



SPACE TO GROW

Working principles for child-friendly cities



Photo: Oded Antman/Bernard van Leer Foundation

This essay briefly explains the importance of supporting our youngest city residents – infants, toddlers, and children below the age of five – in the design, maintenance, and governance of public space. It then offers a series of working principles for achieving a more playful, supportive and friendly city, in which more children and caregivers can participate in public life, drafted in collaboration with the Bernard van Leer Foundation.

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Gehl Institute

is a New York City-based non-profit whose mission is to transform the way cities are shaped by making public life an intentional driver for design, policy, and governance. We believe that in order to make cities more equitable and just, public spaces should be made more accessible and welcoming to more people. Our interdisciplinary work combines research, programming, and network-building.

There is no better investment a society can make than in its children. Yet the design and policies of cities across the world regularly fail to ensure accessibility, safety and health for children, their families and caregivers. In part, this is because their needs are simply not taken into account by the dominant actors who shape the built environment. What if,

as the Bernard van Leer Foundation implores in its Urban95 initiative, all designers and planners were to imagine how a city is experienced from 95 centimeters: the average height of a three-year-old? How might our approach to building cities, and public spaces in particular, change?

Towards a more child-friendly urbanism

Most cities are not built to support the mobility, playful attitudes, physical health and early brain development of young children. Once you start looking, the problem is easily identifiable in the everyday spaces of the urban environment. Streets are generally dedicated to car traffic, thereby creating unsafe conditions for navigation and play; inconsistent sidewalks, inaccessible transit stops (see Chadha/Ramprasad 2017; TransitCenter 2017) and other physical infrastructure often impede children and caregivers' mobility rather than facilitate movement by foot, bicycle, stroller or wheelchair (Fritze 2007); quality neighbourhood parks and playgrounds are not distributed evenly across the city, resulting in "play deserts" (Bashir 2013); children of lower-income households and marginalised identities are often exposed to higher levels of environmental hazards (Massey 2004); and few opportunities to experience nature prevents children from enjoying many emotional and physical benefits (Pretty et al. 2006; Balseviciene et al. 2014).

We must ask ourselves: how can the built environment better support the experience and health of children? What

principles might inform a more child-friendly approach to the design, maintenance and governance of public space? Answering these questions requires going beyond minimum conditions of safety or access. It also necessitates thinking critically about how childhoods might be enriched by a more playful, stimulating and supportive public realm.

In recent months, Gehl Institute has collaborated with the Gehl Practice and the Bernard van Leer Foundation to explore the connections between public space and early childhood development. As stated, the Bernard van Leer Foundation's Urban95 initiative encourages city leaders, planners, architects, and innovators to look at the built environment from the average height of a three year-old (95 centimetres), and seeks "to make lasting change in the landscapes and opportunities that shape the crucial first five years of children's lives" (Bernard van Leer Foundation 2018). Enhancing the quality of public life for this group includes parks and playgrounds as well as streets, sidewalks, plazas and other spaces outside the home, work, school or nursery (for more on public life, see Gehl 2011 and Gehl/Svarre 2013).

Why ages zero to five?

We focus here on children ages five and below for a variety of reasons. To start, very young children – including infants and toddlers – are generally overlooked by designers, planners and policymakers as city users. Unsurprisingly then, they face extraneous barriers and vulnerabilities in public space. Shifting our focus to this group offers, for most planners and designers, an entirely different vantage point to think through city-making.

Moreover, this age group experiences rapid, critical brain development. The rate of synapse formation in relation to language, vision and hearing and higher cognitive functions is exponentially higher for very young children. "The early years matter because, in the first few years of life, more than one million new neural connections are formed every second," posits the Center for the Developing Child at Harvard University. "These are the connections that build brain

architecture – the foundation upon which all later learning, behaviour and health depend” (Center on the Developing Child 2017). Very young children are also disproportionately affected by exposure to poor air quality and other unsafe environmental conditions due to their higher respiratory rates and stages of lung development (World Health Organization 2005). They are sensitive to noise pollution, which can affect hearing, cognitive development, motor activity, stress levels and more.

On a more positive note, the rapid cognitive and physical development of very young children also creates opportunities for playful teaching moments in any location. Public spaces can be especially important in offering children opportunities to sense new things (colours, textures, smells, sounds), explore new surroundings, practise new kinds of movement, socialise with others and experience some independence. We offer a handful of strategies to take advantage of these opportunities in the principles listed below.

The co-benefits of planning for young children

Crucially, if we choose to place young children at the centre of our city-making approaches, we discover that catering to their needs can also enhance urban experience for many other groups. As Arup explains in its Cities Alive: Designing for Urban Childhoods report: “Child-friendly urban planning is a vital part of creating inclusive cities that work better for everyone” (ARUP 2017: 9). It adds: “The amount of time children spend playing outdoors, their ability to get around independently [editor’s note: here we would add that in addition to children moving independently as an indicator, we should look at very young children’s ability to move around with a caregiver], and their level of contact with nature are strong indicators of how well a city is performing, and not just for children, but for all city dwellers” (ARUP 2017: 7).

8 80 Cities, a Toronto-based nonprofit organisation, further illustrates this point. Its executive director Gil Penalosa, also the former Parks Commissioner of Bogotá, Colombia, has stated, “We have to stop building cities as if everyone is 30 years old and athletic” (Lorinc 2012). We would substitute the word “athletic” for “able-bodied”; many disabled athletes would surely fit Penalosa’s description, yet have to navigate urban environments that are not built with their needs in mind. Penalosa is not the first person to make this call to action: networks of activists, advocacy groups, and architects have long fought to enhance the built environment for vulnerable populations, and to better understand how design and policy might create or reproduce forms of inequality (for example, see Mayerson 1992). Instead of building these cities, 8 80 Cities asserts that “if everything we do in our public spaces is great for an 8 year old and an 80 year old, then it will be great for all people” (8 80 Cities 2018). The Bernard van Leer Foundation goes even further to say: what if that clock starts at 8 days old? Or at 8 months pregnant? Its Urban95 programme outlines a process to better shape



Photo: Oded Antman/Bernard van Leer Foundation

a child's first thousand days and is working to embed this thinking in various city processes.

Designing for children below the age of five, who are significantly more dependent and vulnerable than even eight-year-olds, can also lead to benefits for other groups, such as disabled and older adults. An example is the addition of curb cuts on city streets, which enable caregivers pushing

strollers to better navigate sidewalk infrastructure. This intervention also improves the mobility of people who use wheelchairs and walkers, as well as delivery persons with push carts (Interboro et al. 2017: 124). These same groups could also benefit from elevators at underground or elevated transit stops, ramps outside building entrances and well-marked elevated crosswalks.

Principles to support happy, healthy families in a friendly city

In what follows, we describe ten principles for approaching the design, maintenance and governance of public space to better support the needs of young children, families and caregivers. We hope that they can inform and inspire planners, designers, public health advocates and community members who are fighting for more child-friendly cities.

Make young children and caregivers visible

The built environment is generally designed without much thought for the needs of young children and their caregivers. Changing this mindset is critical, and will result in a public realm that better supports a variety of groups, including disabled and older adults. Collecting public life data to un-

derstand specifically where and how young children and their families live and spend time outside will help cities tailor their efforts to have the greatest impact. For example, counting and documenting where people walk, sit, and go about daily activities creates a picture of how young children and their caretakers navigate the city. This data should then inform design decisions that enhance public spaces. Importantly, cities must work with caregivers at every step of the data collection process. Following a public space intervention, they must also ensure that a formal system is established for incorporating future community feedback and providing maintenance staff and informal stewards with the resources they need.

Nurture curiosity

Freedom to roam, seek out peers and explore public spaces helps young children prepare for the unpredictability of life. Yet with each generation, the typical radius of how far a child is allowed to explore on its own declines significantly. The built environment should offer children the space to seek out adventure and set their own limits, within reason, while ensuring a general level of safety. Public spaces can cultivate mutual trust and respect between children, their caregivers and the wider community. For example, in Copenhagen, some schoolyards that would typically be fenced in elsewhere are left open and double as shared spaces for the broader public, including very young children, when school is not in session. Additionally, many children in Copenhagen learn to ride bikes as soon as they are able to walk. Joined by a caregiver, children as young as 1 or 2 can traverse city streets using "walking bikes" that foster independence and exploration. When children are encouraged to navigate the built environment within subtle boundaries, it allows even the youngest children to explore, learn and trust.



Photo: Oded Antman/Bernard van Leer Foundation

Get dirty

Young children's brains are rapidly developing and benefit from a variety of built and natural elements that support this process, offering diverse smells, textures, sounds and challenges that might change with the seasons. For example, uneven surfaces in playgrounds and schoolyards let children climb, while soft landscapes let them dig, build and get dirty. Caregivers, too, can participate in such active learning by demonstrating that experimenting is allowed – and fun. Very young children depend on such interactions with both their caregivers and the environment to learn. The design of public spaces can support this behaviour by providing, for instance, accessible rest areas with running water for washing up. Heterogeneous play environments enable fun, healthy and brain-stimulating interactions between adults and their children.

Enhance what's close to home

Children want to play everywhere. Accordingly, they should enjoy access to playful public spaces beyond sanctioned play areas such as large parks and playgrounds – which may be hard to get to and exceed the “small scale” of a child. Cities can prioritise their networks of smaller, residential green spaces to enhance the lives of young children and their caregivers. These modest neighbourhood spaces – located in areas that families can easily reach by walking or biking – offer opportunities to meet neighbours, build community, relax and play. Cities can also add value to the public assets immediately next to home, such as street trees and sidewalks, by improving their health and quality. Because young children and their caregivers experience a limited range of mobility, mapping and locating public services in areas accessible to them is critical. Lastly, as cities look to improve these assets, they should also create opportunities for ongoing community engagement efforts and inspire ownership over shared public spaces among residents.

Take back the street

Ensuring that streets are safe is the key to enabling the presence of young children everywhere. Streets comprise 25 to 30 percent of the total area in most cities and 70 to 80 percent of all public spaces; they are one of the most vital and underused civic assets in the public realm. Streets are not just pathways that people move through, but also places to spend time and interact with others. They are especially important to consider when planning for young children. A small child's mobility radius is limited; therefore, the streets closest to home become their most often accessed public spaces. Additionally, a young child's perspective – wheth-



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er they are walking or being pushed in a stroller – is much closer to ground level than that of most adults, and they are disproportionately affected by exposure to pollution. Establishing programmes for residents to add plantings and trees promotes clean air while fostering social bonds. Simplifying the process of adding seating in places where caregivers would otherwise have to stand or sit on informal objects encourages more walking and time on sidewalks. Play streets and block parties give kids space to play and neighbours an excuse to meet, and can build support for greater local ownership of the street. Adding curb cuts and other accessible design features makes moving a stroller easier, along with wheelchairs and pushcarts. Finally, clustering homes, stores, schools, services and offices closer together helps the very youngest and their parents to take back the street.

Take collective responsibility for children

What if every child is the community's child? Parents in cities can often feel isolated, exhausted and lacking in support for what is an around-the-clock job, especially during the first critical years of their children's lives. Courtyards, parks, streets, and plazas that are intentionally designed to be both shared and child-friendly offer opportunities for families and caregivers to connect and foster a support network with one another. Parents and city staff can work with communities to create culturally specific programming that meets the desires of children and adults of all ages. These spaces not only promote social interaction and improve connections between individuals, but also strengthen the larger system of community which can provide collective



Photo: Oded Antman/Bernard van Leer Foundation

support to those who need it. When it comes to design of public spaces that promote happy, healthy children, the sum of the whole is greater than the parts.

Co-create community

Public spaces serve as important sites for people to come together and cultivate a sense of social connection among and across communities. Therefore, the design and ongoing maintenance of these spaces is key. To encourage resident stewardship, city leaders must ensure that the voices of parents, children and caregivers are incorporated at every stage of the planning and maintenance process. This requires going to where these groups are instead of expecting them to seek out planning meetings and ways to contribute input. When the built environment is accessible, participatory and dignified, it allows for relationships to build among caregivers and children alike.

Work across boundaries

For kids moving from sidewalk to street to park to playground, the built environment composes a singular urban experience. City governments, in turn, should demonstrate a high degree of coordination across departments (e.g., transportation, parks, education) to achieve better-maintained and healthier public spaces for children. Early childhood development is impacted by planning decisions and activities of all sectors. The ways in which children activate and experience public spaces might not fit neatly within

specific city schedules, opening and closing hours, or physical boundaries. For example, keeping spaces clean and clear of obstacles helps maintain a safe environment for our youngest residents – who are close to the ground and use all of their senses, including touch and taste, to experience their environments. Cities can sync up the maintenance schedules of different municipal departments so that public parks are cleared of litter before the grass is cut, minimising children’s exposure to hazardous particles. When multiple entities feel responsible for the full experience of a public space, they are more likely to collaborate and make it thrive.

Measure, improve, repeat

Rather than waiting for the perfect plan, create an experiment and measure its impact. Enhancing the built environment for young children and their caregivers may require testing concepts that have not been tried before. Be bold and pioneer new ideas. Tweak to improve them and then repeat. Temporary projects, also called pilot projects, can catalyse the change process and build common understanding about the potential benefits of design renovations among stakeholders. Working with the community to measure the impact, such as collecting information on how many children and caregivers spend time in a park throughout the day, helps local residents see the space differently as well. Once there is a baseline understanding, setting performance improvement targets (e.g., 20 percent more children in the park) is a useful way to come to agreement about goals. It is important to measure again after the improvements are in place and repeat this cycle. The potentials reveal themselves while the understanding of the shared spaces deepens.

Strengthen the best ideas

The realities of government, management and finance structures can present impediments to repeating and scaling even successful pilots. But crafting compelling stories about your work, and developing easy ways for the city to adopt new ideas, can lead to more long-term support for programmes. Demonstrating, for example, how the presence of more street trees enhances the public realm for young families by bolstering the city’s public health infrastructure and improving pedestrian perceptions of safety can generate more support for the expansion of existing street tree programmes. Move from management, where someone is responsible for the daily operations of a project, to governance, where the project is part of the broader system of public spaces. Build a network of champions who know firsthand the importance of your work and the potential of future projects.

Conclusion

To conclude, it's worth emphasising that while city life is characterised in part by antagonisms over the use of public space, there are also immense opportunities for collaborations across difference to create more equitable environ-

ments. Participatory design, starting from the perspective of very young children (and their caregivers), can help identify these points of overlapping interest and address them.

Literature

- 8 80 Cities**, 2018: About us. Accessed: <https://www.880cities.org/about-8-80-cities> [retrieved on 02.03.2018].
- ARUP**, 2017: Cities Alive: Designing for urban childhoods. Accessed: <https://www.arup.com/publications/research/section/cities-alive-designing-for-urban-childhoods> [retrieved on 02.03.2018].
- Balseviciene, Birute; Sinkariova, Liuda; Andrusaityte, Sandra**, 2014: Do Green Spaces Matter? The Associations Between Parenting Stress, Child Mental Health Problems And Green Spaces. In: *Procedia – Social and Behavioral Sciences* 140: 511–516.
- Bashir, Zarnaaz**, 2013: Defining Play Deserts – We are Getting Close. *OPENSspace – the official blog & podcast of the National Recreation and Park Association*. Accessed: <https://www.nrpa.org/blog/defining-play-deserts-we-are-getting-close> [retrieved on 02.03.2018].
- Bernard van Leer Foundation**, 2018: Urban95. Creating healthy, prosperous and vibrant cities where babies, toddlers and their families can thrive. Accessed: <https://bernardvanleer.org/solutions/urban95> [retrieved on 02.03.2018].
- Center on the Developing Child**, 2017: Five Numbers to Remember About Early Childhood Development. Accessed: <https://46y5eh11fhgw3ve3ytpwxt9r-wpengine.netdna-ssl.com/wp-content/uploads/2017/11/Five-Numbers-to-Remember-About-Early-Childhood-Development-updated-1.pdf> [retrieved on 02.03.2018].
- Chadha, Jyot; Ramprasad, Vishal**, 2017: Why it is Key to Include Gender Equality in Transport Design. *The CityFix*. Accessed: <http://thecityfix.com/blog/why-it-is-key-to-include-gender-equality-in-transport-design-jyot-chadha-vishal-ramprasad> [retrieved on 02.03.2018].
- Fritze, Jess**, 2007: "You might as well just stay at home": Young mums and transport in Victoria. *Victorian Council of Social Service*. Accessed: <http://vcoss.org.au/documents/VCOSS%20docs/Transport/VCOSSYoungMums+Transport%20LR.pdf> [retrieved on 02.03.2018].
- Gehl, Jan**, 2011: *Life Between Buildings. Using Public Space*. The Danish Architectural Press.
- Gehl, Jan; Svarre, Birgitte**, 2013: *How to Study Public Life: Methods in Urban Design*. IslandPress, Washington, Covelo, London.
- Interboro; Armbrorst, Tobias; D'Oca, Daniel; Theodore, Geor-geen**, 2017: *The Arsenal of Exclusion & Inclusion*. ACTAR: 124.
- Lorinc, John**, 2017: The 8 to 80 Problem: Designing Cities for Young and Old. *CityLab*. Accessed: <https://www.citylab.com/solutions/2012/01/8-80-problem-designing-cities-young-and-old/959/> [retrieved on 02.03.2018].
- Massey, Rachel**, 2004: *Environmental Justice: Income, Race, and Health*. Global Development And Environment Institute, Tufts University. Accessed: http://www.ase.tufts.edu/gdae/education_materials/modules/Environmental_Justice.pdf [retrieved on 02.03.2018].
- Pretty, Jules; Peacock, Joe; Sellens, Martin; Griffin, Murray**, 2006: The mental and physical health outcomes of green exercise. In: *International Journal of Environmental Health Research* 15(5): 319–337.
- TransitCenter**, 2017: Access denied: Making the MTA Subway System Accessible to All New Yorkers. Accessed: <http://transitcenter.org/wp-content/uploads/2017/07/AccessDenied.pdf> [retrieved on 02.03.2018].
- World Health Organization**, 2005: What are the effects of air pollution on children's health and development? Accessed: <http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/publications/hen-summaries-of-network-members-reports/what-are-the-effects-of-air-pollution-on-childrens-health-and-development> [retrieved on 02.03.2018].

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