



# PlayCubes™

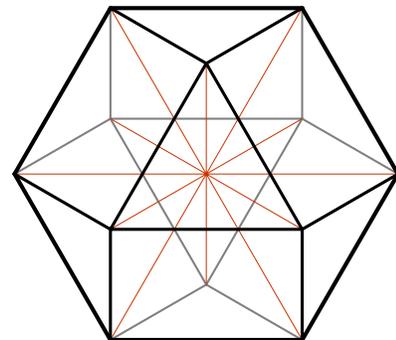
“It’s an incredible shape. It does almost anything.”

- Richard Dattner, FAIA, commenting on the cuboctahedron

## The Geometry of Cooperation

The remarkable achievement of R. Buckminster Fuller’s geodesic dome of the 1950s was not its space-age look. It was its use of polyhedron structures, creating a “synergetic geometry” that provided efficient enclosure of space with structural strength, eliminating the need for elaborate foundations.

Fuller’s work influenced many architects of the time, including original PlayCubes inventor Richard Dattner, FAIA. You could say the story of modern PlayCubes - a ground-breaking collaboration between Richard Dattner and the play designers at Playworld - shares a similar synergetic geometry. The Dattner/Playworld team have improved the original PlayCubes design to broaden play opportunities for a wide range of user groups.



*A cuboctahedron, one of the Pythagorean polyhedra identified by Archimedes around 250 BC.*

## Unlocking Playground Potential

In the late 1960s, architect and designer Richard Dattner was focusing on the state of playgrounds, determined to find ways to make them better. His 1969 book, *Design for Play*, emphasized play value, child-directed play, and the idea of playgrounds as experiences rather than a collection of objects planted in pavement.

Dattner demonstrated that thinking with his iconic cuboctahedron creation, PlayCubes. Made from lightweight materials, they could be easily installed with lighter anchoring. Modular, they could be scaled to form a range of play structures from small to large. And their striking geometry resisted literal interpretation – providing the open-ended form Dattner advocated, leaving interpretation up to the child’s creativity and imagination.

Dattner’s PlayCubes were a hit. Thanks to their scalability, ease of installation and play value, they were installed on playgrounds around the world. “The simple geometry and open-endedness,” Dattner says, “helped to inspire new ways of playing, different interactions, and more exploration.” But despite their popularity, that first generation of PlayCubes had its limitations. Originally made from fiberglass, PlayCubes were once difficult and expensive to manufacture. “There were challenges in engineering, design, materials and cost that kept them from reaching their full potential,” Dattner recalls.

## The Enduring Power of Good Design

While the available materials and manufacturing technology of the time may have been limited, Dattner’s idea was not. In 2014, when a team of Playworld play designers began discussing the possibility of reviving PlayCubes, they found the design to be as relevant and meaningful as ever. Working closely with Dattner, they began developing the relaunch of PlayCubes.

In revisiting the PlayCubes design, Dattner and the Playworld team made modifications to enhance play value, increasing the size of the cubes and additional openings to the original design. Wooden prototypes of the revised design were play tested with children, and after refinements, the first Playworld PlayCubes were manufactured in 2016.

## Building on Opportunity

The first, newly designed PlayCubes installation occurred in Boston, MA in Chinatown Park, part of The Rose Kennedy Greenway Conservancy, a 1½ mile stretch of contemporary public park space dedicated to connecting people and the city.

The new PlayCubes playground in Chinatown Park was also part of The Design Museum Foundation’s Extraordinary Playscapes exhibition, a multi-city, nomadic display that focuses on the importance and design of play. The first exhibition occurred in Boston, MA in 2016, followed by Portland, OR, San Francisco, CA, and Chicago, IL.

## Real World Play Testing

Installed in the summer of 2016, the PlayCubes in Chinatown Park exceeded all expectations. Featuring the 1-, 4-, 8- and 10-cube units, the installation was much more than a museum piece. It became a gathering place for the surrounding neighborhoods.

“We see an entire range of ages coming to the PlayCubes playground,” said Playworld play advocate Missy Benson. “Including young children who use the play sculptures very differently than older children. Younger children climb inside the cuboctrahedrons, while older children tend to play on the outside of the cubes. These



R. Buckminster Fuller’s geodesic dome created an innovative approach to enclosing space efficiently without supporting columns.



Dattner’s 1960s PlayCubes were popular, but their success was limited by the available materials and manufacturing of the time.



Wooden prototype example 2015.



PlayCubes design team leads, from left to right: JT Foster, engineer, Richard Dattner, architect, and Craig Mellott, designer.

unique play patterns not only allow for a large number of children playing together but also allows a wide range of user groups, including parents, grandparents and caregivers.

But it wasn’t only families with children using the PlayCubes. “I was happy to see many teenagers visited the PlayCubes as well,” Benson says. “They climbed, hung out, and took selfies, a sign of a successful play installation.” she says, “To span the range of ages so well, in beautiful geometric play sculptures”.

## From Temporary Display to Permanent Play

To determine when to remove the pop-up PlayCubes playground, The Greenway Conservancy engaged with the local community. They sponsored a bilingual Chinese/English survey, and sent it to local community members and civic leaders in both the Chinatown and Leather District neighborhoods. They discovered a virtually unanimous passion for this PlayCubes pop-up play space. More than 93% percent of respondents indicated a desire for the PlayCubes to remain on The Greenway in Chinatown Park beyond their slated October 2016 removal.

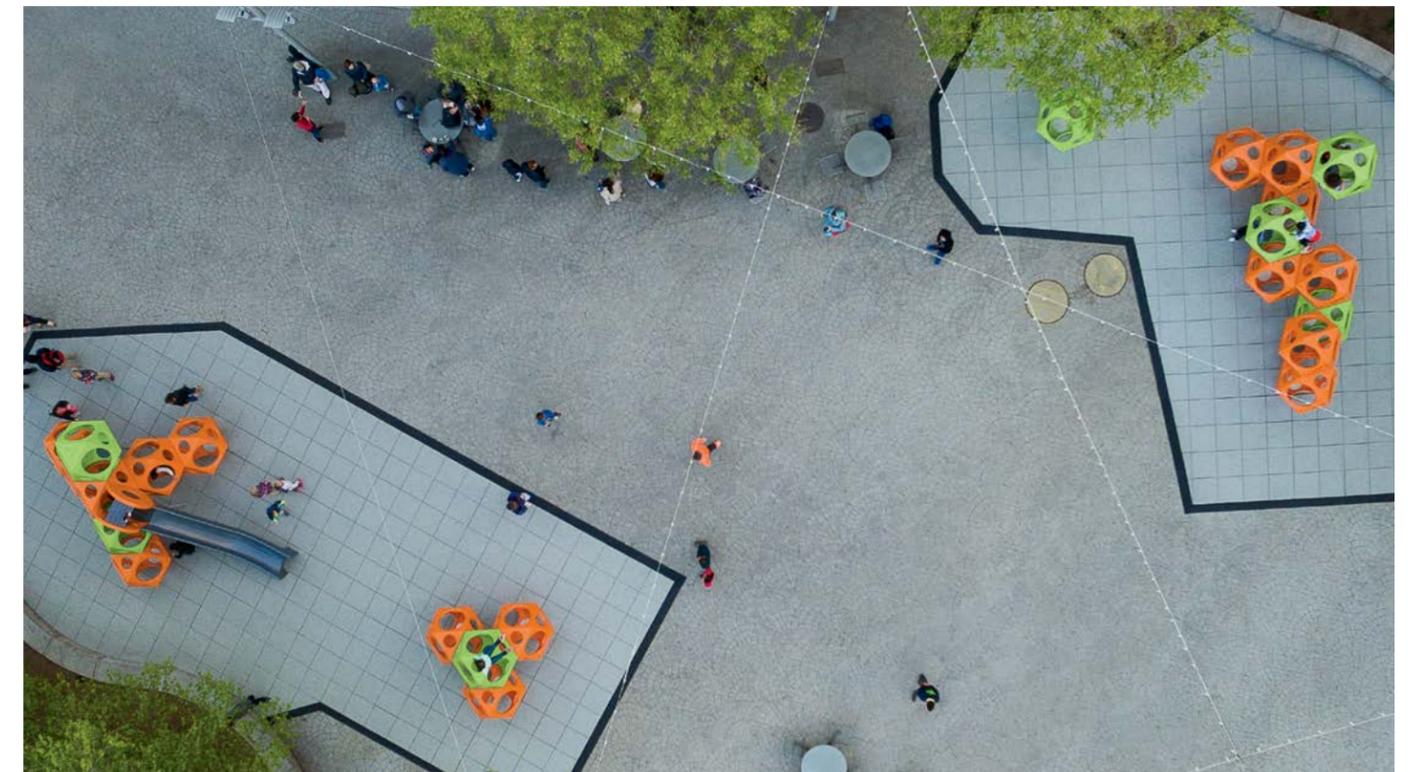
Due to virtuously unanimous community feedback, The Conservancy decided to keep the PlayCubes playground in Chinatown Park “We are delighted The Conservancy was able to work with the community to find a solution that keeps the popular children’s play structure in the park,” Greenway Conservancy Executive Director Jesse Brackenbury said. “The Conservancy made a concerted effort in 2016 to expand our family-focused play offerings and the PlayCubes have become a major component in that plan. We particularly thank Playworld for their partnership in this important initiative, to ensure the families of Chinatown, the Leather District, and beyond have this dynamic play space available to them on an on-going basis.”

“The PlayCubes have been a fantastic addition to Chinatown Park. I am a parent of two little girls who have spent their entire lives playing in this park, and we hope that this structure can be maintained and even expanded in the future. We are also very grateful for the kind volunteers who set up the playtime activities in the park. Thank you!”

- Chinatown Park survey respondent



PlayCubes at Chinatown Park on The Rose Kennedy Greenway.



Overhead view of PlayCubes at Chinatown Park.

## The Future of Play: The Access, Not the Destination

A balance of public sculpture and play value, the PlayCubes in Chinatown Park have become a vibrant hub of community connection in the midst of an urban landscape.

“PlayCubes are demonstrating a new viability for play in urban areas,” says Benson. “Big destination parks aren’t always the answer - due to the large space needed, which is a challenge especially in urban areas.”

As we look for ways to make outdoor play opportunities available and accessible for all children, the answer may lie in the direction of smaller pop-up play areas like the PlayCubes in Chinatown Park. More affordable, with high play value per square foot, they can establish play in places and in ways that large parks can’t.

If the positive community feedback and success of PlayCubes is any indication, the shape that inspired generations of mathematicians, philosophers and architects may give us a template for shaping the future of play.



*Design Museum’s Extraordinary Playscapes exhibit, featuring PlayCubes.*

*“Great city play area. It is nice to see families stopping by the park and playing for a while after work and school. It makes this area feel very family friendly and allows people who live and work in the community to interact and meet each other. We love it.”*

*- Chinatown Park survey respondent*



*PlayCubes at Chinatown Park on The Rose Kennedy Greenway.*

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