LONDON STUDY OF PLAYGROUNDS
The Influence of Design on Play Behavior in London vs New York, San Francisco, and Los Angeles
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Studio Ludo is a non-profit organization whose mission is building better play through research, design and advocacy. We believe that everyone deserves a great place to play. Building on a over fifteen years of experience in the design field, with a focus on play, Studio Ludo was founded in January of 2015.

Since our inception we have received numerous accolades for our work. We were the winners of the Play Space international design competition and the Kaboom Play Everywhere Competition. Our research has been presented at national conferences for Child in the City, the International Play Association, The Association for the Study of Play, and the U.S. Play Coalition, as well as through the American Society of Landscape Architects Online Learning Series. We have been published in Next City and Context: The Magazine of the AIA Philadelphia, and our work has been featured in World Landscape Architecture Magazine, Landscape Architecture Magazine, GRID Magazine, City Lab, and The Atlantic.

Research is the core of our organization and directly informs our design process. The London Study of Playgrounds serves as the basis for much of our thinking about play and helped to launch Studio Ludo. Over a six month period in the spring of 2015, we visited forty five playgrounds within the ten kilometer (approximately six mile) radius of the center of London and selected sixteen as part of our study. Upon returning to the U.S., we compared our findings to the National Study of Neighborhood Parks by the RAND Corporation, to understand the influences of the design of playgrounds on play behaviors and physical activity levels in children and teens.

We released our preliminary report in September 2016, which contained a summary of our methodology, our initial findings, as well as images of the sixteen play spaces. This final report expands upon that work and includes detailed maps, images of uses by all ages, analysis of behaviors related to play surfaces and structures, as well as an assessment of playground injury rates and cost differences in the U.K. vs U.S.

I want to thank my friends and family for their support during the past three years of this research project. From getting us to London in the first place and doing all the complicated Excel work (thanks to my husband Andy), to being a fabulous research assistant (my daughter Amelia), to helping develop the protocols and comparisons (Deb), to being on the board of Studio Ludo and reviewing the work (Susan, Kate, Rebecca, Richard, and Matt). I could not have finished this project without you!

Happy reading!

Meghan Talarowski, MLA, CPSI
Director
Studio Ludo
EXECUTIVE SUMMARY

SPA FIELDS PLAYGROUND
Play is so important to children’s well being that the United Nations has recognized it as a human right, along with shelter and education. And yet, in the U.S. today, children spend an average of seven hours per day on screens.1 Nearly one in three are overweight or obese.2 Stress levels in children and teens are at all time highs,3 and levels of depression and suicide are increasing at rapid rates.4

The same can be said for adults, with obesity now a leading cause of death in the U.S.5 Clearly, we need to move more, we need to get out more, and we need to give ourselves permission to play, but where? For the first time in history, more people live in cities than elsewhere6, and that trend will only continue. As more people compete for finite public space resources, we must advocate for the role of play in creating happier, healthier urban communities.

But what affordances should we create in our cities to allow play to happen? What encourages play in our youngest children (under fives)? What attracts teens? How do we encourage play among adults? How can we create places that are truly inclusive and promote play for all ages? How do we create places that encourage active and social interaction for all ages? How do we create spaces that are inclusive and safe for everyone? How do we create spaces that are safe and fun for everyone?

The London Study of Playgrounds sought to answer these questions. By studying and using behaviors in sixteen playgrounds, we discovered what made these spaces work, what people were attracted to, and how the playgrounds encouraged physical activity and social interaction for all ages.

METHODS:

Forty five London playgrounds were visited over a three month period, from January-March 2015. Sixteen were selected based on the following criteria: design uniqueness; variety in surfaces and structures; different sizes (neighborhood vs destination); demographics (ethnicity and socioeconomic); and equal distribution in the ten kilometer (approximately 6 mile) radius of the center of London.

Observations occurred from end of April-early June 2015, from 8am-7pm every day of the week except for Fridays. Five to ten second video sweeps, recorded via IPhone, were taken at defined areas within the playgrounds. The videos were assessed using the System for Observing Play and Recreation in Communities (SOPARC) to document apparent age, gender, ethnicity, and physical activity. This assessment led to the categorization of use and behavior of 18,142 people. This assessment led to the categorization of use and behavior of 18,142 people.

The data was then compared to the National Study of Neighborhood Parks (NSNP) by the RAND Corporation, focusing on New York, San Francisco, and Los Angeles. We used Geographic Information System (GIS) in conjunction with U.S. and U.K. census data to define population densities in the one mile area around each playground to establish comparisons.

FINDINGS:

By comparing playgrounds of similar size (25-75 acres) and park size and density (50,000-175,000 people in one mile area) in London to those in San Francisco, Los Angeles, and New York, we discovered that the London playgrounds had 55% more visitors, 14% more adults, and children and teens were 16-18% more physically active.

MORE POPULAR

Half of the children studied were found in just four areas: climbing, sand, grass, and swinging. Hard surfaces were also popular, as were slides. Adults preferred sitting in the grass or on a bench, and supervising play near a structure or playing in the sand. Teens were found either using or acting as an audience for risky elements, such as giant slides or high speed spinners, hanging out at the edges, and perching in high places.

MORE ACTIVE

The same four areas promoted the most moderate to vigorous physical activity: climbing, sand, swinging, and grass. Hard surfaces such as concrete and asphalt were also popular for games such as tag and soccer/football. Grass was the largest surface type, followed by poured in place rubber or rubber tile as their surfaces.

Additionally, many of the London playgrounds took advantage of “play affordances,” elements in the built environment that promote play, such as boulders, logs, topography, plantings, and trees. These elements are cost effective partners to manufactured play equipment.

RECOMMENDATIONS:

There were an almost equal number of children (48%) and adults (47%) in the London playgrounds. It is clear that these spaces, traditionally thought of as serving only children, are actually a rich community resource.

The playgrounds in the study blur the boundary between play space and park. Most have considerable grass areas and passive spaces for adults to relax and spend time. This ‘well factor’ is one of the reasons for the success of these playgrounds.

LESS INJURY

Injury rates in U.S. playgrounds have always been consistently higher than in U.K. playgrounds.6 A recent publication by the Consumer Product Safety Commission (CPSC)7 shows that while injuries in the U.S. have begun decreasing, in the last three years assessed as part of the report (2012-2014) injuries have begun to increase sharply.

The U.S. has managed to bring death rates in playgrounds down significantly, which is a laudable achievement. However, this continued trend of high injury rates is cause for concern and further study.

LESS COST

Eleven London playgrounds had available costs, ranging from $14-55/sf, with an average of $30/sf. The average cost of the U.S. playgrounds was $46/sf.

In the London playgrounds, many used grass, rubber matting, sand, and bark as their primary surfaces. These all have significant cost savings over their counterparts in the comparable U.S. playgrounds, which utilized primarily poured in place rubber or rubber tile as their surfaces.

Injuries have begun to increase sharply. However, this continued trend of high injury rates is cause for concern and further study.

The U.S. seems to have reached a “peak safety.” We have created a nation of overly expensive, homogeneously safe, and insidiously boring play spaces. Our injury rates demonstrate that these spaces have unintended consequences. In pursuit of “safety,” children are using play structures in unintended ways, falling on surfaces too expensive to maintain,11 and not moving enough,12 becoming too weak to play without injuring themselves. To turn the tide, the solution is to follow London’s lead:

1. DESIGN FOR ALL AGES

Both passive and active spaces are important, blur the lines between play and park. And don’t forget cafes and bathrooms!

2. PLAY EVERYWHERE

Provide “play affordances,” such as boulders, logs, plants, and topography for inexpensive, but effective fun.

3. THINK OUTSIDE THE CATALOG

All playgrounds should have the top five: grass, sand, climbing, swinging, and sliding. Water and loose parts are another plus.

4. PLAYGROUNDS ARE FOR PLAY!

Everything on a playground should be playable, including surfaces. Fun should be prioritized over safety and maintenance.

5. RISK IS A GOOD THING

The best playgrounds look dangerous but are completely safe, offering ways to play based on skill level, strength, and bravery.
METHODS & FINDINGS

The Playgrounds, The Assessment, The Play Elements
Playgrounds in the study ranged in size from .22 acres to 3.5 acres, and were selected based on the uniqueness of their designs, variety in surface materials, and open ended, non-prescriptive play structures.
The assessment

Forty-five London playgrounds were visited from January–March 2015. Sixteen were selected and observed from April–June 2015. Observation periods were from 8am-7pm, every day of the week except for Fridays, which was a rest day. Observations did not occur on rainy days, but were rescheduled to the same day the following week (see schedule at right).

Our data collectors consisted of a thirty-five-year-old female and a ‘research assistant’, a one-year-old child. It is important to note that the presence of the child was crucial in gaining access to the playgrounds, as many spaces would not admit an adult without a child.

The playgrounds were grouped by location, for ease of transit between them. Every playground was observed on one weekday morning, one weekday afternoon, one weekend morning, and one weekend afternoon (see schedule at right).

Observations were done through videography, completed in five to ten second sweeps of specific areas of the playgrounds. Videos were taken discretely with an iPhone. Twice a subject was observed, a new video was taken.

In order to aid observations, every playground was mapped into smaller zones based on surface type. Videos were taken from the same location at every observation period, ensuring that all subjects were visible. Observations were also taken of specific site elements, as well as play structures.

Given the diversity of the play structure types, they were grouped by movement, which included: balancing, climbing, crawling, jumping, manipulating, organizing, passive, pumping, rocking, seesawing, sliding, spinning, stepping, swinging, and walking. Surfaces included: artificial turf, asphalt, bark, brick, concrete, dirt, grass, gravel, metal, planting, rubber, sand, stone, and water. Site features included: art, bench, bike rack, boulder, bush, fence, shade, table, and tree.

Over a two month period from April-June 2015, we conducted 256 observations, took 1,638 videos, and categorized 18,142 visitors by age, gender, ethnicity, and activity level.
**The Top Five Popular Playgrounds**

The top five popular playgrounds were: Princess Diana Memorial Playground, Pools Playground, Tumbling Bay Playground, Clissold Park Playground, and Marylebone Green Playground.
The playgrounds in London had a wide variety of surface types and site elements, many selected specifically for their play value. Play structures were both bespoke/custom and manufactured.
**THE FINDINGS**

**BY SURFACES, FEATURES, & PLAY ELEMENTS**

**SURFACES**

Grass was the most popular surface in the London playgrounds, but was also the largest area overall, ranging up to 94% of the useable space in Brockwell Park Playground, for instance.

Sand was the second most popular surface, but was always a much smaller offering, between 4-20% of the useable space. Often however it was given center stage, around a central play feature, like the pirate ship at Princess Diana Memorial Playground, at the base of the giant mound and embankment slides at Pools Playground, or close to the entrance, like at King Square Gardens.

Adults vastly preferred grass over every other surface. Children used grass and sand fairly equally, but definitely preferred them over other surfaces. There were no distinct gender preferences for any surfaces. Users in the grass were mostly sedentary, as they would set up picnics and social gatherings at the perimeter and throughout the playground.

Sand was surprisingly active, as it was often used as a landing pad for kids and teens launching themselves off of play structures, like the pirate ship at Princess Diana Memorial Playground, the slide at Pools Playground, or the climbing structure at King Square Gardens.

**SITE FEATURES**

Benches were very popular for adults and seniors. Variety was key, with different sizes and types spread throughout the playground at regular intervals and related to specific play areas, like the long benches at the under five play area at Clissold Park Playground. Some bench design can encourage running and jumping, like the circular bench at Jubilee Gardens Playground, but that same bench also contributed to a significant drop in activity levels in adults, in addition to providing benches, the design must include opportunities to get adults moving, either solo or with their children.

Boulders are always a great addition to playgrounds, providing seating, climbing, jumping, and hiding opportunities. They also increase overall activity levels.

**PLAY ELEMENTS**

Climbing and swinging are the true favorites of every playground. All kids have a compulsion to climb, even a few inches off the ground. A variety of open ended, non-prescriptive climbing elements is key, like the timber towers at Tumbling Bay Playground, or the scramble climbers at Jubilee Gardens. Scale is also important. Tiny timber tangles and wood steppers support under five’s, while teens and adults want more risk and adventure. Height and a sense of danger is helpful, like the custom climber at Clapton Common Playground.

Swings are a must in every playground. Basket swings in particular serve all ages, and huge groups. We observed one basket swing holding twelve children, fully operational. Children crave the sensation of movement that only a swing can provide. Adults love the nesting quality, and would often lay with younger children inside. Giant swings, like the Viking at Victoria and Alexandra Playground also offer great team building and communication opportunities, as it swings highest with lots of people working together.

**MAINTENANCE/OPERATIONS**

Many of the London playgrounds utilized surfaces and structures that require significant maintenance. Grass needs to be mowed, sand sifted for sharps and contaminants, and plantings tended to. Custom structures with wood elements need monthly and yearly inspections and repairs. Some wood manufactured structures have been dried and treated, and have a longer life span than typical exposed wood.

There is no maintenance free playground. They are evolving public realms that can be well (and over) loved. Almost every London playground in the study had maintenance staff that was observed on a daily basis. Every playground was well tended to and had minimal observable deficiencies, such as trash, broken surfaces or structures, with the exception of Burgess, Jubilee, and Olympic, all of which received new poured in place rubber surfacing during the study. Site staff is key to the success of these spaces and is another piece of the popularity puzzle. A well tended space tells people, and their children, that they are cared for and safe.
PLAYGROUND COMPARISONS

London vs New York, San Francisco, and Los Angeles
We partnered with the RAND Corporation to compare our London playground data to their National Study of Neighborhood Parks (NSNP). We focused on New York, San Francisco, and Los Angeles, as these cities had population densities similar to London.

We found eight playgrounds in the NSNP that most closely matched those studied in London, based on size and population density.

CLAPTON COMMON PLAYGROUND (.22 AC, 92,833 POP/MI)*
MARCONI PARK, NEW YORK CITY (.19 AC, 78,224 POP/MI)
JUBILEE GARDENS PLAYGROUND (.24 AC, 48,429 POP/MI)
HILLTOP PARK, SAN FRANCISCO (.25 AC, 71,716 POP/MI)
KILBURN GRANGE PLAYGROUND (.32 AC, 98,815 POP/MI)
COM. BARRY PARK, NEW YORK CITY (.59 AC, 96,025 POP/MI)
KING SQUARE GARDENS (.63 AC, 139,585 POP/MI)
BROWER PARK, NEW YORK CITY (.59 AC, 171,637 POP/MI)

Many of the London playgrounds are much larger than the ones studied as part of the NSNP, which resulted in eight having no comparable match.

BURGESS PARK PLAYGROUND (.92 AC, 113,815 POP/MI)
MARYLEBONE GREEN PLAYGROUND (.12 AC, 80,692 POP/MI)
BROCKWELL PARK PLAYGROUND (.12 AC, 79,037 POP/MI)
CUGSOLD PARK PLAYGROUND (.22 AC, 109,990 POP/MI)
PRINCESS DIANA PLAYGROUND (.18 AC, 100,188 POP/MI)
TUMBLING BAY PLAYGROUND (.2 AC, 52,153 POP/MI)
V&A PLAYGROUND (.54 AC, 99,920 POP/MI)
POOLS PLAYGROUND (.54 AC, 81,766 POP/MI)

We found that playgrounds in London had 55% more visitors and 16-18% more physical activity in children and teens than comparable playgrounds in San Francisco, Los Angeles, and New York.
THE FINDINGS
(MORE POPULAR, MORE ACTIVE)

MORE POPULAR
We found that the London playgrounds had 55% more visitors than comparable U.S. playgrounds in San Francisco, Los Angeles, and New York City, as assessed by the National Study of Neighborhood Parks (NSNP). To establish comparisons, we first determined playground size through a Google Maps calculator.1

Defining playground boundaries was relatively simple for the NSNP playgrounds, as most had either a fence or surfacing demarcating the edge condition. For some of the London playgrounds, such as Pools Playground or Clapton Common Playground, the line was not entirely clear, so assumptions were made based on pavement edges or apparent edge of play zone (see site plans in section ‘Playground Analyses’, pages 28-125).

Population was defined through zip code (U.S.)1 and ward (U.K.) census data. Population density was determined by first converting hectares to square kilometers to square miles, for comparison from metric (U.K.) to imperial (U.S.). The population was then assumed to be equally distributed within that zip code or ward. Then the percentage of the zip code or ward that fell within the playground service area (defined as a one mile circle from the center of each playground) was determined, and that percentage of the total population was taken (i.e. 10% of zip code or ward one, 60% of zip code or ward two, and 30% of zip code or ward three = total population density in playground service area).

As the playgrounds varied in size, we felt that the comparisons would be more consistent if they were compared by visitor density per acre. For this calculation, we utilized visitation counts per the standard System for Observing Play and Recreation in Communities (SOPARC) protocol.

SOPARC observes only three times per day, four days per week and was used on the NSNP playgrounds. Our assessment collected data five to six times per day. We eliminated the extra observation periods from the London playground assessments for the comparison study. This reduced our visitor count to 14,583, down from 18,142.

We then took the total visitation (N) for each playground divided by the acreage (A), then divided by the population density (PD) within the one mile service area to establish average playground visitor density (VD).

The NSNP playground visitors ranged from 0 to 861 people per playground (N). Acreage ranged from .22 to .63 acres, with an average of .36 acres (A). Population densities ranged from 52.2 per square mile to 171.6 per square mile, with an average of 89.7 per square mile (PD), with population figures given in 10,000s. Visitor density ranged between 0 and 188 with an average of 76.2 (VD).

The London playground visitors ranged from 119 to 807 people per playground (N). Acreage ranged from .22 to .63 acres, with an average of .39 acres (A). Population densities ranged from 53.0 per square mile to 139.6 per square mile, with an average of 87.2 per square mile (PD). Visitor density ranged between 14 and 299 with an average of 118 (VD).

<table>
<thead>
<tr>
<th>Visitors (N)</th>
<th>Acreage (A)</th>
<th>Population Density (PD)</th>
<th>Visitor Density (VD)</th>
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<tr>
<td>NSNP</td>
<td>1989</td>
<td>39</td>
<td>89.7</td>
</tr>
<tr>
<td>London</td>
<td>3181</td>
<td>39</td>
<td>87.2</td>
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Based on our calculations, average population densities and acreage were similar, however, visitation in the London playgrounds was higher, leading to a much higher visitor density. Through this comparison, we demonstrated that the London playgrounds had 55% more visitors than the comparable playgrounds in San Francisco, Los Angeles, and New York City.

MORE ACTIVE
Utilizing the same metrics that determined popularity, we also looked at age and activity levels. We found that the London playgrounds had 5% fewer children, 10% fewer teens, but 14% more adults than the NSNP playgrounds. Seniors remained virtually the same in both.

Children were 18% more physically active (moderate to vigorous physical activity (MVPA) is defined as expending energy at a walking level or above), and teens were 16% more physically active. Adults and seniors had similar behavior patterns in the NSNP and London playgrounds. Adults were, on average, 74% sedentary and 26% physically active, and seniors were, on average, 78% sedentary and 22% physically active.

Climbing contributed 20% of physical activity for children and teens. Sand contributed 14% and hard surfaces, with space to run or play games like tag and soccer contributed another 10%. Swings and grass both contributed 9%. These areas had the majority (53%) of physical activity for children and teens.

For adults and seniors, 49% of their physical activity took place on hard surfaces and grass, either walking, cycling, or running. Second to that, 11% of adult and senior physical activity took place while engaged with swings, either using them or pushing a child or children. Sand contributed 8% of physical activity, with climbing structures contributing another 6%.

For surfaces, children were most active on sand and hard surfaces, while adults and seniors were most active on grass and hard surfaces. Climbers and swings were the most active play structures for all ages, at 35% and 20%, respectively.

Bench design is also critical. One playground in particular, Jubilee Gardens, had a significant (25%) reduction in adult and senior physical activity, possibly given its extensive linear bench, which had a big footprint in the playground and provided many social opportunities, but few physical activity options for adults.

Climbing, swinging, grass, sand, and hard surfaces with plenty of space for games like tag and soccer were most popular and encouraged the most physical activity for all ages.
The U.K. has consistently had higher rates of injury and death on playgrounds than the U.S. A study by Ball in 2002 demonstrated that the U.K. injury rate was 320/100k and fatality rate was negligible, only .002/100k. By comparison, in a similar time period, Mack et al and Tinsworth demonstrated that the U.S. injury rate was 382/100k and 392/100k, respectively, and fatality rate was .03/100k.

A new report released earlier this year by the Consumer Product Safety Commission (CPSC) provides the most complete current picture of injury and fatality data for U.S. playgrounds. From 2009-2014, the injury amount ranged from 233,000 to 267,000, with an average of 243,200 injuries per year. There was also an unusual spike in injuries in 2012, that resulted in an injury average of 247,075 for 2012-2014.

In order to calculate the injury rate per 100,000 population, we followed the lead of Mack et al. We isolated the injuries in the 0-14 age range only, which amounted to 92% of the total injuries and an average of 222,787 injuries per year.

We used population data from the U.S. Census Bureau to calculate the average population for the 0-14 age range from 2009-2014, which was 61.13 million. We then divided the average injuries (IN) by average population (P) and then multiplied by 100,000 to get the average U.S. injury rate (IR) from 2009-2014 of 364/100k.

For 0-14 age range, population of 55 million. 70% of injuries on public playgrounds.
For 0-16 age range, population of 13 million. Equipment-related cases only.
For 0-14 age range, population of 55 million. 70% of injuries on public playgrounds.
For 0-14 year age range, population of 61.13 million, per Population Division, U.S. Census Bureau. 63% of injuries on public playgrounds, 14% at home, 22% location not reported.
Injury rate for 2012-2014 is 372/100k.

The U.K. has released injury data for 2009-2014, but it has not been assessed with the same granularity as the Ball report and is not associated directly to playgrounds. Therefore, there is not a current accurate U.K. data set to compare with this most current release from CPSC. What can be noted from the chart above is the injury trend. For the U.S., we remain at a higher injury and fatality rate than the U.K., even when comparing current data for 2009-2014 to the mid 1990s of the Ball report.

Additionally, it is worrisome that our injury rate has begun to increase from 2012-2014, with an injury rate of approximately 372/100k. For this calculation, we used the 247,075 injury average for 2012-2014, multiplied by 92% for the 0-14 age range, divided by 61.08 million, the average 0-14 age range population from 2012-2014, and multiplied by 100,000. This rate may be an outlier, but could also be indicative of a larger problem. We have spent millions of dollars in pursuit of safer playgrounds, and while our death rate has decreased significantly, our injuries have not followed the same trend.

### Table: Injury and Fatality Rates

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Fatality Rate (per 100k pop.)</th>
<th>Injury Rate (per 100k pop.)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>1990's</td>
<td>.002</td>
<td>320</td>
<td>Ballii</td>
</tr>
<tr>
<td>U.S.</td>
<td>1990-94</td>
<td>.03</td>
<td>382</td>
<td>Mack et alii</td>
</tr>
<tr>
<td>U.S.</td>
<td>1998</td>
<td>392</td>
<td>Tinsworthi</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>2009-2014</td>
<td>.009</td>
<td>364</td>
<td>CPSC and this report</td>
</tr>
</tbody>
</table>

* For 0-16 age range, population of 13 million. Equipment-related cases only.
* Average of 17 fatalities each year 67% of fatalities occur at home.
* For 0-14 age range, population of 55 million. 70% of injuries on public playgrounds.
* For 0-14 year age range, population of 61.13 million, per Population Division, U.S. Census Bureau. 63% of injuries on public playgrounds, 14% at home, 22% location not reported.
* Injury rate for 2012-2014 is 372/100k.

6. Olympic Games, such as plantings, stone, and concrete elements. These four playgrounds were considered outliers to average playground costs, and were not included in our estimates.
7. Excluding those four, the remaining seven London playgrounds ranged in cost from $14-55 per square foot with an average cost of $30 per square foot. By contrast, the average cost of the comparison U.S. playgrounds was $48 per square foot.

Example: Potrero Hill Playground in San Francisco and Spa Fields Playground in London are the same size, yet Spa Fields cost two and a half times less and serves two and a half times more children and families. The primary reason in the cost difference between the playgrounds in the U.K. and the U.S. lies in the choices of surfaces and structures.

Many of the London playgrounds utilized significant areas of grass and sand, which costs between $1-4 per square foot, as opposed to the comparison U.S. playgrounds, which had poured in place rubber or rubber tile, ranging between $10-20 per square foot. For structures, rather than rely on solely manufactured elements, play was supplemented with cost effective options, such as salvaged logs and timbers, boulders, plantings, and trees. This focus, on a variety of surfaces and play elements, made the London playgrounds more economical than the comparable U.S. ones, while at the same time increasing their popularity.
PLAYGROUND ANALYSES
The Influences of Surfaces, Features, & Play Elements on Play Behavior
A playground with a wide variety of equipment, and often filled with teens attracted to riskier play elements like the spinner, which elevates kids almost completely horizontal as it spins.
CONCLUSIONS

We observed 1064 users in the playground and discovered:

- The grass had the most users in the playground, but also had the largest footprint, at 94% of the useable space.
- The sand, at only 4% of the useable area of the playground, had the second highest usage. This was higher than usage on any of the play structures.
- Children were the majority users of the site, followed closely by adults.
- The central part of the site, with grass mounds and tables, was a primary location for adults. It had excellent site lines to most of the play areas, and was close to the bathroom.
- Males and females used the play surfaces and structures fairly equally, but there was a predominance of females on site features, such as boulders, benches, and tables.
- Users of site features were almost entirely sedentary, except for boulders, which supported climbing and jumping.
- The top five play activities were swinging, sliding, balancing, climbing, and spinning.
- Between three quarters to all of the participants in the top five play activities were physically active.
- Approximately half of users in the sand and grass areas were physically active.
- The hard surfaces (asphalt and concrete) promoted the most physical activity of any surface, primarily through cycling, scooting, running and walking.
- Children were most attracted to the grass, slides, and swings.
- Teens were most attracted to the spinner. A bench and boulders were adjacent to the spinner, allowing teens to gather and watch their friends.
- Adults were most attracted to the grass, slides, and swings.
- Seniors were most attracted to the grass and sand.

Teens love to show off to their friends. Even small sand areas have huge impacts. Adults prefer grass over benches.
BURGESS PARK PLAYGROUND

BURGESS PARK PLAYGROUND

LOCATION: BOROUGH OF SOUTHWARK
SIZE: .37 HECTARES (.92 ACRES)
DATE COMPLETED: 2012

DESIGNER: LDA DESIGN
EQUIPMENT MANUFACTURER: EIBE
COST: PART OF £8 MIL. PROJECT ($14.46 MIL IN 2017)

A playground with a massive hill slide so popular they had to install rubber surfacing around it, not to protect from falls, but to stabilize the soil, along with log climbers and sand play for young kids.

Burgess Park, at 51 hectares (1.26 acres), is both one of the largest public parks in South London and the largest in the borough of Southwark. It is surrounded by one fifth of the lowest income wards in London, and is a vital public space resource for the local community.

In March 2009, Burgess Park was awarded £2 million ($3.6 million) from the Mayor’s Priority Parks scheme, with an additional £4 million ($7.2 million) coming from the New Deal for Communities (NDC). LDA Design crafted the master plan in 2010 and the first phase of work was complete in the summer of 2012 for a total cost of £8 million ($14.46 million), which included the playground renovation.

The first phase had several key elements, such as a path network, large earthen berms, enlargement of the lake and habitat restoration, and a new play area that integrated with an existing café and Chumleigh Gardens, a historic almshouse turned community center.

The play area is split into three zones, two enclosed with fences, and the third, a water play space in the concrete adjacent to the café, which was off during much of the study.

The toddler play area includes sand, grass mounds, planted areas for hide and seek, timber climbers, basket swing, small scale slide, and two tot swings. A highly popular linear bench is located near the entrance.

The school age play area has numerous mounds, covered in rubber surfacing, wound through with asphalt paths that encourage cycling, skating, and scooting. Play structures include a giant net climber, zip line, spinner, and basket swing. Site features include boulders for climbing, benches, tables, and table tennis facilities. The earthen berm is integrated into the rear of the play area, and has a giant slide and embankment ropes for scrambling. In 2015, rubber surfacing was added around the slide, as significant use had eroded the slope.
SITE PLAN

SURFACES
- POURED IN PLACE RUBBER
- CONCRETE
- ASPHALT
- GRASS
- BOULDER

FEATURES
- PLANTING
- BUSH
- TABLE

PLAY ELEMENTS (BY MOVEMENT)
- BALANCING
- STEPPING
- ORGANIZED
- SLIDING
- HANGING
- SPINNING
- WALKING
- SWINGING
- CLIMBING
Swings are fun for all ages. A little topography supports a lot of play. Teens love to perch and climb.
Clapton Common Playground opened in 2011, an intensely used .09 hectare (.22 acre) space that supports a vibrant Hasidic Jewish community with a large number of children and families. The Clapton Common User Group helped to raise the £102k ($177k) funding for the play area from the National Lottery and the London Marathon Trust.

The playground is divided into two areas, an enclosed area for younger children and a challenging play structure for older children. The enclosed play area features a number of custom treehouses built around salvaged logs. This design was intentional, to protect the open character of the Common and visually extend the row of existing mature London plane trees.

The challenging structure for the older age group is created from tree trunks and wood columns that support an array of ropes, nets, bridges, and platforms. The use of timber (both sawn and salvaged) ensures the playground feels like a natural extension of the larger park.

The design was developed to accommodate the wishes of the predominantly Hasidic Jewish community, specifically providing a generous amount of seating for caregivers and space for strollers. A fence was needed to ensure the safety of smaller children, but the custom wood post design fits nicely with the other wooden play elements. The fence also provides seating, as well as play opportunities, such as perching and balancing.

The play structures are made from locally sourced oak and black poplar, with the largest tree used on the older children’s structure rescued from the Victoria Park renovation.

Other play elements include slides, swings, spinner, wobble bridge, and salvaged wheel. Benches, tree stumps, and timber log seating are situated along the edges of the play areas, and in the adjacent grass, so there are plenty of opportunities for parents and caregivers to gather, socialize, and be comfortable while supervising younger children.

A playground of salvaged trees, lumber, and found objects that create fantastic forts and climbing experiences in a very small footprint.
We observed 267 users in the playground and discovered:

- The grass and climbing were tied for the most popular space in the playground.
- Swinging was the second most popular space. The basket swing was more popular than the toddler swing and would often have five to ten kids on it at a given time, standing, sitting, or laying in the basket.
- The third most popular space was the bench. Mothers and caregivers were seen staying through several observation periods, watching over their children and socializing.
- The playground was a destination for mothers and caregivers. They would come with large groups of children, often with a stroller, bike, or scooter.
- The bench in the shade of the tree was far more popular than the bench in the sun.
- The top five play activities were climbing, swinging, sliding, balancing, and spinning.
- The Hasidic Jewish community had an influence on the play behaviors and use. Play tended to fall into more traditional gender roles, with girls gravitating towards the swing while boys were the predominant climbers.
- Adult caregivers were almost exclusively female, with the exception of a few male teachers.
- All of the play activities promoted significant physical activity, with the exception of the swing. The swing was used for vigorous activity in small or large groups, but also promoted quiet moments, such as laying and socializing.
- Children were most attracted to the climbing structures, grass, swings, and slides.
- Teens were most attracted to the climbing structures.
- Adults were most attracted to the grass, bench, and artificial turf.
- There were no seniors observed in the playground.

Simple elements can spark imagination. Kids have a compulsion to climb. Small hills have big impacts.
One of Hackney’s most beloved parks, Clissold Park was opened in 1889. The Park was held the Green Flag award, given annually to the best green spaces in the U.K., since 2006.

Clissold Park and House were renovated in 2011 as part of an £8.9 million ($15.4 million) Heritage Lottery Fund restoration project. The Park has a wide variety of amenities, including an aviary and animal enclosures, children’s play area, Clissold House (which includes a café, restrooms, and venue space), organic food growing area, paddling pool, pond, tennis courts, and skate park.

The children’s play area has a multitude of play opportunities. It is not divided into age specific areas, but children self select their play based on the offerings available.

Younger children gravitate towards a small mound with boulders and embankment slide. Adjacent to the mound are a number of play elements, such as spinner, rockers, and seesaws. A generous bench adjacent to the mound provides plenty of space for caregivers. Next to the mound is a trampoline bouncer, tot swings, and small treehouse. The swings are a social spot for parents and caregivers, generating a lot of conversation and interaction.

Central to the site is a large sand pit with boulders, logs, and playhouses. This space serves all ages, and many parents gather here. Parents also perch on the small boulder mound and tunnel next to the sand area, as it has great site lines to most of the play spaces, in particular the large net climber and huge grass mound with embankment slide. This mound is one of the most popular areas of the playground, used by adults for gathering and children for sliding, running, and rolling.

Wild planted edges allow children to get lost and run in loops around the site, through the plantings, along the paths, and back again. The last play area has swings, a zipline, and boulders, and is a popular hang out for teens after school.

A playground with a combination of manufactured play equipment, huge swaths of sand, salvaged trees, large net climbers, and a play mound with embankment slide and boulders as a focal point.
We observed 1,598 users in the playground and discovered:

- The rubber surface (and particularly the mound with embankment slide) was the most popular area.
- The benches were the second most popular area. The benches were generously sized and well located. The largest ones were placed adjacent to the areas that served the younger children, as well as the net climber, while the smaller ones were located at intervals along the path.
- The third most popular area was climbing. The net climber and manufactured structures fell in this category.
- Grass, asphalt, and sand closely followed in popularity, but were vastly different in size. Of the playground area, 25% is grass, 10% is asphalt, and 7% is sand.
- The grass mound in the middle of the site was a big attractor. Parents and caregivers set up blankets at the top of the mound, teens would lay on the back side, while the front was used by everyone to scale up, next to the slide.
- The playground attracted a fairly equal gender distribution, although there were more female caregivers, who utilized the benches predominantly.
- The top five play activities were climbing, swinging, rocking, sliding, and hanging.
- All of the play activities promoted physical activity, with some exceptions. Perching and sitting on the climber and in the swings was quite popular, as was sitting on the rockers, top of the slide, and the platform for the zipline.
- Children were most attracted to climbing, and surfaces such as rubber, grass, asphalt, and sand.
- Teens were most attracted to the rubber surface, grass, and swings.
- Adults were most attracted to the bench, and surfaces such as rubber, asphalt, and sand.
- Seniors were most attracted to the bench.
A playground in the heart of city, next to the London Eye, with huge log scramble climbers and swings for older kids, and climbable sheep and rocking chickens for the littlest visitors.

Jubilee Gardens is a 1.2 hectare (2.97 acre) public park on the South Bank of the Thames River in the London Borough of Lambeth. It was created in 1977 to mark the Silver Jubilee of Queen Elizabeth II. In 2012, a multimillion-pound redevelopment of the park was completed just before the Diamond Jubilee of Elizabeth II and the 2012 Summer Olympics.

Designed by West 8, Jubilee Gardens was transformed from a flat patch of grass into a verdant landscape. The Gardens include new turf areas, flowerbeds, undulating granite edges that provide generous seating, paved granite paths, lighting, and a new play area.

The Garden’s adjacency to the London Eye and other tourists attractions make it a popular destination for out of town guests as well as school groups. While all of the park is used for informal play (running, cycling, ball play, tag, etc), the focus of the study was the .1 hectare (.24 acre) play area.

The play area includes a ‘timber tangle’, ‘jungle arena’, ‘spider web’, and a flock of wooden sheep and rocking chickens. It is surfaced with poured in place rubber and surrounded by a concentric ring of granite bench, and then a perimeter custom steel fence.

The ground plane between the bench and fence is elevated to the grade of the bench, providing wonderful opportunities for children to run in circles around the play space. The bench gives a prime location for caregivers to gather and socialize, slightly away from the play elements, but still enabling them to keep a watchful eye.

The subtle ground plane change of the granite ribbon significantly influenced play behaviors both in the formalized play area and in the Gardens. The bench became a conduit of activity and play affordance, with children running, jumping, playing tag, inventing games, etc, while caregivers used it for gathering, perching, and picnicking.
We observed 608 users in the playground and discovered:

- The poured in place rubber surfacing was the most used area in the playground, followed closely by the climbing structures, and the perimeter bench.
- There were slightly more females than males in the playground and while they were fairly equally distributed, the benches attracted more females.
- The most vigorous play element was the swings, with the climbing structures coming in second. The climbing structures contributed to a surprising amount of sedentary behaviors for both adults and children, which included socializing and perching, alone and in groups.
- The sheep (grouped in climbing) served in many capacities, as bench, imagination/role play and jumping platform.
- The bench was predominately sedentary. It actually contributed to bringing the overall physically activity levels down by 25%, when compared to other playgrounds. The vigorous users utilized the bench for running, leaping, and as part of tag and other games, like hide and go seek.
- The rubber surfacing contributed to a variety of activity levels and behaviors. Most adults were sedentary, standing and observing children, while most of the children were physically active, and playing games such as tag, hide and go seek, soccer, and imagination/role play.
- Children were the majority users and were most attracted to the climbing structures, rubber surfacing, and swings.
- There was not a significant teen presence, but they were equally attracted to the climbing structures and the rubber surfacing.
- Adults were almost equally attracted to the bench and the rubber surfacing.
- Seniors were almost equally attracted to the bench and the rubber surfacing.

Swings are more fun with friends.
A sheep can also be a rocket ship or base for tag.
Sometimes benches are for running.
Kilburn Grange Playground was envisioned by the London Borough of Camden as an adventure playground space in a corner of Kilburn Grange Park. The adventure playground concept was born in post war rubble, where children could run around, climb, build, and discover.

Modern day adventure playgrounds are environments that enable children to make things, and play freely and creatively. Children are encouraged to explore and take controlled risks. Adventure playgrounds change over time through the children’s input.

The .13 hectare (.32 acre) playground was designed by Erect Architecture. It was developed as a sequence of distinctive spaces with different sensory qualities across the site, and described by the architect as ‘controlled chaos’. It is comprised of structures such as treehouses and a lookout, a series of walkways and ladders, several slides, perches in trees, swing, climbing wall, balance beam, sand area, boulders, logs, and a playful fence.

The site also has a building that is used as a play center which is adjacent to a calmer play space, focused on a boulder area with a water pump and runnels, as well as a flat space for soccer/football.

Kilburn Grange Playground is on a site that is the remainder of a Victorian arboretum. The overarching theme is playing in and around trees, experiencing distinct materials and seasons, and developing narratives around different parts of the site and structures.

The project won a RIBA Award for excellence in design, as well as the international Children’s Making Space Award, given only every five years. The children on the jury chose the playground, not only because it was exciting, sustainable, and unusual, but also because “… it allows us (the children) to make the space our own.”

A playground built from salvaged materials, including a piano turned on its side in a wall for playing, old fishing nets, and wooden windows built into forts, as well as several big slides.
SITE PLAN

SURFACES
- POURED IN PLACE RUBBER
- BOULDER
- PASSIVE

FEATURES
- SLIDING
- CLIMBING
- STEPPING
- SWINGING
- WALKING
- PUMPING
- RUBBER MATTING
- BARK
- SAND
- GRASS
- FENCE
- ASPHALT
- DIRT
- STONE
- ART

PLAY ELEMENTS (BY MOVEMENT)
- PUMPING
- SWINGING
- STEPPING
- BALANCING
- WALKING
- CLIMBING
- PASSIVE
We observed 420 users in the playground and discovered:

- The treehouses were the most popular area, with 24% of all users. They were observed as distinct play spaces, divided among passive (playhouses and perches), climbing, balancing, walking, and sliding activities.
- The rubber matting was the second most popular area. The entire space around and under the treehouses was covered with rubber matting. Children would often race from one piece of the structure to another across the matting, and adults would stand and watch children scale various elements.
- The asphalt was the third most popular area. This included the area in front of the building, popular for boys playing soccer/football, and the path around the boulder/water play area.
- The playground attracted more boys than girls, but that could be attributed to the after school program onsite, which had a predominance of boys.
- The top five play activities were passive (treehouses), climbing, balancing, walking, and sliding.
- The play activities had a mix of activity levels. The balance beam was predominantly sedentary, but was often used as a bench/perch by adults and children.
- The grass was also predominantly sedentary, as parents would set up around the perimeter of the site, with blankets and food, while their children played. They would often socialize among themselves or use their phones.
- Children were most attracted to the treehouses, rubber matting, and asphalt.
- Teens were most attracted to the grass.
- Adults were most attracted to the rubber matting, log, boulders, and asphalt.
- There were no seniors observed in the playground.

It's ok to go up the slide. Parents like to see and be seen. One person’s trash is another person’s playground.
King Square Gardens is located in one of the most densely populated areas of central London, with limited parks and open spaces. In 2004, in partnership with Islington Council, EC1 New Deal for Communities developed a ‘Public Space Strategy’ for the parks, streets, and estates within its area, identifying King Square Gardens as a key improvement.

Islington Council then commissioned a King Square Area Framework and Action Plan in 2008, which led to the construction of a new park building, completed in 2011, and the new .24 hectare (.63 acre) playground, completed in 2013.

The key objectives of the renovated play space were to increase the play value of the park, create more opportunities for playing with natural elements, create a more inclusive play environment, enhance the park’s status as a Site of Importance for Nature Conservation, and improve playground user’s sense of safety.

The playground has several different areas, linked through continuous water play elements. At the entrance of the site is a bank of swings for younger and older children, as well as a basket swing. A large sand area is just past the entrance, in the center of the site, with a climbing structure, grass berm, and embankment slide. Adjacent to the sand area is a pair of water pumps that flow into a series of sloped paths and runnels with dams that spill into a rain garden.

Past the rain garden is a water spray area, with jets and interactive fountain features. Around the edges are a seating area with boulders and benches, a spinner, two steel sculptural play structures, and a timber climber. A large tree is occasionally used for climbing.

The renovation was fairly new to the neighborhood and still had a bit of a vacant quality to it. It was enlivened by frequent stops from the ice cream truck, which would draw residents out of the adjacent housing estates.

A playground with a massive sand area that fuels messy play along with water spouts and runnels that empty into a rain garden, adjacent to a spray area and artistic steel playhouses.
### We observed 153 users in the playground and discovered:

- Swings and the benches were the most popular areas. The benches were well placed, as a divide between the swings and sand but central for adult supervision, and another at the edge of the grass berm for gathering in conjunction with the grass, which was the second most popular area.
- The swings were popular for all age groups.
- The rubber surface was the third most popular area, primarily for parents engaged in pushing or watching their children on the swings.
- The playground attracted significantly more female than male adults, but fairly equal distributions of gender in children and teens.
- The top five play activities were swinging, spinning, sliding, pumping, and climbing.
- The play activities were more mostly active, with the exception of a few children and adults that would perch on the climbing structure, and the children, teens, and adults seated in the swings.
- The sand was almost equally split between sedentary and active, with many children running back and forth between the swings, the grass berm, and embankment slide.
- Children were most attracted to the swings, grass, rubber, and concrete. The slide was an attractor and many children would use it to scale the grass embankment, which is made obvious by the ruts on either side of the slide.
- Teens were most attracted to the swings and the spinner. The spinner was in the furthest corner from the entrance and often secluded.
- Adults were most attracted to the bench, grass, swings, and rubber surface.
- Seniors were most attracted to the swings, rubber surface, and bench.

### CONCLUSIONS

A little water goes a long way. Ice cream is a great people attractor. Swings are social gathering spaces.
A playground with a spin on nature play, with a climbing structure made from salvaged trees and chipped rubber surfacing that blends well with the more natural park surroundings.
CONCLUSIONS

We observed 682 users in the playground and discovered:

- The rubber surface was the most popular area, utilized primarily by adults observing play, walking, or standing.
- Concrete and climbing were tied for the second most popular areas, followed closely by the swings.
- Tables and benches were next in popularity after the swings.
- Gender distribution was fairly equal across the playground.
- The top five play activities were climbing, swinging, spinning, balancing, and sliding.
- Of the play activities, swinging had the most sedentary use, by children and adults. People would often use them as seats, occasionally moving back and forth.
- The climbing structure also offered some sedentary opportunities, as children would climb up and perch, overlooking the playground and calling down to their peers and caregivers.
- The site elements, such as benches and tables, were almost entirely sedentary.
- Surfaces were almost equally split between sedentary and active, as most adults stood, while the children ran and played. The grass was the exception, encouraging a lot of sitting and laying by all ages.
- Children were most attracted to climbing, swinging, spinning, and surfaces such as rubber and concrete.
- The youngest children (under 5) were found predominantly in the swings.
- Teens were most attracted to surfaces such as grass, artificial turf, and concrete.
- Adults were most attracted to the rubber, concrete, tables, and benches.
- Seniors were observed, but did not have a significant presence in any specific area.
Marylebone Green Playground lies in the southern section of Regent’s Park within the borough of Westminster, bordered by the Nash Terraces on the Outer Circle and the Avenue Gardens to the east. It is one of four playgrounds in the park.

Farrer Huxley Associates designed the restoration in 2013 to replace the popular .41 hectare (1.02 acre) playground close to Marylebone Gate. Some elements of the existing playground were retained, while many new ones were introduced.

The re-design was focused in three areas: a ‘retro zone’ that kept some of the traditional play elements such as swings, spinner, and seesaw, a natural play area which included a willow tunnel and large fallen tree for climbing, salvaged from the Park after a winter storm felled it in 2012; and a contemporary play area that included a spiral folly with slide and sand area with water spout and runnels, which was inspired by the ‘Frieze Art Show’ which takes place each year in the adjacent park.

These three zones support a wide array of play behaviors and use. The traditional play equipment area is popular with all ages, and has perimeter benches for adults. The central post and platform structure is used heavily by younger children.

The natural play area blurs the line between playground and park, and is often used for parties and large family groups. The large fallen tree is always covered with children, climbing, perching, and scrambling. The adjacent perimeter planted area is mature and has many well worn use paths through it, and allows for tree and bush climbing.

The contemporary play area is by far the most popular, with the sand and water feature for younger children on one side, overlooked by a long perimeter bench, and a mounded artificial turf area on the other, with climbing blocks, perches, and openings that encourage both active and passive play. Inside the folly is a musical chimes.

A playground with three distinctive areas, marked by a massive concrete slide and climbing wall next to a sand area, a nature play space with salvaged trees, and a few traditional play structures.
SURFACES

FEATURES

PLAY ELEMENTS

CONCLUSIONS

We observed 1721 users in the playground and discovered:

- The grass was the most popular area. It was used heavily by families and large groups for parties, picnics, and gatherings.
- Benches were the second most popular area. There was a long linear bench adjacent to the sand play area and a few other benches scattered throughout the playground.
- Climbing, sand, and gravel tied for the third most popular areas. Climbing included the traditional play structure, the play blocks, the concrete climbing wall, and the fallen tree. Of the four, the tree was the most popular.
- If the sand and water play (manipulating) areas were viewed together, they would be the most popular area in the playground.
- Very few people were observed in the planted areas, but there were well worn use paths in and around the trees and shrubs. It is possible that due to the dense nature of the plantings that children could have been hidden in this area and not observable.
- The playground attracted a bit more females than males, primarily adults and caregivers.
- The top five play activities were climbing, swinging, manipulating, stepping, and seesawing.
- The play activities were almost entirely active, with some sedentary behaviors on the climbing tree and the swings.
- The sand and gravel were incredibly active as well, with a lot of walking, running, jumping off the climbing wall, and interacting with the water play area.
- Children were most attracted to climbing, sand, grass, swinging, and manipulating in the water play area.
- Teens did not have a significant presence in the playground.
- Adults were most attracted to the benches, grass, gravel paths, and tables.
- Seniors were most attracted to sand, benches, and tables.

Solitary spaces are important. Play does not have to be manufactured. Sand is better with water.
A playground with huge rubber surfaced mounds accentuated with large scale timber and net climbers, as well as a sand area with water spout and boulders for seating for caregivers.

One aspect of the proposed 2012 Olympic Games Legacy was the creation of the Queen Elizabeth Olympic Park, which was divided into a North and South Park. New York based James Corner Field Operations were the designers for the South Park Plaza, 22.2 hectares (55 acres) of active space with a total budget of £21 million ($32.4 million). The project included a playground known as Olympic or South Plaza Playground. Construction of the project was complete in 2014.

The Park’s design included a wide tree lined promenade that opened onto a series of outdoor rooms, one of which was the playground. A number of large boulders mark the playground entrance off the promenade, and the rubber surfacing bleeds into the path as well, encouraging entry and engagement with the space. The .15 hectare (.36 acre) playground is popular with local school groups visiting Olympic Park, particularly as it is closer to public transit than the other two playgrounds.

Along with the boulders, a series of angled concrete climbing walls are located near the entrance. These walls become part of a slide, which was incredibly popular, often supporting up to a dozen children or more engaged in a variety of play behaviors, from climbing the wall, to climbing the slide, to sliding, to make believe under the slide, or just getting out of the hot sun.

A large sand area is central to the playground, with a water pump and boulder seating, and just beyond is a series of rubber mounds for climbing and sliding interspersed with a number of large timbers onto which are attached a rope bridge.

On the other side of the playground are two types of disc swings, and a grassy area for picnics and gathering, surrounded by a planted area. A number of benches are scattered around the perimeter of the playground for adults and caregivers. Near the river the play space drops down to become a large scale climbing wall for older children and adults. This area was not included in the study, as it did not appear to be connected to the play area.
SITE PLAN

SURFACES
- POURED IN PLACE RUBBER
- GRASS
- SAND
- PLANTING
- CONCRETE

FEATURES
- BALANCING
- BOULDER
- SLIDING
- CLIMBING
- PUMPING
- BENCH

PLAY ELEMENTS (BY MOVEMENT)
- SWINGING
- PLANTING
- CONCRETE
- BALANCING
- BOULDER
- SLIDING
- CLIMBING
- PUMPING
CONCLUSIONS

We observed 1145 users in the playground and discovered:

- The rubber surface was by far the most popular area, but it also constituted almost 80% of the playground.
- Sand, at only 5% of the playground area, was the third most popular space.
- The benches were the second most popular area, used predominately by adults. The bench locations were all on the perimeter, which became problematic as the playground became busier and site lines were obscured. Many adults moved to standing on the rubber during high use times.
- The playground attracted significantly more female than male adults, again primarily on the benches, but fairly equal distributions of gender in children and teens.
- The top five play activities were swinging, climbing, sliding, balancing, and pumping.
- Other than on the balancing rope bridge, the large timbers were not used for play.
- The play activities were almost entirely active, except for climbing. Many children would get to the top of the sloped climbing walls and boulders and perch there, encouraging other children and adults to join them.
- The sand had a significant amount of physical activity with children walking, running, digging, and leaping off of the adjacent boulders.
- Children were most attracted to the rubber, sand, swinging, climbing, and sliding. The mounds were of particular interest, encouraging climbing, leaping, and sliding.
- Teens were equally attracted to the rubber, balancing, and swinging. The basket swing was popular for teen groups.
- Adults were most attracted to the bench, rubber surface, sand, and boulders.
- Seniors were most attracted to the bench.
A playground with a massive concrete mound with three huge slides down its face, the back of which was covered in concrete steps that were incredibly popular with teens.
SITE PLAN*

SURFACES

FEATURES

PLAY ELEMENTS (BY MOVEMENT)

*POOLS, PRINCESS DIANA, TUMBLING BAY AND V&A ARE AT 1:100 SCALE, ALL OTHERS ARE AT 1:50
CONCLUSIONS

We observed 2567 users in the playground and discovered:

- The grass was by far the most popular area and was almost half of the playground surface. On high use days, the grass was almost not visible under the blankets, towels, and people covering it.
- The sand was the second most popular area and was only 8% of the playground surface.
- The concrete and asphalt were almost tied for third most popular area. This included the water play area, which was not on during the study. However, the space was still very active and being used for soccer/football, cycling, skateboarding, and scooting.
- There was a fairly equal distribution of males and females across the playground.
- The top five play activities were stepping, climbing, swinging, sliding, and spinning. As much of the stepping activity was part of the queuing for the slides, those should be considered as a combined use, which puts them on equal footing with the sand.
- The play activities more mostly active, with the exception of the stepping behaviors, which included people resting on the way up the concrete mountain and sitting on the boulder steps on the backside.
- Children were most attracted to the grass, sand, climbing, asphalt, and concrete.
- Teens were most attracted to the steps and the grass. Of all of the playgrounds in the study, this park had the highest number of teens, and they were primarily located on the concrete boulder steps, where they would gather and socialize with friends.
- Adults were most attracted to the grass, benches, asphalt, and concrete.
- Seniors were most attracted to the grass and concrete.

Sand makes everything better (and slides slipperier). Think outside the fence. Let play happen everywhere.
A playground designed after the Peter Pan story, complete with pirate ship in a large sand area, stone alligators to scramble over, a look out with a treasure chest, and boulder fountain for splashing.

The Princess Diana Memorial Playground is a memorial to Diana, Princess of Wales in Kensington Gardens, in The Royal Borough of Kensington and Chelsea, London. The playground is located next to her Kensington Palace home and was built after her death at a cost of £1.7 million ($3.97 million) on the site of the existing Peter Pan children's playground.

The .8 hectare (1.98 acre) playground sees over a million visitors each year. It was designed by Land Use Consultants and inspired by the Peter Pan story. The most prominent feature is a full-scale wooden pirate ship surrounded by sand. Other play features include slides, swings, teepees, and play sculptures, as well as a sensory garden designed for those with disabilities, including fragrant plants and sound features.

The space is divided into a number of play ‘rooms’, each with a distinctive character and play opportunities. The primary space contains the pirate ship and other smaller boats and vessels, as well as numerous boulders and places for caregivers to sit.

Adjacent to the entry is a younger children’s play area, with a smaller sand area, boats, and climbing structures, as well as an area for swings. Just past the central sand area is a concrete water play mountain, with imprints and sculptures of mermaids and crocodiles. The fountain was not on during the study, but provided plenty of climbing opportunities.

The sensory garden is in the rear of the playground and adjacent to a wooden fort area, with slides and wooden wobble bouncers that were very popular for getting parents moving. Just past that, on the way back to the pirate ship, is another small room with basket swing and slide.

Threaded throughout the playground are lush plantings that encourage exploration and adventure. Three grassy areas and two canopies encourage adults to gather, while various art elements, like carved wooden totems, enliven the space and foster discovery.

LOCATION: BOROUGH OF KENSINGTON AND CHELSEA
SIZE: .8 HECTARE (1.98 ACRES)
DATE COMPLETED: 2000
DESIGNER: LAND USE CONSULTANTS
EQUIPMENT MANUFACTURER: RICHTER SPIELGERATE, TIMBERPLAY
COST: £1.7 MIL. IN 2000 ($3.97 MIL. IN 2017)
*POOLS, PRINCESS DIANA, TUMBLING BAY AND V&A ARE AT 1:100 SCALE, ALL OTHERS ARE AT 1:50
CONCLUSIONS

We observed 3814 users in the playground and discovered:

- Concrete was the most popular area. This included the mounded water play area, the entry with the picnic tables, and the rear plaza at the sensory garden.
- Sand was the second most popular area. This included the central area with the pirate ship, as well as the smaller space for younger children.
- Climbing was the third most popular area. This included the pirate ship, the wooden play mound, and certain elements of the wood fort, such as ladders.
- Gender was fairly equal throughout the playground.
- The top five play activities were climbing, passive (which included the stationary play boats, playhouses, wooden truck, and teepees), swinging, balancing, and manipulating.
- The play activities included a lot of sedentary behaviors, such as sitting in swings and perching on the pirate ship.
- The grass was primarily sedentary and contained mostly adults and children who were seated for snacks/food.
- The sand was an incredibly active space, with children climbing onto and leaping off of the pirate ship, rocking the smaller boats, dumping sand tables, and scaling boulders.
- The most active play occurred on the pirate ship, the rocking boats, the wooden truck, and the swings.
- Children were most attracted to climbing, sand, and concrete. The pirate ship and its adjacent sand area were by far the most popular element for children.
- Teens were most attracted to climbing and concrete, primarily the mounded water play area.
- Adults were most attracted to the concrete, grass, sand, bench, and bark.
- Seniors were most attracted to the benches, tables, and passive play activities, like the playhouses.

A boat can launch a thousand adventures.
Give parents a variety of places to sit.
Create places to get lost.
A playground that is a popular hangout for teens, who were happy to be on the same climbing structures as the younger kids, with a fountain and stone runnel to collect and direct water.

In 2006, the Islington Borough Council asked Park Life to prepare a Framework Plan for the regeneration of this important, but neglected park in the heart of Clerkenwell.

Participatory design was the core of the process, and children and teens were involved from the beginning. The involvement of teens was particularly important as they had been the source of many problems on the site. The .17 hectare (.42 acre) playground was created to bring the whole community together, including hard to reach groups like older teens and young adults.

The path through the existing park was relocated through the play area and the constant flow of commuters and neighbors helps make the playground feel safe. The design includes a complex arrangement of mounds, ditches, hollows (inspired by the drawing of a local schoolchild) and paths, edged by planting and walls at seat height, to help enclose the site, provide ample seating, and screen traffic noise.

The equipment is custom and designed to be non-prescriptive, allowing flexibility of use and giving children’s imaginations free rein. It has the appearance of risk and danger, while still meeting safety parameters. This appearance, as well as the variety of perches and overlooks it affords, is attractive to kids of all ages, from toddlers to teens.

More standard, off the shelf equipment include a swing for younger and older children, a teeter totter spinner, dish spinner, balance ropes, water play area with cobble paving, and boulders throughout for climbing and sitting.

There are plenty of places for adults and caregivers to sit. The playground is also used by adults without children, on their lunch break or passing through. The adjacent grass area supports a wide variety of uses, from pickup games of soccer/football, to picnics and date nights. It is refreshing to see a playground being used by such a wide array of users, encouraging play for all ages.
SITE PLAN

SURFACES

FEATURES

PLAY ELEMENTS (BY MOVEMENT)
We observed 354 users in the playground and discovered:

- Grass was the most popular area, used by all ages for ball games, picnics, and gatherings.
- The rubber surface and mounds was the second most popular area.
- The concrete and benches almost tied for the third most popular area. The concrete included the paths through the site, utilized by a variety of local neighbors, not just playground users. The benches included seatwalls around the perimeter planters intended for seating.
- The playground attracted a fairly equal gender distribution.
- The top five play activities were climbing, swinging, seesawing, balancing, and stopping.
- The climbing structure supported an array of activity types. Most children were active on the structures, while most teens used it for sitting and socializing. The ‘lifeguard stations’ were also popular climbing elements, for children who needed a quiet moment away from the small, but intensely programmed site.
- The concrete was predominately active, as it contained mostly commuters passing through. Children also used it for walking and running loops through the site.
- The rubber surface and mounds supported a wide variety of activities. All ages took advantage of the space for both active and passive play, climbing up and sliding down, while also perching and socializing with friends.
- Children were most attracted to the rubber, climbing, grass, and concrete.
- Teens were most attracted to the grass, climbing, swinging, and seesawing.
- Adults were most attracted to the grass, bench, concrete, and rubber.
- Seniors were most attracted to the bench.

Hills are comforting and great for naps. Active and passive areas work together. Toddlers and teens can use the same spaces.
Tumbling Bay Playground was part of the transformation of the site of the 2012 Olympic Games into usable community space. Land Use Consultants (LUC) designed the master plan, in partnership with Erect Architecture.

The landscape was designed as a continuation of the Olympic Park development, with large-scale buildings, massive landforms, and huge swatches of plantings. The vision for the .85 hectare (2.1 acre) playground was based around the story of plant lifecycles, from early woodlands, culminating in forests.

The play elements relate to these ecological themes. The first play space is a lawn surrounded by woodland plantings, with seed pod shaped dens made of woven branches. The next space reflects the timeline of the River Lea, and explores water through pumps, runnels, weirs and dams, salvaged boulders, and slab remnants from the Olympic development. It has a sand play area, an interactive play feature that relates to the docks, a slide, and bridge for running and climbing.

The final play space evokes a pine forest. Giant treehouses made from salvaged logs and massive net climbers elevate the play experience, and brings risky play to all ages. The nets span a valley, utilized for stormwater management and drainage, that contains small swings for younger children, while the older ones climb above. The towers are connected via a net tunnel, from which a large swing hangs, pulling the tunnel users above for a dynamic play experience. This space also has a slide, talk tubes, and climbable art elements embedded in the landscape.

Amenities for adults and caregivers are well placed throughout the site. Benches have clear site lines, and many features are large enough for adults to play along with their children. While there is no clearly defined age ranges within the spaces, children and adults self select their play based on ability level and bravery. Younger children gravitate towards the sand/water play areas and woodland, while older children, teens, and adults tackle the more challenging treehouse and net structures.

A playground famous for its giant custom treehouses, huge net climbers, and woven willow nests, it was always full of kids and families, with adults sneaking in to play in the early morning hours.
SITE PLAN*

POOLS, PRINCESS DIANA, TUMBLING BAY AND VIOLAS ARE AT 1:100 SCALE, ALL OTHERS ARE AT 1:50

SURFACES

- WATER
- GRASS
- SAND
- BARK
- CONCRETE
- ART
- POURED IN PLACE RUBBER

FEATURES

- STEPPING
- JUMPING
- SWINGING
- BALANCING
- MANIPULATING
- SEDENTARY

PLAY ELEMENTS (BY MOVEMENT)

- WALKING
- CLIMBING
- SLIDING
- PUMPING
- MANIPULATING
- SWINGING
- BALANCING
- STEPPING
- JUMPING
- SEDENTARY
The right plants set the stage for play. Water is the ultimate loose part. Adults need treehouses too.
A playground very popular with young kids, particularly the water play area, which could be used even in the off season, with kids spending hours moving rocks back and forth between catch basins and streams.

Victoria Park is 86 hectares (213 acres) of open space that opened in 1845. It is located in the East End of London, bordered by Bethnal Green, Hackney, and Bow. The park is within the London Borough of Tower Hamlets.

The Park was restored and improved through a £12 million ($19.76 million) project funded by Tower Hamlets Council, the Heritage Lottery Fund (HLF), and the Big Lottery Fund (BLF). The master plan by LDA Design included a new café and rangers building, upgraded landscaping and ponds, and restoration at Pools Playground and Victoria & Alexandra Playground.

The renovation at the .85 hectare (2.1 acre) Victoria & Alexandra Playground includes a sand play area with numerous playhouses and climbing tower with a slide. Surrounding the sand area are boulders and benches for parents to sit, as well as a few larger boulders for climbing and scrambling.

An adjacent water play area with a pump and water tables overflows into a small stream bed, under a bridge, and into the sand play area. The material around the water play area is pea gravel, which extends the play value through the winter, when the water is off.

Timber steppers are located throughout the playground, providing a unified feel, and opportunities for active play. Numerous balance areas provide paths from one section to another. A large swing area, with swings for younger and older children, as well as a giant viking swing are near the south edge of the playground. A whirlwind spinner and seesaw scales provide more play opportunities to the north, near a large grass area, perfect for soccer/football, or family picnics.

Many mature trees were retained, and new ones planted as part of the renovation, providing tree climbing and plenty of shade throughout the playground. Initially built without a fence, one was installed around the perimeter at a later date due to safety concerns from parents and caregivers.
SITE PLAN

*POOLS, PRINCESS DIANA, TUMBLING BAY AND V&As ARE AT 1:100 SCALE, ALL OTHERS ARE AT 1:50
Kids seek out sensory experiences. The most beloved play places are often the most worn. Loose parts can extend water play for all seasons.
A playground whose focal point is a sand and boulder area, an attraction for all ages as kids tried to maneuver their way up and across the boulders; scrambling, climbing, and jumping.

St. James’s Park is 23 hectares (56.8 acres) in the City of Westminster in central London. The park is flanked by Buckingham Palace to the west, the Mall to the north, Horse Guards to the east, and Birdcage Walk to the south. Its central location mean that it is a magnet for tourists, and many diverse languages can be heard at any given time within the playground.

The .1 hectare (.25 acre) playground is a well loved space that has not been renovated for some time. However, the simplicity of its design has stood the test of time. The playground is nestled into the lushness of St. James Park, right next to the pond. Large mature trees provide shade and only a short simple metal fence separates the playground from the adjacent park, providing plenty of sight lines both in and out of the space.

The central play space is a sand area ringed with boulders, adjacent to the entrance and main path through St. James Park. It has a series of low slung brick steps that lead into the sand area, as well as a brick island connected to the paving with a massive rock slab bridge.

The boulders are a variety of textures and sizes, and form several smaller zones within the sand, for all ages play and climbing opportunities. The fence that separates the sand area from the rest of the playground is a simple but crucial element that allows toddlers and seniors a support while climbing.

The rest of the playground has traditional play structures, such as swings, slides, seesaws, and a few non-traditional riding snails. Each zone projects out from the path towards the pond, further immersing visitors into nature.

There are plenty of adult support structures, such as benches, tables, shade, and an adjacent café, for caffeine and snacks. It is a relatively simple space, with a small footprint, but it demonstrates that play does not have to be complicated, and sometimes good materials and a natural setting are the perfect recipe for a successful and beloved play space.
We observed 491 users in the playground and discovered:

- The asphalt was the most popular area, for walking, running, observing others, and socializing.
- The boulders and sand were almost tied for the second most popular area. If viewed as one space, the combined sand/boulder area had an equal number of people as the asphalt area.
- Swinging and the benches were almost tied for third most popular area. People seemed to self select and divide more equally among different areas in this playground than they had in others, where certain areas became overburdened while others remained empty.
- The playground attracted significantly more female than male adults, but fairly equal distributions of gender in children and teens.
- The top five play activities were swinging, stepping, seesawing, walking, and climbing.
- The play activities were not consistently active. Many people sat in the swings and on the steps, which acted as a kind of amphitheater within the playground.
- The sand was very active, while all other surfaces were very sedentary. The sand had mostly children engaged in vigorous play, while the surfaces had mostly adults standing or leaning against walls.
- The swings provided the most opportunities for all ages to engage and play.
- Children were most attracted to the sand, asphalt, swings, and climbing.
- Teens were not a significant presence in this park, likely due to its lack of risky and adventurous play elements.
- Adults were most attracted to the asphalt, boulders, benches, and brick paving.
- Seniors were most attracted to the brick and asphalt.