.[39]

Project Outcomes

Fostering Sustainability

Young people defined child-friendly cities as places where residents can play, access nature, use healthy modes of transportation, and have access to social spaces, both commercial and public. Both groups of students emphasized that they wanted to be integrated into city life, not separate from it. One of the outcomes from this project was the extent that young people integrated sustainability into their thinking and design recommendations (Box 11.7). This was true of both primary and secondary students, with some young people pushing the environmental design students to think harder about how they could better incorporate sustainability into their designs. Young people thought holistically about the city, integrating a broad range of sustainable and natural features into their recommendations. Children created innovative solutions to flood mitigation, and wanted to see wild spaces for animals, fruit trees, gardens, and natural play spaces woven into car-free zones.

39. Ibid.

Box 11.7. **Young People Promote Sustainability**

Environmental Sustainability	Energy efficiency, sustainable transportation (biking, walking, limited car use)
Social Sustainability	Meeting the needs of diverse people
	Promoting shared social spaces
	Including retail and housing close together so people can more readily access basic needs
	Pedestrian and bicycle friendly design
	Being friendly and treating each other well
Economic Sustainability	Considering building material and land costs in affordability
	Considering reduced utility bills because of more efficient energy use[1]

1. Derr and Kovács, "How participatory processes impact children and contribute to planning."

Integrating Ideas into the Comprehensive Housing Strategy

One of the challenges for engaging young people in long-term planning initiatives, such as Boulder's housing strategy and comprehensive plan, is that it is hard for young people to see immediate results of their work. In the Great Neighborhoods project, the undergraduate planning studio helped ameliorate this because young people did see their ideas integrated into plans and designs within the same academic year that they had developed them. However, the city's strategy for increased density and affordable housing takes much longer in its development. Initial goals for the housing strategy were approved by city council in 2014; action plans and working groups were developed in 2015 and 2016; and implementation was planned for 2017. While this high-level planning occurs, it was difficult to identify exact ways that young people's ideas were incorporated into the housing strategy. However, the initial six goals do respond to young people's ideas by recommending a balance of housing types within every neighborhood in the city and by creating 15-minute neighborhoods. Both of these goals outline details that align with many of young people's suggestions, including new developments that incorporate diverse housing types, sizes, and prices, with opportunities for shopping, support services, public facilities, pedestrian connections, parks, libraries, and schools integrated into the neighborhood.[40] In addition, the Boulder Valley Comprehensive Plan was updated in 2015–2016. A number of the sustainability features that young people requested are articulated and added throughout the comprehensive plan, including specifics for bike and multi-modal infrastructure, energy efficiency, conservation, increased public space, and integration of art throughout public spaces. The housing policy within the comprehensive plan calls for considering embodied energy in existing buildings and strengthens the intention for diverse housing mixes to preserve and enhance housing choices. To reduce automobile use, the plan also includes specific revisions to add Neighborhood Centers as localized gathering places that provide everyday goods and

40. City of Boulder, "Housing Boulder (Comprehensive Housing Strategy)." https://bouldercolorado.gov/city-council/comprehensive-housing-strategy-housing-boulder. (Retrieved September 16, 2017).

services that are easily accessible by foot, bicycle, or public transit.[41]

For long-term planning processes such as this case, it is important to communicate timelines and processes to young people—so that they know how their ideas can be integrated—and to identify ways to correspond with young people even years down the road as plans are finalized. (See Chapter 9.) The role of adult facilitators also becomes important in longer-term projects: in this capacity, project leaders often need to continue to check in with community planners to ensure continuity, especially if staffing changes occur within city offices.[42]

Fostering Community

Malika Bose and her colleagues suggest that while many academics place value on tangible outcomes, such as master plans or design-builds, communities can place equal or sometimes greater value on dialogues and connections fostered through participatory design processes, wherein safe spaces are created for "diverse citizenry to come together with university partners to think about their futures and plan their own destiny."[43] This was also a value listed by many community members engaged in this project, including the young people themselves, teachers and school administrators, city staff, city council members, and planning and design board members.[44] Nearly two years later, as the housing policy continued to be debated within the community, one of the city councilmen asked, somewhat playfully, if Growing Up Boulder could do the Great Neighborhoods project again. Like many city staff, he appreciated the thoughtful and educated perspectives young people gave to thinking inclusively and sustainably about housing.

Training Professionals

One of the goals of this project was to train emerging professionals—environmental design students—in the practices of participatory planning, to train undergraduate students in applied problem-solving and reflective practice, and to support them in communicating with people who hold diverse views.[45] This was particularly important because one of the limitations of participatory planning is often that professionals do not understand participation (and how it differs from simple consultations), and they often do not have the training or understanding of children as competent individuals who can share their views of the world in a constructive way.[46] Undergraduate students learned much in their perspectives about young people's ability to contribute in meaningful ways. Some students were transformed while others were enriched in their thinking about specific aspects of design (Box 11.8). All master plans specifically integrated young people's ideas, including increased nature and play spaces, street safety features, and better access to the creek (Figure 11.22).

A complete listing of publications about this project can be found at the end of Chapter 11.

41. City of Boulder, *Boulder Valley Comprehensive Plan (BVCP) Study Session on Scenarios and Housing Prototypes, Land Use Definitions, and Key Policy Choices. Aug. 25, 2016.* https://bouldercolorado.gov/bvcp/focus-areas. (Retrieved September 16, 2017).

42. This volume provides a nice discussion about advocacy and ethics in participatory practice: Sara Kindon, Rachel Pain, and Mike Kesby, eds., *Participatory Action Research Approaches and Methods: Connecting People, Participation and Place*. (Abingdon: Routledge, 2007).

43. Page 16 in Mallika Bose and Paula Horrigan, "Why community matters," *Community matters: Service-Learning in Engaged Design and Planning*, ed. Mallika Bose, Paula Horrigan, Cheryl Doble and Sigmund C. Shipp (Abingdon: Routledge, 2014), 1–21.

44. Victoria Derr, "Integrating community engagement and children's voices into design and planning education." *CoDesign* 11, no. 2 (2015): 119–133.

45. Ibid.

46. Sofia Cele and Danielle van der Burgt, "Participation, consultation, confusion: professionals' understandings of children's participation in physical planning." *Children's Geographies* 13, no. 1 (2015): 14–29; Julie Rudner. "Educating future planners about working with children and young people." *Social Inclusion* 5, no. 3 (2017): 195–206.

Box 11.8. **Young People's Influence on Design and Designers**

Children and youth's ideas influenced the undergraduate students' designs. The concrete and specific details young people offered through their recommendations helped many of the design students make better, informed plans. These ideas helped undergraduates to focus on their users' needs and interests:

> What we heard from the kids was that they wanted a safe neighborhood where they could go from one friend's house to another without having to cross streets, so from that, we created a block with buildings grouped so that you'd have to cross gathering areas such as parks and plazas [instead of streets].
>
> They don't like walking on the creek path because bikes fly by, and also. . . they didn't want to cross busy roads, and so we ended up putting the majority of the family housing south of the main road so they could be in closer proximity to the creek. And crosswalks on the creek path, with changes in materiality, so the bikers would know kids are crossing here.[1]

Some students' thinking was completely transformed in the process. These students went from thinking that young people would have "nothing to offer," to seeing that they had many creative and practical ideas that helped make a better plan:

> The praxis semester has changed how I think about things. At first I thought, 'What are we going to be able to learn from third graders building toilet-paper-tube models?', but it was so cool seeing through their eyes what this all means. I could tell they care a lot about their community and the future of it. It was really cool getting their perspective on things. They changed the way we were thinking about designing. It is hard to break away from the norms of how we've been designing. Working with the kids has helped us to do this.[2]

---

1. Victoria Derr, "Integrating community engagement and children's voices into design and planning education," 10.
2. Ibid.