Designing Child-Friendly High Density Neighbourhoods

Transforming our cities for the health, wellbeing and happiness of children

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Cities For Play

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CHURCHILL TRUST

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Best practice for designing child-friendly high density neighbourhoods

Case Studies from Singapore, Hong Kong, Japan, United Kingdom, Belgium, Netherlands, Canada

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Children playing on the rooftop of a residential building, Vancouver

Executive Summary

For the past few decades, through policies of urban consolidation, many Australian cities have become more vertical. Australians are increasingly choosing to forgo the detached dwelling with a large backyard, both due to increasing affordability pressures but also in search of proximity to work, public transport and cultural amenity. In many regards, we have embraced higher-density living, particularly in cities such as Sydney, where more than 40 per cent of residents live in medium or high-density housing (2016)[1].

Nonetheless, when it comes to designing higher-density neighbourhoods for families with children, Australia is well and truly behind. Many of us are still under the impression that families with children neither belong nor desire to belong in higher-density neighbourhoods. With this assumption comes a negligence towards addressing the needs of this user group. At best this negligence prevents more families from choosing to live in compact environments and at worst we are missing the opportunity to provide children with rich childhoods and the best possible developmental outcomes for their future.

This Churchill Fellowship has focused on vertical cities such as Tokyo, Hong Kong and Singapore, where families living in higher-density neighbourhoods is the norm, as well as Vancouver, Toronto and Rotterdam, where city councils have been actively working towards creating more child-friendly urban environments. Case studies have been put forward as exemplars of how we can increase liveability for children and their families. For example, in Antwerp, the council is working with children to create networked Play Space Webs to increase

outdoor play and active mobility (case study #22). In Tokyo, the city has recognised the need for an "urban backyard" that provides children living in higher-density neighbourhoods with the opportunity to build a den, climb a tree and connect with nature (case study #5). While Singapore is implementing three-generation play spaces that incorporate the needs of older residents alongside the needs of children (case study #8).

Apart from built exemplars, this report also considers how planning policy can address the needs of families with children. Cities such as London have implemented minimum play-space requirements for new higher-density developments and both Toronto and Vancouver have established comprehensive planning guidelines that address children's needs in planning policy (see page 102).

To date, no city in Australia has an explicit family-friendly design policy for high density neighbourhoods.

If we are serious about firstly ensuring that higher-density neighbourhoods are inclusive to families with children and secondly that children are provided with the best possible environments for healthy and happy development, then their needs must be meaningfully considered in the design of our cities. Australian cities ought not be left behind international best practice.

"If children are not designed into our cities, they are designed out. This means that they are deprived of contact with the material world, with nature, with civic life and with their own capacities"

George Monbiot, Writer
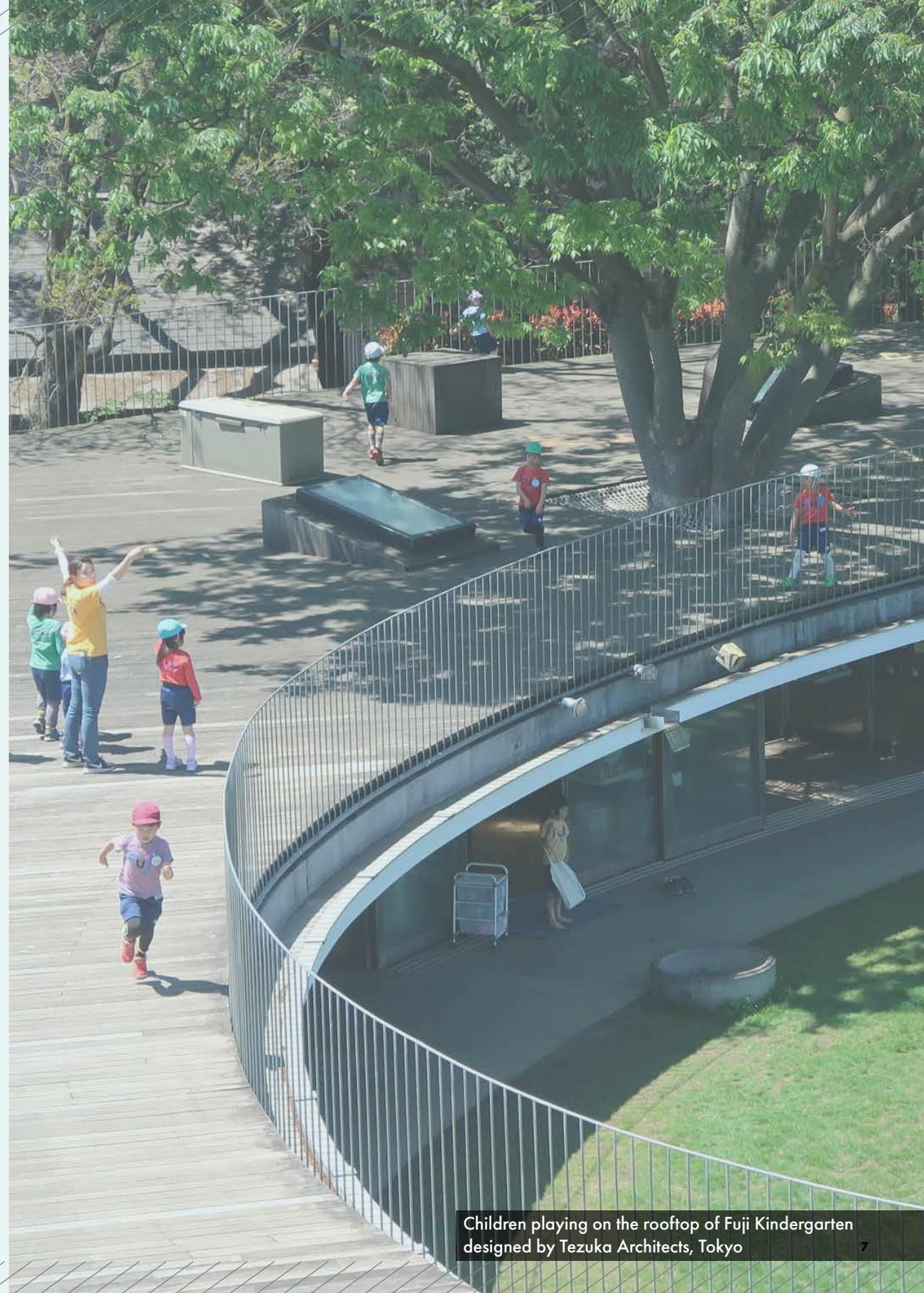
Children playing on the rooftop of Fuji Kindergarten designed by Tezuka Architects, Tokyo

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Children's play space within a residential courtyard, Vancouver

A childhood story...

For most of my childhood I lived in an apartment within a compact neighbourhood. It was a childhood filled with the freedom to walk independently to school, play freely outdoors and actively socialise with friends.

We would spend hours playing outdoors in the communal courtyard, building miniature cities out of sticks and leaves, pretending to be cats climbing up the trees and chasing one another through the gardens and hidden laneways. I remember my mother throwing snacks to us from the balcony in a little plastic bag, which would parachute down from our third-floor apartment.

At sunset, the parents would appear on the balconies one by one, calling out for their children to return home for dinner. Often we would continue our adventures in the stair lobbies, spreading out on the edges of the stairs with our drawings and games. We knew everyone who walked through the lobby – some neighbours we loved and others we learnt to avoid. It was a rich childhood filled with vast opportunities to develop our independence, social skills, empathy and creativity.

As I studied to become an architect, I became fascinated with why it is that certain neighbourhoods seem to enable children's play and everyday freedom to move around their environment, while others seemed to constrain these opportunities. There is no doubt that the social environment can have an enormous impact on the play behaviours and freedoms of a child and yet the built environment also plays a pivotal part.

The way in which my childhood environment was designed – the direct access to outdoor green space, the visibility of the play space from the balcony, the size and quality of the communal stairwell and the playful invitations within the landscape – were all contributing factors to the richness of my childhood.

Even though research has shown that the built environment can have a significant effect on children's levels of play, active mobility and a sense of belonging, it is still consistently left out of discussions surrounding neighbourhood design. As our cities have rapidly grown and urbanised, the question of the type of childhood we want children to experience seems to have been left off the agenda.

Throughout this Churchill Fellowship journey I have explored the elements that might make a neighbourhood child-friendly. This report is full of inspiring examples I have found on my fellowship travels.

The report will inspire and guide. But most importantly I would like it to act as a reminder of the importance of placing children's needs and everyday lived experiences on the agenda of city design. From my own experience, I have no doubt a built environment that does not consider the needs and everyday experiences of a child has failed that child. The alternative is designing neighbourhoods that at their core aim to provide our youngest citizens with the richness of outdoor play, social interactions and a sense of belonging.

Introduction

The Churchill Fellowship Journey:
Exploring Best Practice for High Density,
Child Friendly Neighborhoods

By 2036, Sydney's population is predicted to grow by 1.74 million people, resulting in the need for 725,000 additional homes[2]. The rate of growth will be similar in other Australian capital cities, including Melbourne and Brisbane. As planners, architects and councils scramble to catch up with demand, it is important to remember the needs of all the end-users, including those of our youngest citizens. This report focuses on the needs of children as end-users who are consistently left out of conversations relating to neighbourhood design and whose needs are often neglected when they do not align with the short-term profit goals of developers.

Over an eight-week period I travelled around the world interviewing more than 40 experts in the field of child-friendly cities, including architects, planners, developers, council workers, academics, play advocates and parents. Due to the nature of the project, it was not possible to formally interview children themselves, however local advocates who engage with children within communities were interviewed.

I also visited built interventions and neighbourhoods designed with children's needs in mind. The aim of the research project was to understand what sort of built solutions, programed interventions or policy changes might make neighbourhoods more friendly for children.

The report focuses on factors that have been found to positively contribute to children's health and wellbeing, including access to nature, walkability, spatial playability, social connectedness, a sense of ownership and agency. These attributes help to form a holistic vision for a neighbourhood that prioritises children's everyday freedom to play, socialise, belong and connect to the natural and built environment.

At the heart of a child-friendly neighbourhood lies the desire to provide children with opportunities to create meaning and a sense of belonging. This report aims to inspire architects, councils and developers on how this can be done.

Access to Nature

Social Connectedness
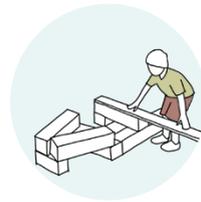
Playability

Active Mobility

Sense of Ownership

Agency & Decision-Making

Why high density*?

Through policies of urban consolidation, we have seen rapid densification and verticalisation of our cities. In Sydney, it has been predicted that by 2031 almost half of the city's housing stock could be in the form of multi-unit dwellings[3], with more than 40 per cent of residents already living in medium or high-density housing[1].

Even though apartment living has significantly increased over the past decade, many are still under the impression that higher-density dwellings are "transition" homes for people either before or after raising a family (and moving into a more suitable suburban detached dwelling). With the assumption that higher-density living is neither suitable nor desirable for families with children, apartments have been predominantly marketed towards urban singles, empty-nesters and DINKs (dual-income-no-kids). As a result, "contemporary strategic planning has almost become child-blind, with the new higher-density centres being built essentially for the childless in mind". (Woolcock et al 2010)

Nonetheless the "Australian Dream" of owning a large home with a private yard is shifting both due to increasing property and land costs, as well as a search for more sustainable, connected and maintenance-free lifestyles. Families with children are increasingly choosing to forgo the large home with a backyard for the convenience of living closer to work, public transport, cultural facilities and high-quality amenities.

The Urban Taskforce *Sydney Lifestyle Study* estimates that currently 28% of Sydney apartment residents are households with children (20% two parent families and 8% single parent families) and that number is predicted to increase to 32% by 2024[4]. Children are – and increasingly will be – living in higher densities and their needs must be meaningfully considered.

32%
projected number of households with children living in apartments by 2024 [4]

The transition of Australian capital cities into higher-density neighbourhoods, alongside an increasing desire for families to live in more compact neighbourhoods, provides us with an important opportunity to shape a new "Australian Dream" that enhances the original vision of the suburbs as an ideal place in which to raise a family.

This means addressing issues that are important to families in the design of higher-density neighbourhoods, such as access to good schools and child-care facilities, family-friendly housing, accessible spaces for play, a connection with nature and low-pollution environments. Ultimately, addressing the needs of families with children will result in a better environment for everyone to enjoy.

*For the purposes of this report "high density" has been defined as per the *Metropolitan Plan for Sydney 2036* definition of 60 dwellings per hectare or more. This does not necessarily mean high-rise buildings (six storeys or more), as higher-density neighbourhoods can also be composed of low and medium-rise developments (four to five storeys).[4]

Why is it important?

Why should we consider the needs of children in the design of our cities?

Over the past few decades, we have seen a significant reduction in the amount of time children spend playing outdoors and independently accessing their neighbourhoods (Chudacoff 2007, Gray 2011). The reduced number of natural and informal spaces for play within neighbourhoods, coupled with increasing traffic, "stranger-danger" perceptions, increased reliance on technology as a play substitute, and pressures on academic achievement, have all contributed to the rapid decline of children's outdoor free play.

Many researchers have long argued that the decline of children's play and active mobility have significant negative consequences on the development of a child, including increased rates of obesity, diabetes and mental health problems (Whitzman et al 2009). From a physical health perspective, the effects of children's increasingly sedentary lives are evident in many western countries, including Australia, where more than 80 per cent of children aged 12 to 17 do not meet the minimum recommended physical activity guidelines[5] and one in four children aged two to 17 is overweight or obese (AIHW 2018) – some of the highest figures in the world.

Alongside reduced outdoor play, research has also shown that children in Australia have very low rates of active mobility compared with other countries and are often described as the "most chauffeured children in the world" (Dr Lyn Roberts 2017), with an estimated 60 per cent of children driven to school today compared with just 16 per cent in the 1970s[6,7].

Apart from lowering the likelihood of sedentary-linked problems such as obesity, diabetes and cardiovascular disease, play has been found to bring numerous developmental benefits. Children who regularly play outdoors have more advanced motor fitness (Fjortof 2001), improved awareness, reasoning and observational skills (Pyle 2002), a more developed imagination (Louv 1991) and more positive feelings about each other (Moore 1996).

There have also been significant correlations drawn between the ability of children to play and explore independently with positive mental-health outcomes and a sense of control over their own lives (Gray 2011). A review by Welsh charity Play Wales on studies of childhood play deprivation concludes that "there is little doubt that children deprived of play suffer considerable physical and psychological consequences which may be devastating to those affected".

It is important to recognise that alongside positive social attitudes, the physical characteristics of our neighbourhoods can enable and encourage children's free play and active mobility. With this in mind, it is vital to consider how design can positively contribute to the health and wellbeing of children.

Given the significant benefits of play on children's health, wellbeing and happiness, the design of a new residential community should begin with the question: ***How can we provide the youngest residents with opportunities to freely play outdoors, walk independently, and feel a sense of belonging and ownership within their communities?***

> **"Play is so critically important to all children in the development of their physical, social, mental, emotional and creative skills that society should seek every opportunity to support it and create an environment that fosters it"**
>
> Welsh Assembly,
> Government Play Policy 2002
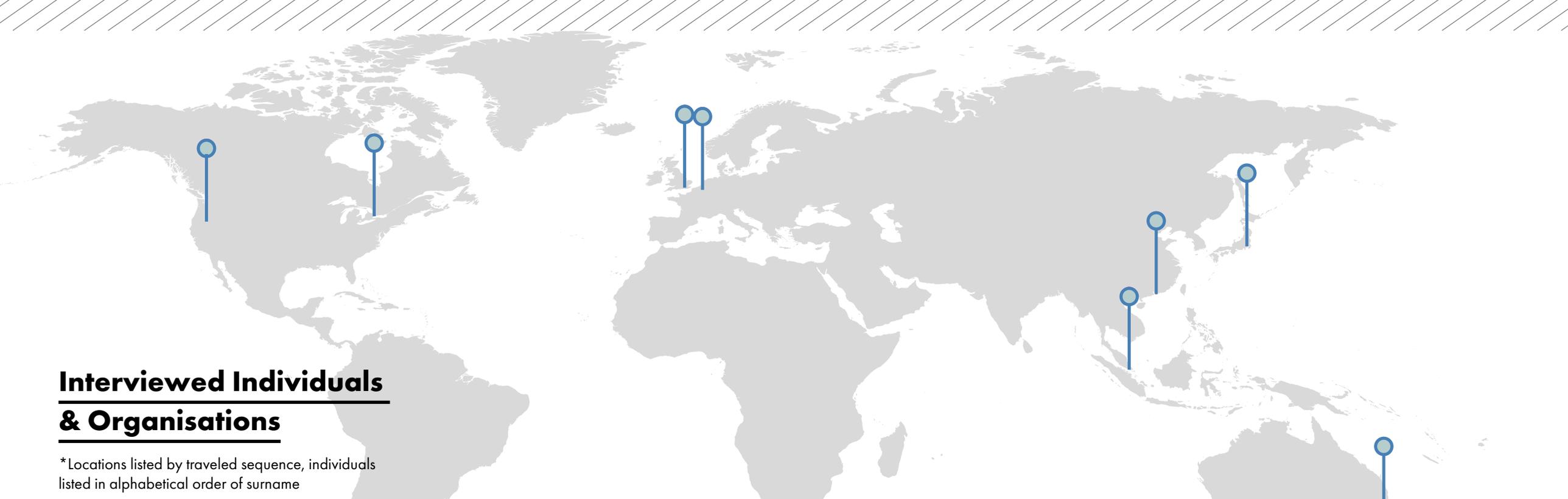
Interviewed Individuals & Organisations

*Locations listed by traveled sequence, individuals listed in alphabetical order of surname

1. Singapore

Dr Rashed Bhuyan, Research Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology and Design

Dr Michael Chia, Professor of Paediatric Exercise Science at the National Institute of Education (NIE), Nanyang Technological University (NTU)

Dr Limin Hee, Director of Research, Centre for Liveable Cities (CLC)

Dr Esther Joosa, Director of Pedagogy, Playeum

Darren Que, Founder Singapore Forest School

Jennifer Sullivan, Project Associate, Participate in Design Consultancy

Natalie Ward, Architect, Kerry Hill Architects

Dr Belinda Yuen, Research Director, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology and Design

2. Hong Kong

Vicky Chan, Director, Avoid Obvious Architects

Dr PC Lai, Deputy Director of the Department of Geography, The University of Hong Kong

Dr Becky P.Y. Loo, Professor and Director of the Department of Geography, The University of Hong Kong

Alex Tam, Co-Founder, The Play Depot & Centre Executive, Centre for Research and Development in Visual Arts, Hong Kong Baptist University

Daisy Wong Fong-che, Deputy Executive Director, Playright Children's Play Association

Kathy Wong Kin-ho, Executive Director, Playright Children's Play Association

Chris Yuen Hon-cheong, Play Environment Consultant, Playright Children's Play Association

3. Tokyo

Dr Isami Kinoshita, Professor, Department of Landscape Architecture, Chiba University

Yoko Muto, Bouken Asobiba no Kai NPO, Adventure Playground Association

Hitoshi Shimamura, Founder, Tokyo Play

Dr Junko Taguchi, Architecture and Children Network

Motoko Tanigawa, Bouken Asobiba no Kai NPO, Adventure Playground Association

Takaharu Tezuka, Director, Tezuka Architects

4. London

Dinah Bornat, Director at ZCD Architects Mayor of London Design Advocate

Nicola Butler, Director, Hackney Play Association

Tim Gill, Author, Independent Researcher and Consultant on Childhood

Adrian Voce, Author, President of the European Network for Child-Friendly Cities

Holly Weir, PhD researcher of child-friendly neighbourhoods, University of Westminster.

5. Rotterdam/ Amsterdam

Dr Lia Karsten, Associate Professor, Urban Geographies, University of Amsterdam, President of Scientific Program Committee of the Child in the City foundation

Brighid Sammon, Urban Planner, Masters Student of Urban Management and Development at Erasmus University

Jan van der Wolde, Dream coach at City Development, City of Rotterdam

6. Antwerp

Dr Sven De Visscher, Lecturer, University College Ghent and a member of Child in the City's Scientific Program Committee (SPC)

Wim Seghers, Play Strategy, City of Antwerp

Wouter Vanderstede, Kind & Samenleving Child-Friendly Spatial Planning Consultant

6. Toronto

Jane Farrow, Author, Policy and Strategy Consultant for the City of Toronto

Josh Fullan, Educator, Director, Maximum City

Gabriel Leung, Developer, Concord Housing

Heather Oliver, Planner, City Planning Division, City of Toronto

Amanda O'Rourke, Director, 880 Cities

Siva Vijenthira, Project Manager, 880 Cities

Annely Zonena, Senior Planner, City Planning Division, City of Toronto

7. Vancouver

Dr Mariana Brussoni, Director, Brussoni Lab; Associate Professor, Department of Pediatrics, University of British Columbia; Board member of the Child & Nature Alliance of Canada

David Chaney, Planning Assistant, Affordable Housing, City of Vancouver

Houssam Elokda, Operations Manager and Masterplanning Lead, The Happy City

Lindsey Fryett, Urban Planner, Dialog

Amalie Lambert, Intern Architect (MMA), Research Assistant

Dr Ann McAfee, Former Director of Planning (City of Vancouver)

Daniel Naundorf, Senior Planner, Affordable Housing, City of Vancouver

Eoin O'Connor, Social Planner, City of Vancouver

Report Structure

This report examines case studies and exemplars from the nine cities visited as part of the Churchill Fellowship: Singapore, Hong Kong, Tokyo, London, Antwerp, Rotterdam, Amsterdam, Vancouver and Toronto. The case studies explore the types of interventions and policies these cities are implementing with the aim of improving liveability for children and their families in urban environments.

The report has been structured in a way to visually capture the exemplars into one holistic vision for a child-friendly city. The overlaid case studies create a fact-based "dream" child-friendly city that aims to inspire city planners, architects and developers on how we can achieve friendlier built environments for children.

The case studies have been divided into three segments: Design Interventions, Programed Interventions and Policy Change. The categories work together to create a stronger vision for a child-friendly environment, with the understanding that built interventions often require programed or policy implementations to address deeper social barriers that may prevent children from accessing their communities and feeling a sense of belonging.

Importantly, no intervention is a one-size-fits-all solution, which highlights the significance of engaging with children and youth in a meaningful way to firstly understand their needs and secondly to ensure shared decision-making and agency for our youngest citizens.

The three chapters are outlined below:

Design Interventions

Interventions within the physical environment, including the neighbourhood and building scale, which promote the needs of children and their families. This might include the design of a street to promote traffic-calming and playable elements within the streetscape.

Programmed Interventions

Social interventions that are programed within the physical environment to stimulate certain behaviours. This might include closing a street on certain days to encourage children to play outdoors.

Policy Change

Change to planning policy to ensure responsibility for the implementation of child-friendly neighbourhood strategies by local and state government, developers and architects. This might include a requirement that new residential developments must consider space for informal play in street design.

The consideration of all three elements; Design Interventions, Programmed Interventions and Policy Change, alongside meaningful engagement and shared decision-making with children and youth, creates a holistic child-friendly city framework.

Co-Creation with Children & Community

Design Interventions
- Neighbourhood Scale
- Building Scale

Programmed Interventions

Policy Change

Accountability & Shared Decision Making
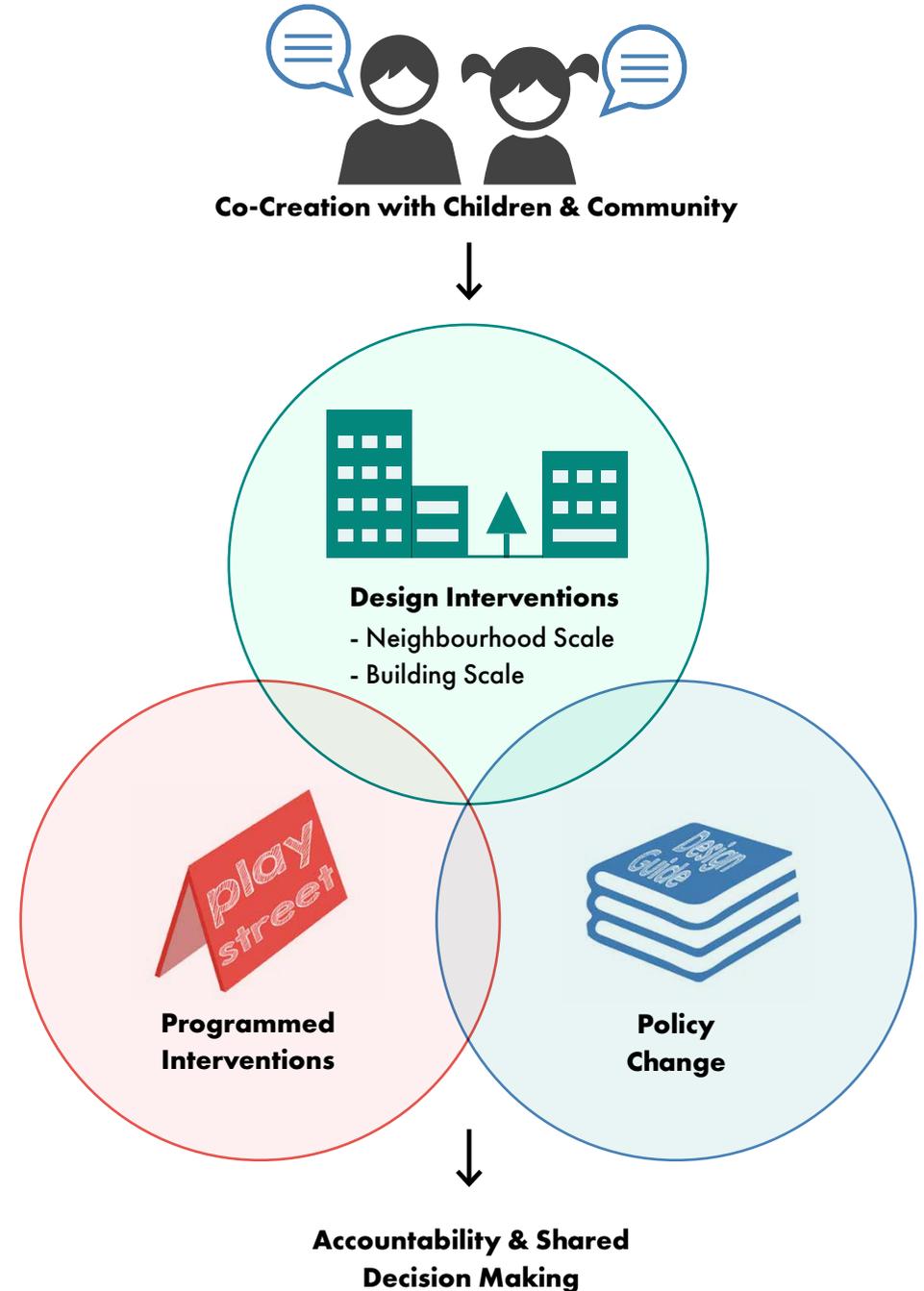
Design Interventions

Case studies showcasing design interventions within the physical environment that encourage children's everyday freedom to be actively mobile, play, socialise, belong and connect to the natural and built environment.
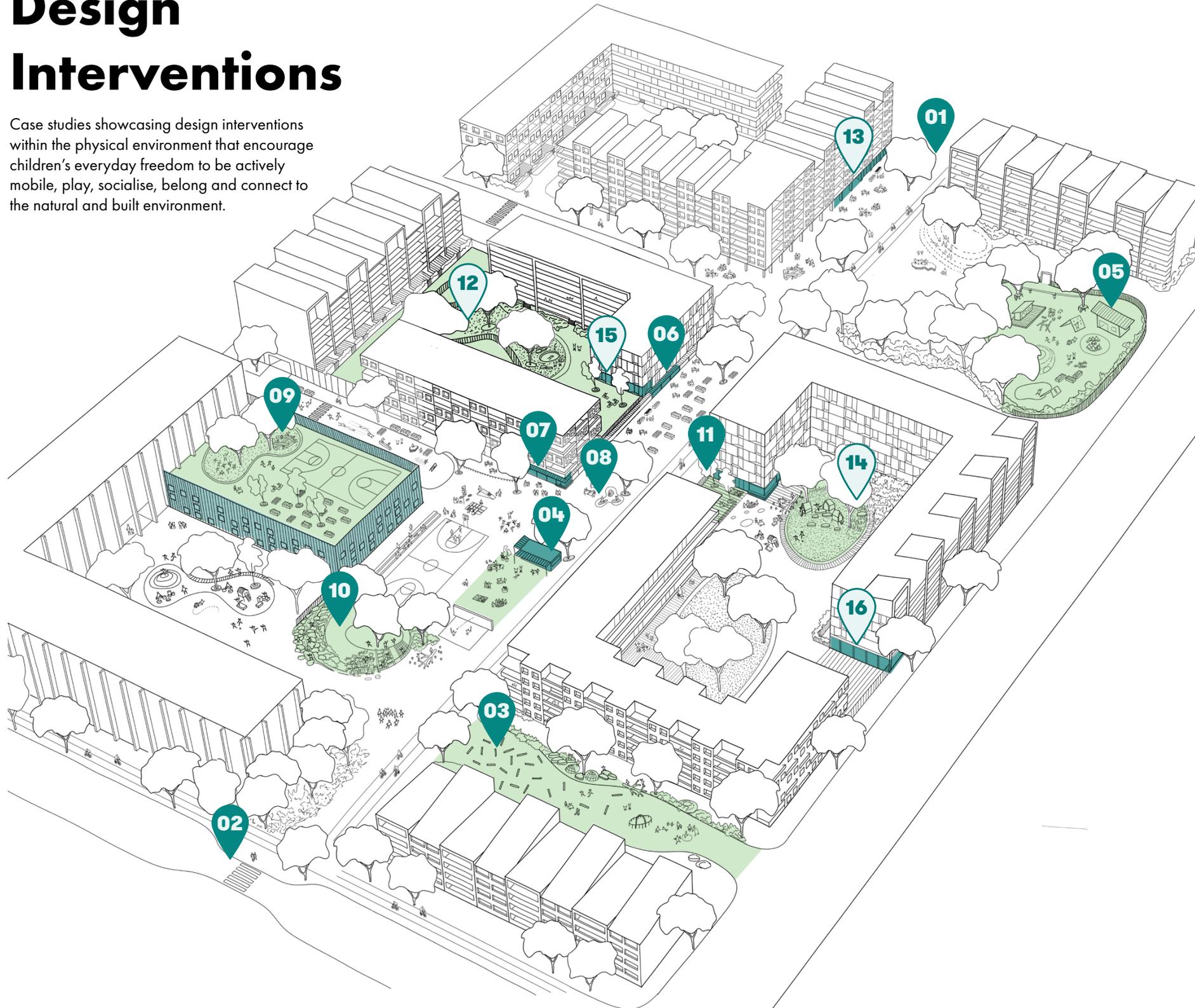
Neighbourhood Scale

01 **Car-Free Neighbourhoods**

02 **Child-Friendly Travel Routes**

03 **Playable Streets**

04 **Communal Toy Box**

05 **Urban Play Yard**

06 **Parent Salon**

07 **Communal Maker Space**

08 **Intergenerational Play**

09 **School as Community Heart**

10 **Nature Play**

11 **Integrated Child Care**

Building Scale

12 **Raised Gardens**

13 **Outdoor Covered Play**

14 **Playful Courtyards**

15 **Child-Friendly Indoor Amenity**

16 **Playful Corridors and Lobbies**

01 CAR-FREE NEIGHBOURHOODS

A neighbourhood that prioritises pedestrians

Antwerp, Belgium

Project: Military Hospital Residential Redevelopment

Architect: Stéphane Beel & Lieven Achtergael Architecten in collaboration with the City of Antwerp

One of the greatest barriers preventing children from freely playing outdoors is the danger posed by traffic. By prioritising pedestrians over cars, a neighbourhood can significantly improve the quality of the outdoor environment for children.

An example of a neighbourhood designed with the aim of creating "car-lite" lifestyles is the former military hospital redevelopment in the centre of Antwerp. Car-parking is significantly reduced and pushed to underground garages, which allows for the spaces between buildings to be entirely car-free.

The project consists of more than 400 residential units, with a mix of refurbished historical buildings, new apartments and dense townhouse clusters as well as a shared rooftop garden, co-working spaces and a neighbourhood cafe. The buildings are set amongst generous green open spaces that are free of parked cars and traffic.

Without fear of traffic, children can safely use the green spaces directly outside their homes for play and socialising. Children are also free to roam, visit their friends independently and gather in the neighbourhood playground. Most of the larger family units are on the ground floor, to provide direct visibility to the play spaces and enable families to easily spill outdoors. As there are no fences separating the front yards, there is a natural sense of community as parents and grandparents sit outside to watch the children play.

The benefits to children's active mobility and play are clear, as they can safely reclaim the open spaces which once belonged to the car.
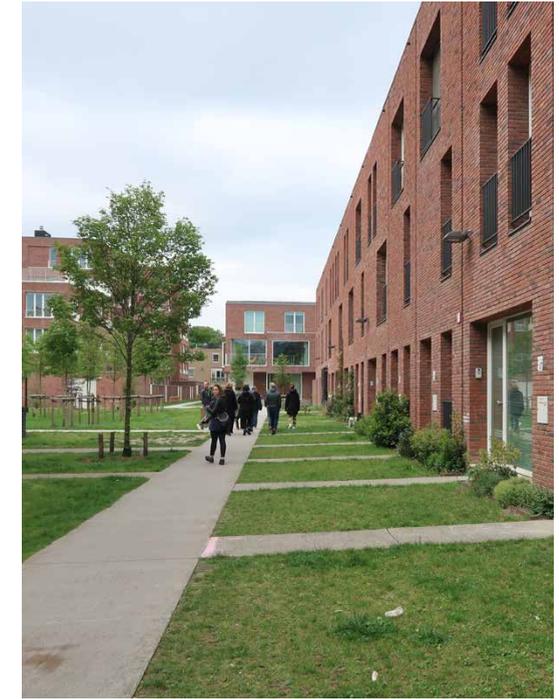
Photo (Left Page & Top Left): Children playing out on the green plaza adjacent to the neighbourhood cafe. Photos by Matexi Developers. (Top Right): Ground level residential apartments have direct access and visibility onto the common green spaces. (Bottom): Children play on the neighbourhood playground which is accessible without any need to cross a road. Photo by Matexi Developers.

02 CHILD-FRIENDLY TRAVEL ROUTES

Street closures nearby to a school in Tokyo

## Safe Travel Routes that enable children's active, independent mobility

Tokyo, Japan

In order to ensure that children can safely walk to school and communal play spaces, child-friendly travel routes within neighbourhoods must be considered. In Japan, children from a young age are expected to make their way to school on their own, either via public transport or on foot. Apart from the fact that the community at large accepts and contributes to the safety of travelling children, details within the physical environment assist in making the journey safe.

Schools work together with local authorities to create child-friendly travel routes for their neighbourhood, which includes mapping children's common travel routes and upgrading road infrastructure where needed. Routes are demarcated with signage, so that road users are more alert to walking children, and nearby shopkeepers and householders can assist children if required.

Pictographs such as small feet are often painted at crossings, to remind younger children to watch for oncoming traffic, and many zones around schools are closed off to vehicular traffic during commute times. Street-closure times are painted on roads with large text and signage is brought out by schools to block streets and ensure that children can safely exit schools without fear of traffic dangers.

Simple interventions such as signage and graphics can minimise the dangers posed by vehicles and remind the community about everyone's responsibility to ensure the safety of children.

Street sign indicating a Child-Friendly Travel Route
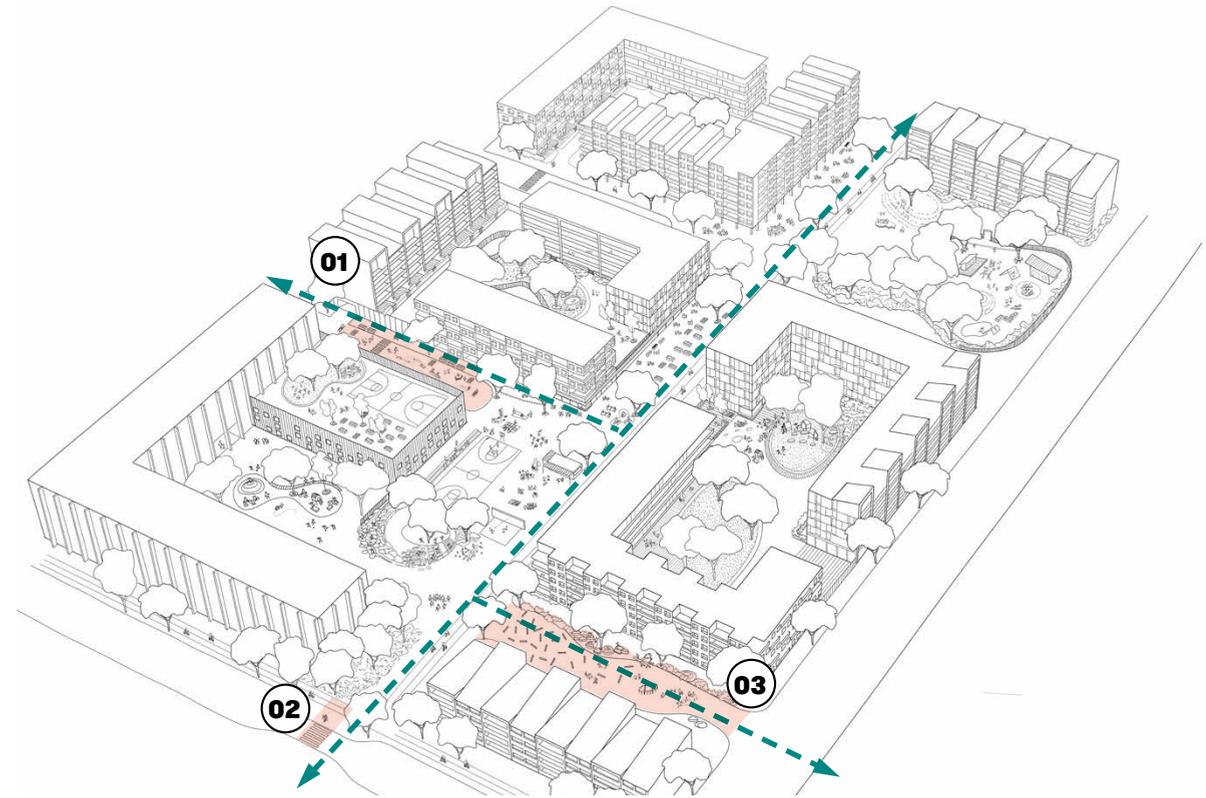
Designated Safe Travel Routes including:

1. Temporary street closures nearby schools during peak times
2. Safe pedestrian crossings and traffic calming nearby schools
3. Playful interventions and traffic calming initiatives along designated children's travel routes
4. Signage indicating children's common travel routes
5. Info-graphics for wayfinding and to remind children to watch for oncoming traffic


Design Interventions

"We need to consider how children will move around a neighbourhood before we place a single building"

Dinah Bornat, Architect

Children walking to school in Tokyo. Photo by S. Bursuk

03 PLAYABLE STREETS

Laneways designed for everyday play

London, United Kingdom

Project: 'Play Street' at the Kings Crescent Estate
Design: Muf Architecture/ Art

When we think about streets, we often automatically picture a space for the movement and parking of cars. But envisioning a street as a space for play can bring to light innovative and exciting opportunities. The Play Street project designed by Muf Architecture/Art is an example of a street that has been thoughtfully designed with children's play in mind. Part of the laneway is used for local traffic and the other has been permanently shut off for play and leisure.

In order to create the perception that this is a space that belongs to children, the designers have incorporated playful objects that are scattered along the laneway. These include rocks and logs for climbing, a hammock for relaxing in and a cubby made out of willow branches for children to hide in.

The long street surface is perfect for skating and cycling and provides a flat surface for drawing with chalk. Timber benches and lounges at various heights and shapes have been placed under the trees and facing towards the play objects, encouraging residents to linger and relax. Playful graphics are painted on the ground to indicate that this is a street where people come first.

Importantly, the ground-level apartments have direct visibility over the laneway, ensuring that it is active with residents coming in and out of their homes. The direct connection between the ground-level homes and street also means that children can easily move from inside to outside while playing on their "doorsteps". The combination of passive surveillance from the residents and pedestrians alongside the carefully curated design interventions contributes to a space that stimulates the imagination and entices playful and social behaviours.
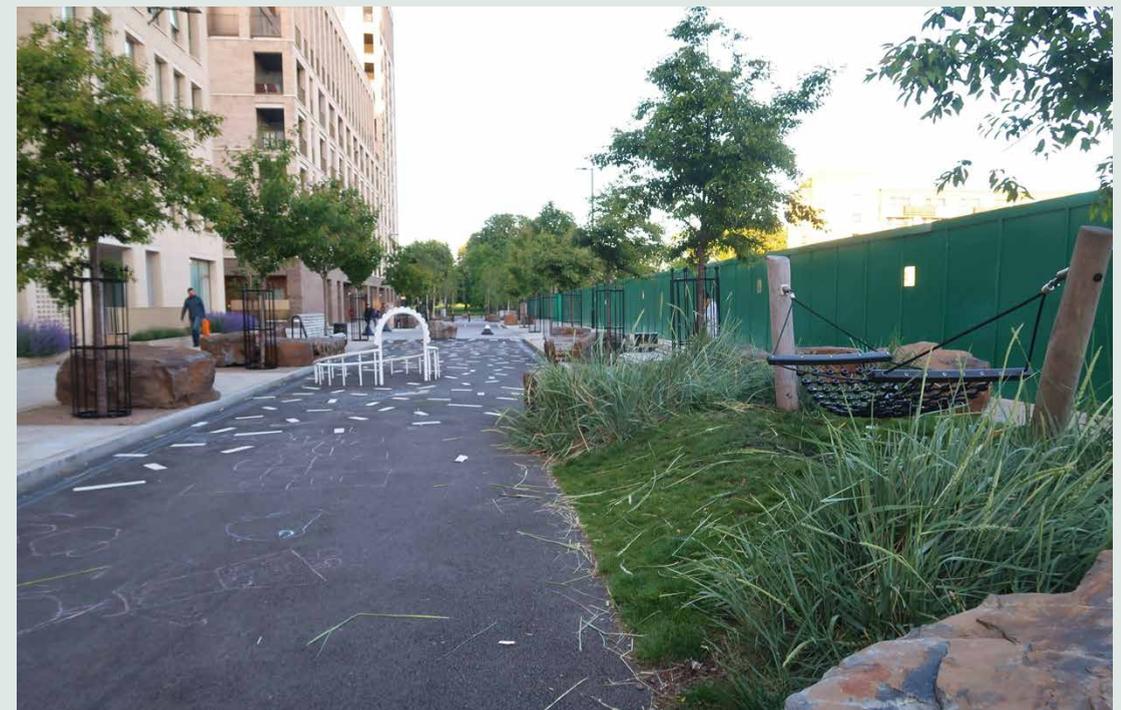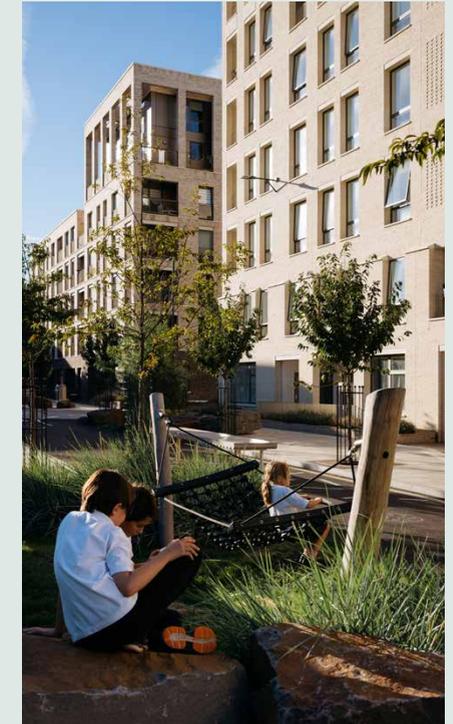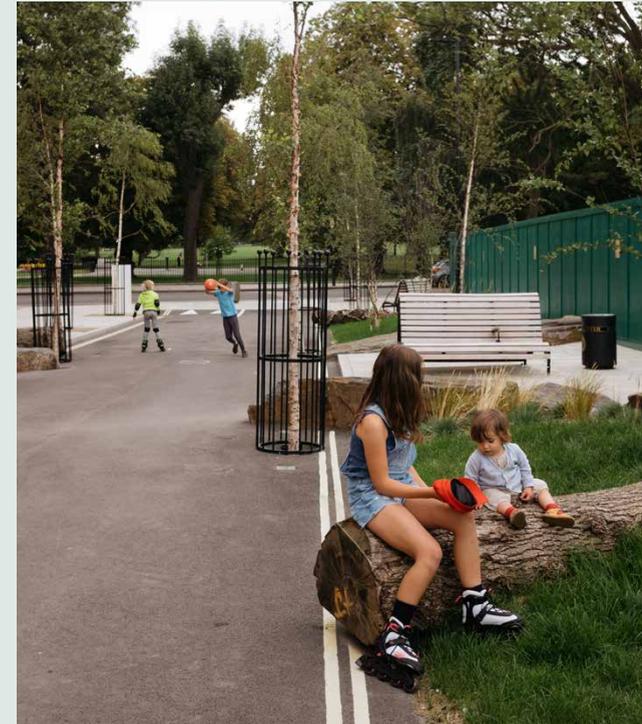
Photos (Top): Children playing on the 'Play Street' within the Kings Crescent Estate. Photography by Lewis Ronald. (Bottom): A range of playful objects such as a hammock, climbing rocks and street graphics.

04 COMMUNAL "TOY BOX"

A neighbourhood "box" containing shared toys

Rotterdam, Netherlands

Project: Duimdrop*
Design: City of Rotterdam

With growing concerns regarding the declining number of children playing in public parks, the City of Rotterdam initiated a program called Duimdrop, whereby communal "toy boxes" (converted shipping containers filled with toys and play equipment) are placed in public plazas or parks with the aim of stimulating play in public spaces and encouraging social interaction between parents.

The containers are filled with tricycles, roller skates, go-karts, skateboards, craft materials and the like. Using their membership card (free for all children), they can rent out a toy and use it within the public square. The containers are managed by volunteers

(often parents or grandparents), who look after the equipment and manage the space. In order to instill a sense of responsibility, children are able to collect stamps for helping out with small tasks such as sweeping the floor or fixing toys. Using the stamps collected they are able to rent out a special toy, such as a go-cart. This teaches children to look after each other and their shared space.

The "toy box" initiative is a simple intervention that provides a safe space for children and parents in which to gather and get to know one another and is particularly welcome in central areas, where parents have little private space in which to store larger toys. The initiative can also provide great amenity in lower socio-economic neighbourhoods, where children might have limited access to a range of toys or extra-curricular activities. Apart from the day-to-day activities, volunteers also run seasonal community events, such as reading clubs and craft events.

This simple intervention brings joy and life back into public places by welcoming children and parents from all backgrounds to play together.

*Duimdrop refers to the popular Dutch licorice "thumb drop". Past generations remember the sticky licorice strips being wrapped around a child's thumb for them to suck on. The name is a subtle way to remind the community of their own childhoods, when they freely played on the streets and plazas of Rotterdam.

Photos (Top Left): Community gathered around the "toy box" watching children play. Photo by Duimdrop Noordereiland. (Top Right): Children lining up to collect a play item of their choice. Photo by: Duimdrop Bospolderplein. (Bottom): Children playing around the 'Toy Box' using a variety of play equipment such as bikes, skates and scooters. Photo by Duimdrop Hopenbanweg.

05 URBAN PLAY-YARD

Diagram: An urban play-yard within a dense neighbourhood, providing children with space to be messy, adventurous and with a sense of belonging to their community.

A communal space for messy play within an urban neighbourhood

Tokyo, Japan

Project: Komazawa Harappa Play Park

In a densely populated city such as Tokyo, space for private backyards is often scarce. In order to give children the opportunity to be messy and free within a dense urban environment, the first city Play Park was established in 1971 as an urban equivalent to the backyard. There are now more than 40 scattered around Tokyo, providing space in which children and youth can get their hands (and clothes) dirty, build a den, climb a tree, sit around a bonfire or set up an impromptu water slide.

The parks are open and free to all children (above the age of six children are welcome to come on their own) and many children will stop by on a daily basis. Children can truly be as messy and creative as they wish, which would neither be possible nor acceptable in a traditional manicured city park.

Importantly, these spaces are staffed by permanent play workers (funded by the local council) who facilitate playful opportunities and maintain the play equipment. Staffing these spaces allows children to come on their own, giving parents the peace of mind that they are safe. It also means that the play workers can create a sense of community and an inclusive environment for all children.

Seasonal festivals and events are set up for the children, giving the young residents an opportunity to come together and feel a sense of belonging within their community and a connection to nature.

As cities continue to densify and fewer children have access to a private yard, space for messy play must not be forgotten. An urban play-yard such as this provides vital play and social opportunities and should be a component of any child-friendly neighbourhood.
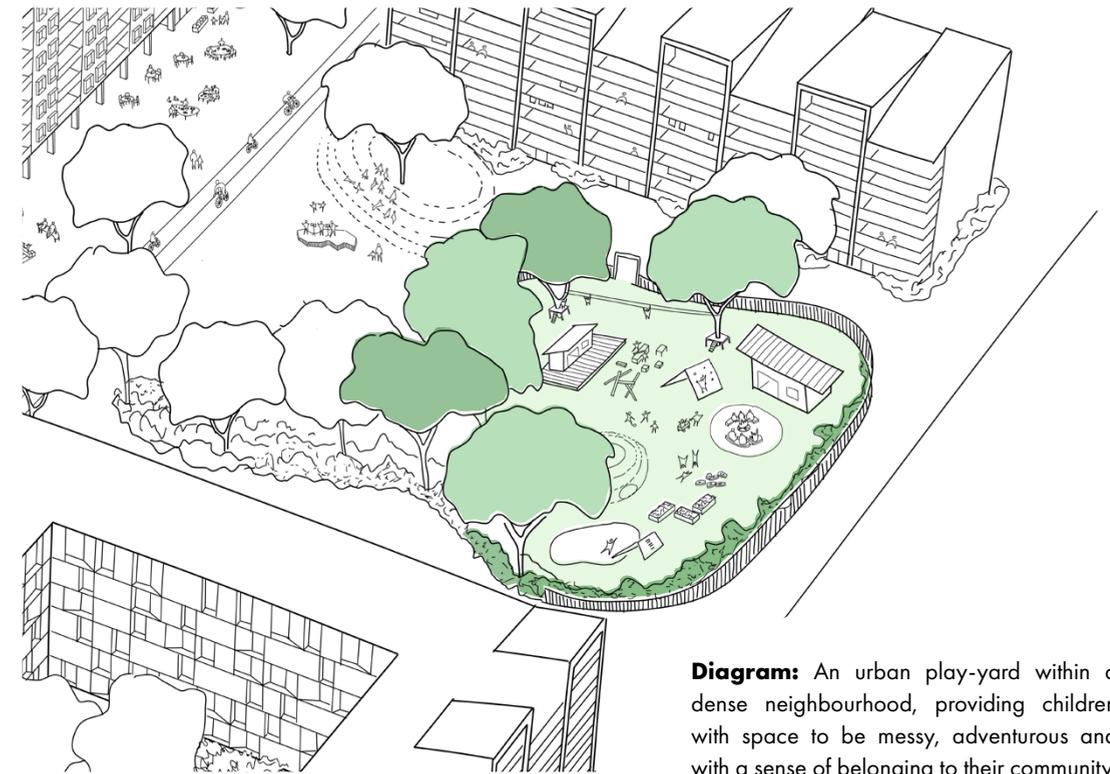
Photo (Left Page): Teenagers hanging out at the Komazawa Harappa Play Park nearby to the equipment shed. Photo (Bottom): Small girl splashing water with a playworker at the Komazawa Harappa Play Park.

Photos (Left Page): Children playing using recycled materials, mud and water and cooking lunch on a bonfire at the Harappa Play Park, the Kodomo Yume Play Park and the Kokubunji Play Station. Photo (Above): Three boys waiting for a turn on the zip line at the Kokubunji Play Station

Children slide down a timber play structure into a shallow
pool of water at the Kodomo Yume Play Park in Tokyo

CONVERSATION WITH TIM GILL

Independent Researcher, Author of 'No Fear:
Growing up in a risk averse society', London, UK

"Giving children more everyday freedoms - where they can gain confidence and a sense that they have control over their lives, where they can learn to respond to challenging situations and discover what intrinsically motivates them - will ultimately help them prosper in the future."

TIM GILL
Author and Researcher, London

What are your thoughts on the responsibilities of the individual developer versus the council to ensure the provision of child-friendly built environments?

From my own research and travels, I have concluded that you need to look at child-friendly city design at a neighbourhood scale. If you don't have a neighbourhood-level framework for children's play, you are always going to be sucked into piecemeal compromises. It will always be a bit opportunistic and developers will try and push their limits and responsibilities onto someone else. In the absence of a neighbourhood framework, it will be a struggle to provide a meaningful and networked provision of play. They have neighbourhood play frameworks in Rotterdam, Ghent and Antwerp. In Antwerp, they have a municipal officer whose main responsibility is to create neighbourhood Play Space Web plans which consider the opportunities and constraints for play within that neighbourhood.

Ultimately, I don't think you can answer these questions about the balance of semi-private space, courtyards, public space, little kids, big kids, informal sports, formal sports [and] hang-out spaces for teenagers if you don't have an understanding of the entire neighbourhood fabric, which crucially not only looks at the space itself but also considers the walking networks between them.

How do we achieve this holistic vision?

The cities which have some serious budgets behind this, which have done serious policy work and re-written their planning guidance, they are cities like Rotterdam, North Vancouver and Westminster, where it has been driven not simply by strategy and policy so much as by political and municipal energy and resources — money and a dedicated provision of officer time. Apart from this, we know the importance of allocating space for play within planning policy. Developers don't like policies such as the 10-square-metres-per-child [of open play space] here in London, because they argue that it is too inflexible, but unless you secure open space for play within developments, then you have lost it forever.

What are your thoughts on the argument that parents are increasingly more concerned about the academic achievement of children, then their time for free play?

We need to talk about long-term outcomes for children. There is lots of good evidence which suggests that children who do well later in life have a strong sense of psychological self-efficacy — they feel that they have choices, they feel engaged in their learning, they know themselves and what they are capable of, and they are intrinsically motivated. There are a lot of arguments within a developmentalist paradigm which show that a pressure-cooker system which is prominent in places such as South Korea and China is not the best for children. We have so much to learn from Finland in regards to education systems based on evidence which show the value of intrinsic motivation, of play and reduced focus on teaching to tests.

Giving children more everyday freedoms — where they can gain confidence and a sense that they have control over their lives, where they can learn to respond to challenging situations and discover what intrinsically motivates them — will ultimately help them prosper in the future and be more secure in themselves, less likely to have mental-health problems and crumble under pressure later in life.

06 PARENT 'SALON'

A social space for parents and babies

Tokyo, Japan

Project: Bouken Tamago
Organisation: Kokubunji

There are probably few people who would disagree with the wisdom of the African proverb "it takes a village to raise a child". In order to ensure that caregivers feel connected and supported within their communities, or "villages", spatial provisions must be made to enable social support and exchange to occur.

An example of a facility that brings together caregivers is the Bouken Tamago parent "salon" in the Tokyo neighbourhood of Kokubunji. The "salon" is a space in which parents can gather, chat and play with their babies, with facilities such as a kitchenette for heating food and making tea and coffee, and a dedicated play space.

The hub is staffed with support workers and a counsellor/nurse visits regularly to engage with parents and answer any questions in a casual environment. Locating the salon within a shop-front adjacent to a train station ensures that it is easy to access and visible to residents passing by.

Importantly, it is run by a neighbourhood play NPO Bouken Asobiba-no-kai, which is commissioned and funded by the local council (ensuring it is a free service for all families). The NPO also runs the play parks within the neighbourhood (see case study #5) as well as staffed play afternoons in the local park (see case study #19).

A neighbourhood organisation such as this takes a holistic approach to providing children with a rich range of play opportunities, as well as support spaces for parents. In practice, this creates an organisational framework that networks spaces and people, building a "village" where the whole community plays a part in raising children.

Photos (Top Left): Children's second-hand toys left out for others to enjoy at Bouken Tamago.
(Top Right and Bottom): Parents play with their babies at Bouken Tamago amongst a counsellor and nurse who are there to answer any questions the new parents might have.

Prams parked outside the Bouken 'Parent Salon' in Tokyo located on a shopping strip

07 COMMUNAL MAKER-SPACE
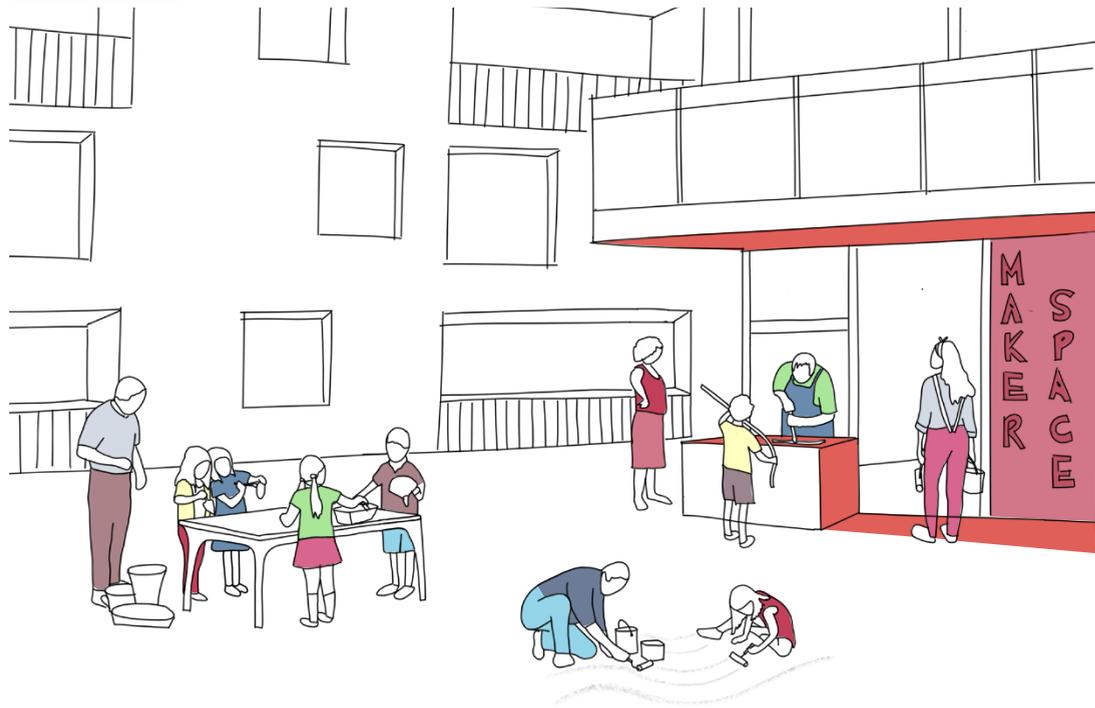
A neighbourhood space for shared making & play

To Kwa Wan, Hong Kong

Project: Play-form, supported by the Government of Hong Kong Arts Capacity Development Funding Scheme

Organisation: Play Depot

Emphasis on space for more active types of play is often what comes to mind when we talk about play spaces. But in high-density residential areas, where space is limited inside the home, communal areas for creative and passive play can provide a much-needed amenity for children and parents.

The Play Depot, in the area of To Kwa Wan in Hong Kong, is an inspiring and innovative maker-space that encourages communities to come together to play and share.

It seeks to explore the connections between art and play by engaging artists to undertake 11-week residencies in which they discover new ways to connect with the community through playful interventions and engagements. Funded by the government, the facility is free for all residents and children, who are encouraged to come whenever they please to create, explore and innovate. There are recycled materials donated by the community and tools for making.

Even though there is a focus on providing a playful space for children, all members of the community, regardless of age, are welcomed. Often retired residents will volunteer at the hub, making play objects or furniture for the children to use. There are also cooking workshops and evening talks.

The Play Depot is a brilliant example of a communal hub within a high-density area where children can return daily to work on projects and meaningfully engage with the community around them.

Photography by the 'Play Depot'. (Top): Children cook together with volunteer residents.
(Bottom Left): A volunteer reading a story to the local children.
(Bottom Right): Children create some playful objects with help from the resident artist.

"Play is the highest expression of human development in childhood, for it alone is the free expression of what is in a child's soul"

German pedagogue, Friedrich Froebel

Children playing with water at the Play Depot. Photography by the Play Depot.

08 INTERGENERATIONAL PLAY
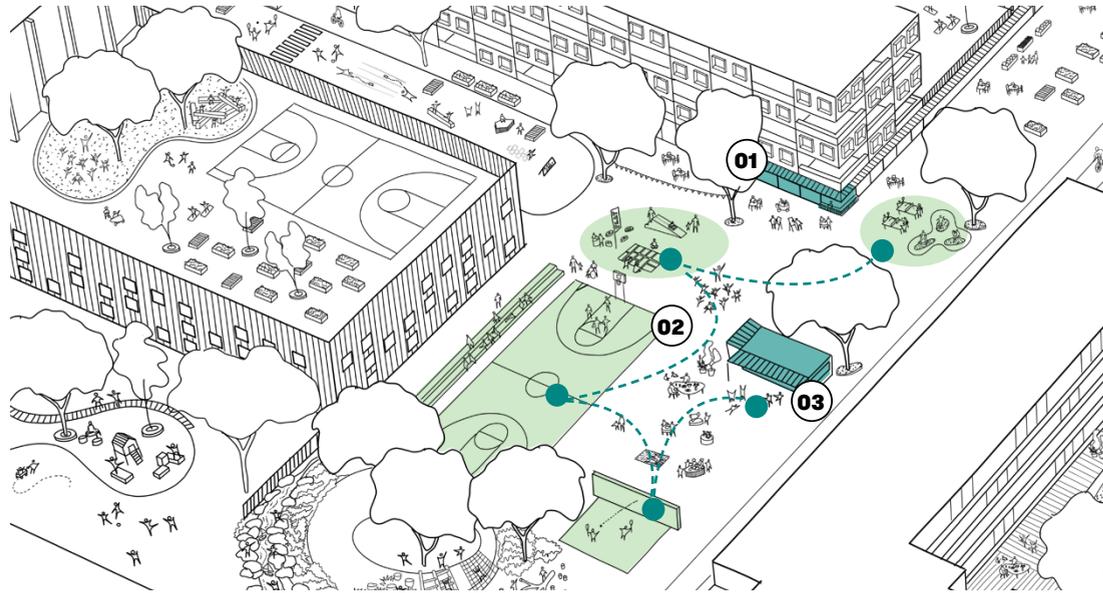
1. Direct visibility to playspaces from the adjacent shops & amenity

2. Spaces for children located adjacent to recreational spaces for the elderly and youth

3. Adjacent shaded sitting areas

Playful neighbourhood spaces for all ages to enjoy

Singapore

Project: The Three-Generation Playspaces
Organisation: Housing Development Board of Singapore

The opportunity for residents of all ages and abilities to play together has been recognised by the Housing Development Board of Singapore as an important aspect of social cohesion and integration within high-density residential neighbourhoods. Three-Generation Playspaces are located within almost every cluster of flats, providing exercise equipment for the elderly, game-based zones for youth and open playgrounds for children adjacent to one another. This allows for residents to be active together and feel that they are part of a larger community.

Providing spaces for the elderly next to the children's

spaces also seems to foster a sense of responsibility for the youngest residents and a shared empathy towards the needs of others. As one of the interviewed parents reflected: "If you provide quality play spaces for the elderly, alongside spaces for children, the older residents are less likely to complain about the noise!"

Play and leisure spaces are also co-located with outdoor eateries, community facilities and "void decks" (case study #13), which allows for play to occur naturally as part of everyday life, rather than being a "destination" activity. As parents and grandparents go about their daily shopping and errands, children are able to freely play nearby, alongside other residents who are exercising or playing. Locating play spaces adjacent to shops and amenity allows for passive surveillance of younger children by both parents and the community at large.

As the African proverb wisely states, "it takes a village to raise a child". Thus, as a starting point, children's play should be located at the heart of any village.

Photos: Examples of a 'Three-Generation Playspace' in Singapore with children's play equipment adjacent to fitness spaces for the elderly and recreation zones for youth. Ground floor communal spaces overlook the open play spaces ensuring passive surveillance and community connection.

09 SCHOOL AS COMMUNITY HEART
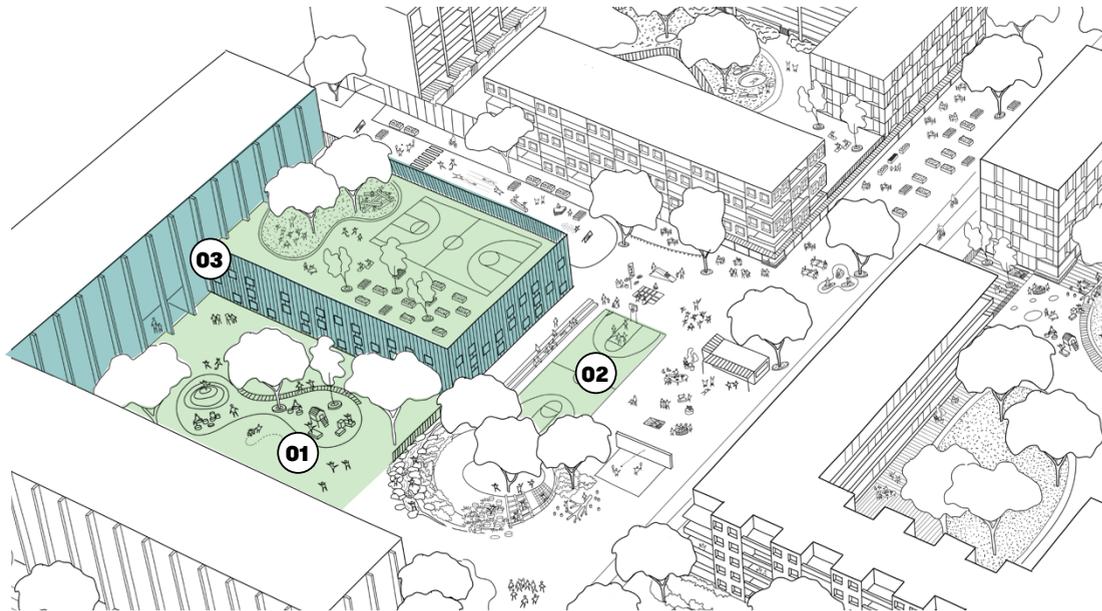
1. School yard open to the public after school hours

2. Facilities such as sports courts shared by school & community

3. Shared indoor facilities accessible to the public

A school at the centre of a neighbourhood

Amsterdam, Netherlands

Project: Fiep Westendorp Community School
Architect: Paul de Ruiter Architects

Within higher-density neighbourhoods, the school provides an important asset for community use both from a spatial and a social perspective. The schoolyard can provide much-needed open play space for use after school hours, while the building itself can act as a hub for the local community.

One example of a school that is truly embedded within the neighbourhood both physically and socially is the Fiep Westendorp Community School in Amsterdam, designed by Paul de Ruiter Architects. Designed as part of one large multi-use block, the complex consists of 71 social-housing units that overlook the open play space. The school was envisioned as a community hub and includes a kindergarten, youth centre, neighbourhood meeting areas and a multi-functional space for community activities.

Other areas within the school, such as the kitchen, gym and main hall, are open for public use after school hours. These shared amenities have been located near the school entry to enable easy access by the community after-hours and allow for the more private areas of the school to remain secure.

Symbolically, the school becomes the heart of the community, providing children with a sense of pride and belonging. And residents feel a shared sense of responsibility for the school as a community asset. As our neighbourhoods continue to densify and space becomes increasingly precious, dual functionalities must be considered when designing schools, and management systems put into place to allow for the use of facilities by communities.

Photos (Top): Children playing within the school yard which is closed-off to the public during school hours. (Bottom): School children playing basketball on the court adjacent to the school which is shared with the community. Photography by Sonia Arrepia/ Paul de Ruiter Architects.

Design Interventions

Children in Amsterdam playing a game with a teacher outside their school.
The school play yard is partially shared with the neighbourhood as an open plaza.

10 NATURE PLAY
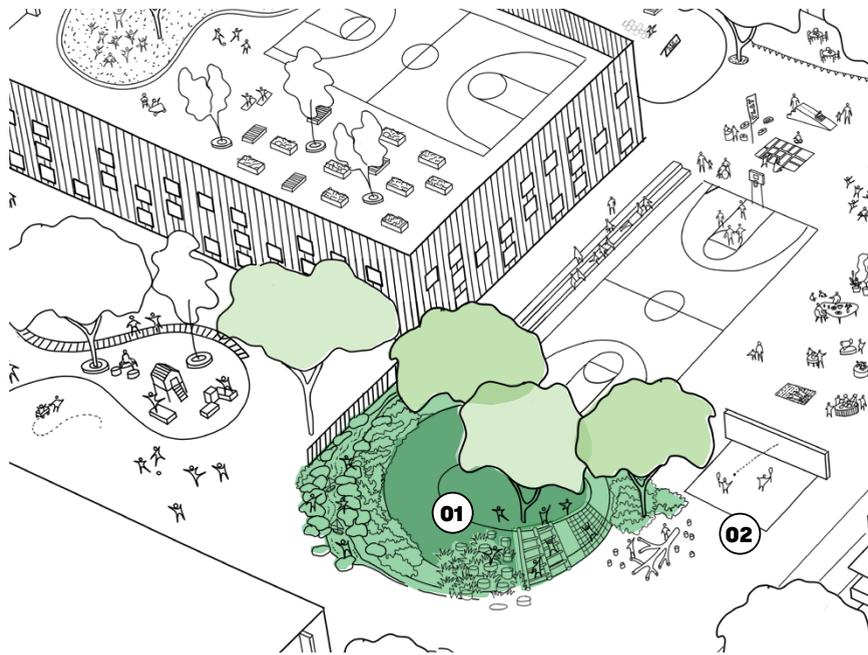
1. Playful natural elements within the landscape such as logs, rocks, sand and water can create a stimulating and engaging space for children

2. Direct visibility to adjacent amenity for passive surveillance

01

02

Promoting a love of the natural world through play

Antwerp, Belgium

As our cities densify and backyards become less common, it is vital to consider how children can have access to a natural play environment within an urban setting. The concept of a "play valley" is a beautiful way of creating opportunities for children to playfully engage with nature.

A "play valley" consists of natural objects such as logs, climbing nets and willow tunnels carefully placed within a natural setting. These objects stimulate imaginations as they provide opportunities to create playful scenarios and games.

One such example is the Park van Eden (Park of Eden), in a residential neighbourhood of Antwerp, Belgium. Here children are encouraged to roam through the valleys, climb up the logs, run through

willow tunnels and use the netted bridges to climb over puddles. A cubby made of branches may be all that is required to create an imaginative world of play.

The City of Antwerp is also consciously promoting nature play within schools and the public realm. Playfully arranged logs, climbing rocks and cubbies made of branches can be seen within the front yards of schools and alongside walking tracks and smaller urban pocket parks. Apart from providing a simple way to stimulate the imagination, the natural play objects have a symbolic role in ensuring that children feel that they are welcome to freely play within public spaces.

Often, when we think back to our own childhoods, it is the moments we spent within a natural environment that we remember most vividly. As cities move toward higher densities, it is important for us to consider how children living in these neighbourhoods can create the same rich play memories within the natural environment.

Photo (Top): The front yard of a school in Antwerp with natural play elements such as a cubby made from willow branches. (Bottom): Playfully arranged tree logs and nets within a 'play valley' at 'Park Van Eden' encouraging climbing, hiding and imaginative exploration.

"We need to allow children to develop their biophilia, their love for the Earth, before we ask them to save it. The more personal children's experience with nature, the more environmentally concerned and active children are likely to become"

Randy White,
Children's Space Designer

A child hiding in a tree house at a Tokyo 'Play Yard'

CONVERSATION WITH DARREN QUEK

Founder of the Singapore Forest School, Singapore

Darren Quek runs the Forest School in Singapore, where children spend their days playing and learning in a natural setting under the guidance of a coach. The aim of the school is to expose children living in highly urbanised environments to the beauty of nature.

Do you think childhoods have changed in the past generation?

I think our childhoods were more free compared with children today. We had more space to be ourselves and not have someone constantly looking over our shoulders. Now there is much more supervision and control of children. I think this is also caused by a less social society – we don't know our neighbours in the same way that our parents did. So parents are more afraid to let their children play outdoors, because they might not trust their neighbours to look out for their kids as they play outside.

Even though Singapore is one of the safest countries in the world, people are still worried about things like this, which prevents children from playing outdoors alone. And of course because parents are working longer hours, they might not necessarily trust their own neighbourhood environment. Though recently I have realised an emergence of understanding towards the benefits of children playing and so you do see more kids outside – though their radius of play has significantly reduced from previous generations.

Do you think parents in Singapore are fearful of "risky play" and hesitant to let children play freely outdoors?

Often you see more adults than children on a playground, because the parents are hovering over the child, trying to eliminate any dangers while they play. But what research shows is that during risk-taking play children move in a more vigorous manner and it stimulates the vestibular system, which allows a child to regulate their emotions, be more focused and fidget less. It helps to stabilise their emotions, mind and body.

Risky play also teaches risk-management to the kids themselves. Gradually, as in any natural environment, they have to constantly analyse their own situation and potential risks. When you have risk involved in play, you help them develop an analytical approach to safety, which means that the parents can step back even further. But if parents don't allow children to analyse their own risks and simply constrain their play with a list of rules, then the child will never understand for themselves why that behaviour might be dangerous to them.

What do you think is the purpose of a formal playground setting compared to a more natural environment for play?

From my experience with children, I feel that playgrounds provide stability and predictability for children. Typical playground structures are fixed, with very little adaptability, and this provides a certain amount of predictability which I think children need to a certain extent. Often I find that once a child is comfortable and has "mastered" the playground, that is when they move on to the more natural settings, where they can practice their confidence to take risks and explore the unknown. That is the beauty of the forest as a playground: it might provide less stability compared with a standard playground setting, but the opportunities for creativity and imagination are endless.

"The children themselves teach us a lot about how to interact with nature. They observe the natural environment and then they ask questions, which often makes us stop and think about the world around us."

Darren Quek
Singapore Forest School

11 INTEGRATED CHILD-CARE
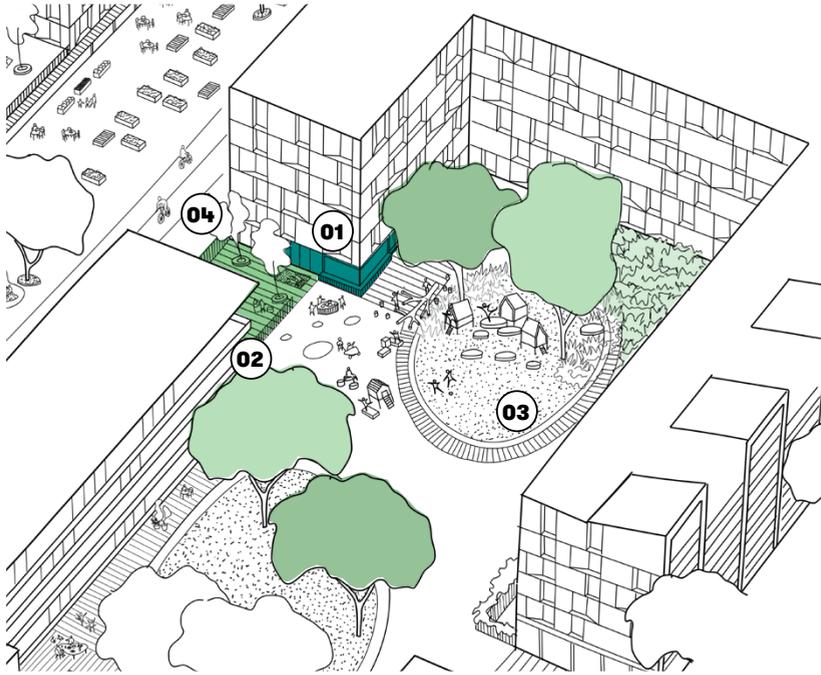
1. Live-in day care units integrated into an apartment complex
2. Private outdoor space for the use of a day-care
3. Access to larger communal facilities for use during the day
4. Direct access to the day-care from the street

Providing diverse child-care options within high density neighbourhoods

Vancouver, Canada

Project: Railyard Housing Co-op, Olympic Village

Developer: Concert Properties

Integrating child-care facilities into residential developments can significantly increase liveability for families choosing to live in higher-density neighbourhoods. Consideration should be given during the early planning stages to co-locate child-care facilities adjacent to private and communal open spaces to ensure planning efficiencies. A diversity of child-care facilities should also be considered, including smaller family day-care providers operating from within residential units.

One innovative model is within the Railway Housing Co-op at the Olympic Village in Vancouver. The 15-storey residential building was designed with families in mind and includes 135 units, of which more than 50 per cent have two or three bedrooms. At the planning stage, two of the ground-floor units were designed to accommodate in-home family day-care, with private outdoor courtyards, larger laundries and bathrooms, and storage space for toys.

Children who attend the family day-care use the communal spaces within the apartment complex throughout the day, including the communal living room, rooftop play space and veggie garden. This creates spatial efficiency and a sense of community within the complex.

Providing a variety of larger commercially operated child-care facilities alongside small day-care units gives parents greater choice and allows for small day-care providers to easily operate from within their homes.
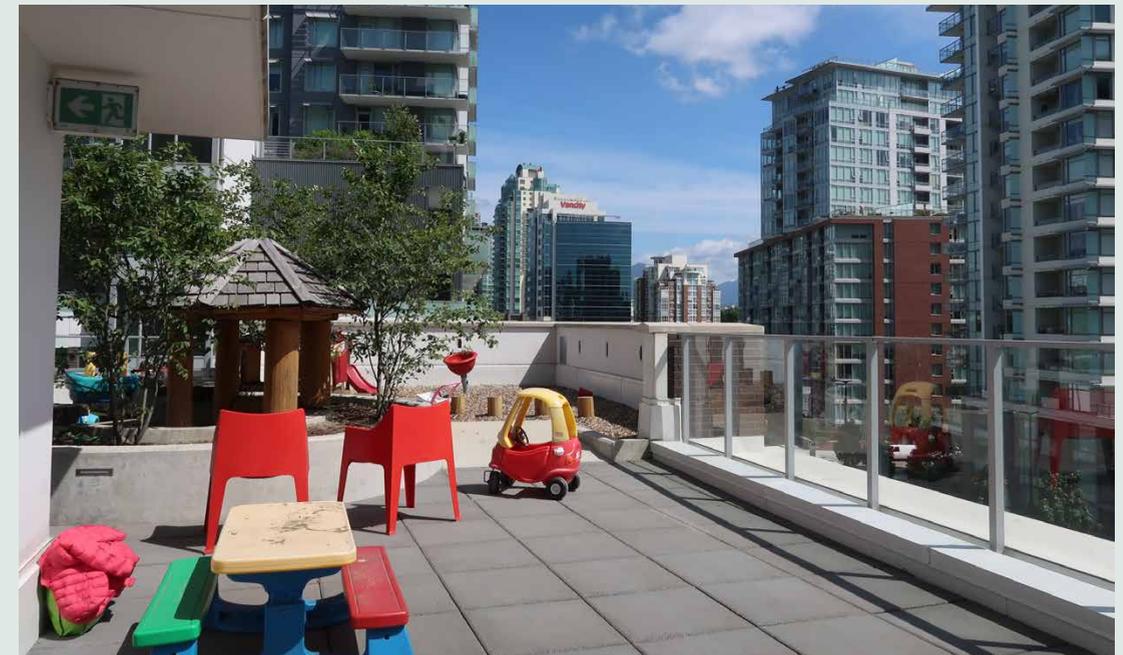
Photos: Communal rooftop playspace for use by all residents of the 'Railway Housing Co-op'. During the day, children from the day care facility on ground level use the rooftop for play.

12 RAISED GARDENS

Locating cars away from common outdoor play spaces

Singapore

In 2009, Singapore introduced a planning regulation stating that for every square metre of land a development builds on, 70 to 100 per cent must be replaced with greenery on the various levels and vertical surfaces. This regulation ensures that residents have plentiful access to green space and that the city is infused with nature.

In order to satisfy this requirement, residential neighbourhoods often have common outdoor spaces on multiple levels, referred to as "sky gardens". This also means that any space allocated to car-parking is almost always topped with lush gardens.

These raised gardens become accessible green networks between buildings, neighbourhoods and public-transport nodes. In neighbourhoods such as Punggol, in northern Singapore, you can walk from your home to the light rail system, accessing large parts of the neighbourhood and community infrastructure without needing to cross a road or encounter a car. Separating cars and pedestrian life (including play), removes the dangers posed by traffic, giving children more independence and freedom to roam.

Importantly, it is vital to consider how elevated gardens are linked to one another and how they can be accessed from the ground level. A holistic approach to the design of common gardens within neighbourhoods is important to ensure that children can easily move through these spaces to visit friends and encounter a range of play opportunities. (Refer to case study #2)

Photos (Top): Typical housing estate in Singapore with raised gardens and carparking under, ensuring that cars are separated from pedestrians. (Bottom): The 'Pinnacle at Duxton' residential neighbourhood with raised 'sky gardens' where children safely play away from car traffic.

13 COVERED OUTDOOR SPACE
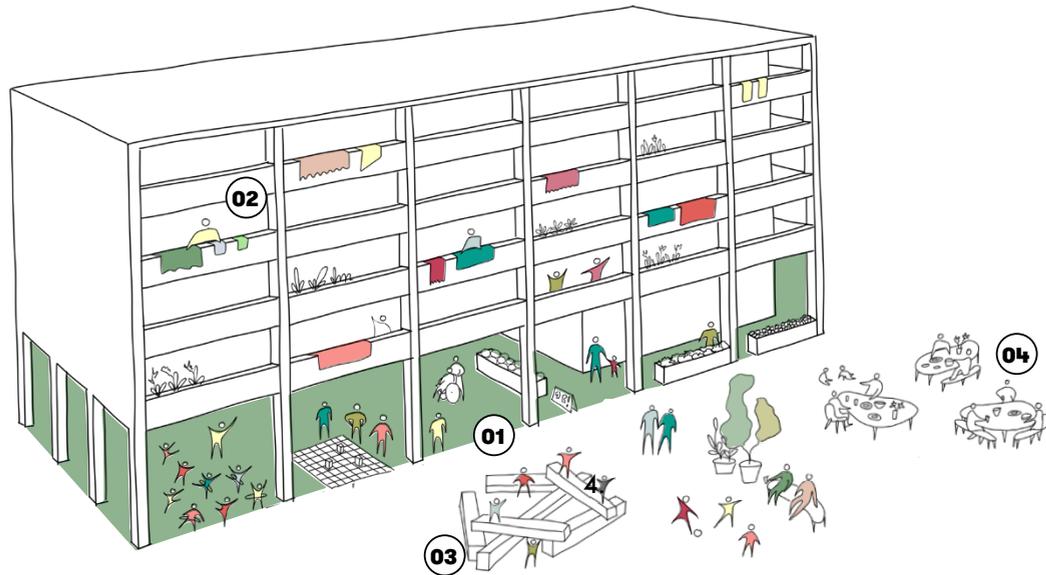
1. Flexible covered space on ground level which spill out onto adjacent open space
2. Direct visibility to outdoor open play space
3. Playable elements within common outdoor space
4. Flexible furniture which can be configured in different ways
5. Small shops or businesses to activate common areas

Multipurpose spaces for community use: the "void decks"

Singapore

Around 80 per cent of residents in Singapore live in flats master-planned by the Housing Development Board. Given that the vast majority of residents live in housing designed by the government, neighbourhoods are able to be planned with community spaces and shared facilities consistently spread across the built fabric.

One example is the provision of open covered spaces under the flats, referred to as "void decks", which are used as flexible common amenity. These multi-purpose spaces are used by residents for daily socialising and leisure and for larger community gatherings such as birthdays, weddings and even funerals.

On a day-to-day basis, the decks are used for a range of activities. The elderly enjoy sitting in the shade and chatting to neighbours, and children can complete their homework there. They are also used for informal religious gatherings.

Importantly, the decks often overlook adjacent outdoor play or fitness facilities, ideal for passive surveillance and to stimulate a sense of community. In some cases, the void decks are in-filled with small shops, businesses or eateries, which attracts shoppers to the ground level.

These flexible areas not only provide the much-needed larger spaces for family gatherings, they also foster a sense of ownership and community belonging within the residents.

Photos (Top): A community gathered for a 'Void Deck Party' at their new BTO estate at Punggol Opal. Photo by Alphonsus Chern. (Bottom): Covered outdoor space or 'Void Deck' with benches overlooking the common play area.

"Local neighbourhoods matter to children; satisfying their basic needs, supporting their growing independence and contributing to their sense of self and well-being"

Dinah Bornat, Architect

Children playing in the courtyard of a residential development in Rotterdam

14 PLAYFUL COURTYARDS
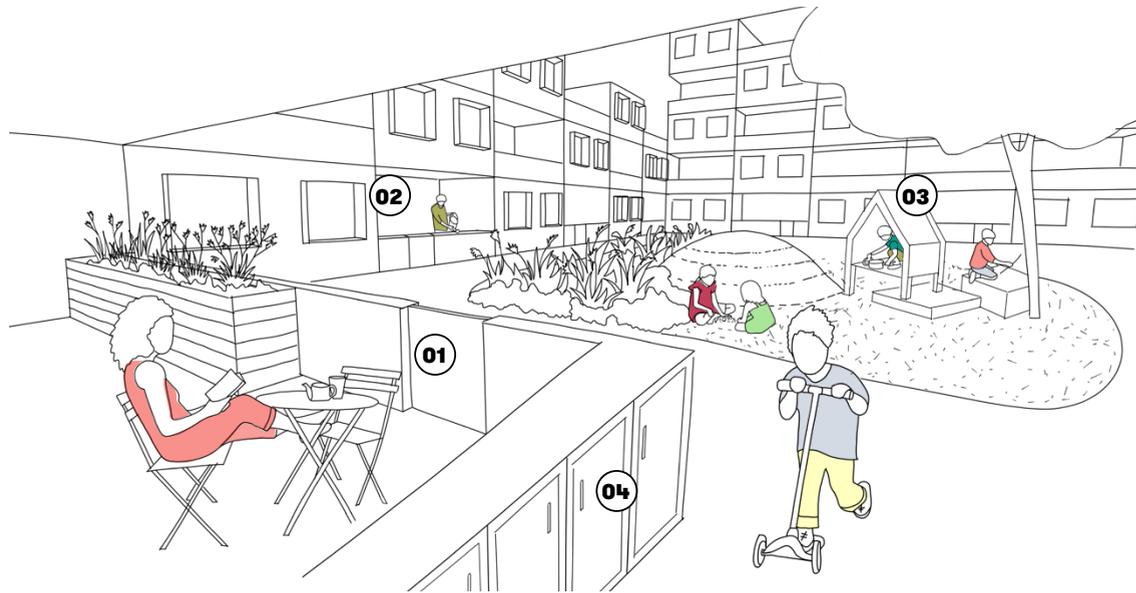
1. Direct access to courtyard from private open space
2. Direct visibility to playspace from private open space
3. Playable elements with the landscape
4. Shared outdoor storage for toys

Photos: Internal courtyard with elements which encourage diverse play opportunities. The courtard play spaces are overlooked by the apartments for passive surveillence. Photography by Lewis Ronald/ Muf Architecture

Common outdoor amenity for play and socialising

London, United Kingdom

Project: Kings Crescent Estate
Design: Karakusevic Carson Architects and Henley Halebrown (architecture). Muf Architecture/Art (landscape & public realm)

Designing communal residential courtyards for play can provide a vital amenity for families who do not have a private backyard for children to enjoy. In London, planning guidelines stipulate that for every development above 20 units, a space for play must be designed into the proposal at 10 square metres per child (refer to the Policy Context Section for further information). Minimum planning standards such as this ensure that architects are conscious of

the needs of children and are designing common outdoor spaces with play in mind.

One example of a courtyard space within a residential development that deeply considers the needs of children is the Kings Crescent Estate in Stoke Newington, London.

The landscape was designed by Muf Architecture/ Art, who thoughtfully incorporated a range of play opportunities for children of various ages. Rather than simply specifying a manufactured playground, the designers created custom objects that fit into the landscape. Children can swing in a hammock, climb logs or jump over platforms.

Muf Architecture/Art also considered the adjacencies of spaces to encourage interaction between age groups and a sense of community. Communal veggie gardens are co-located with playful elements, allowing parents or grandparents to partake in social activities while children play nearby.

The design team considered passive surveillance and the connection of the larger family units to the communal play space, to ensure that parents can go about their daily chores while their children play outdoors. Allowing both visual and physical connection of the ground-level units to the courtyard ensures an ease of accessibility for children. Importantly, there is also visibility and direct access from the lobby spaces and the laneways into the courtyards, which encourages children from neighbouring estates to easily drop by to visit friends.

Apart from the design of the common courtyards, Muf Architecture/Art provided play opportunities within the public realm, giving children the freedom to inhabit spaces beyond their homes (see case study #3). By holistically approaching the residential development as one large playscape, the designers were able to provide play opportunities for children of all ages.
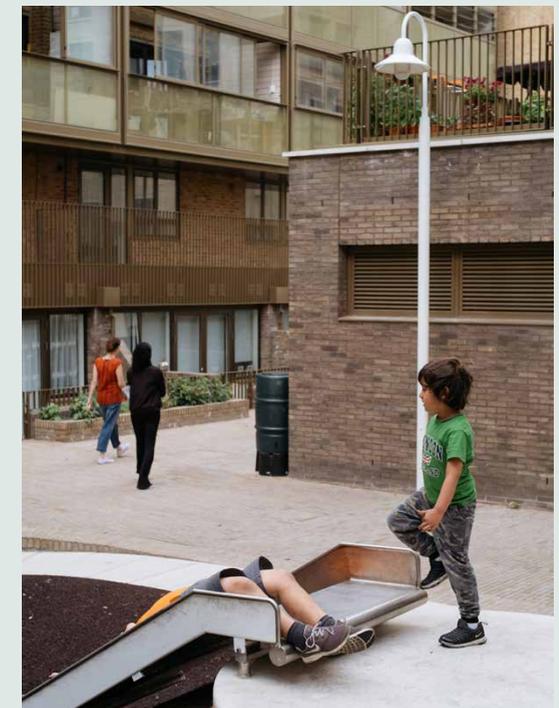
Children playing in a common courtyard with overlooking apartments in Antwerp, Belgium

15 CHILD-FRIENDLY COMMON AMENITY
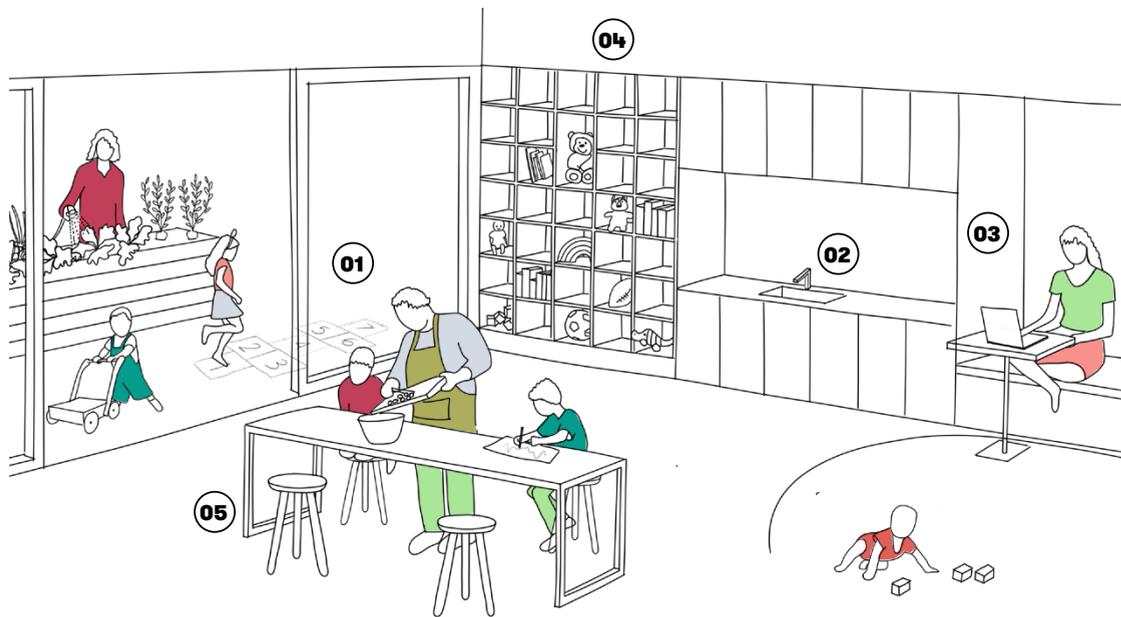
1. Direct access and visibility to common outdoor space
2. Small kitchenette with sink
3. Reading and study nooks
4. Shared storage of toys and books
5. Flexible space for gathering and common activities

Photos (Top): Proposed family-friendly common room at the 'Stockyards District Condos' development in Toronto. Render by Stockyards District Residences. (Bottom): Markerspace room at the 'Newton at Concord CityPlace' development by Concord.

Communal "living room" for play and socialising

Toronto, Canada

Communal indoor spaces can provide significant benefits to residents living in apartments, particularly for those with children. Shared amenity can provide additional space for play and recreation when area is limited inside the apartment and it offers a hub in which residents can gather and get to know one another, creating a sense of community and improving apartment liveability.

Cities such as Toronto are recognising these benefits and embedding this provision within planning policy. The City of Toronto stipulates that for every residential development above 20 units, two square metres per apartment should be allocated to indoor common amenity. Further to this, the recently released draft guidelines *Planning for Children in New Vertical Communities* stipulates a minimum of 25 per cent of the area dedicated to communal space should focus on child-friendly amenity (see page 100 for further policy information).

With planning guidelines providing a minimum benchmark, developers and architects in Toronto are increasingly incorporating high-quality child-friendly communal spaces to appeal to a market that is demanding family-friendly amenity. Apartment towers such as the Newton at Concord CityPlace have incorporated a range of indoor facilities for children including a maker-space for play and art projects, a music practice room, a toddlers' play room and a multi-functional dance and fitness studio.

One of the key factors in creating successful indoor spaces for children's play and recreation is the co-location to other shared amenity. Communal family-friendly rooms should have direct visibility to shared outdoor play spaces and other common amenity (such as corridors or lobbies) for passive surveillance. Common areas should also allow for a range of activities for various age groups to ensure shared use and ownership.

Importantly, management rules applied to communal spaces must consider the spontaneous nature of children's play. Prescriptive rules biased toward risk-management can prohibit children from meaningfully using shared amenity for play and recreation. In order to prevent this, building managers should be trained to recognise the benefits of children's play within common indoor and outdoor amenity.

Design Interventions
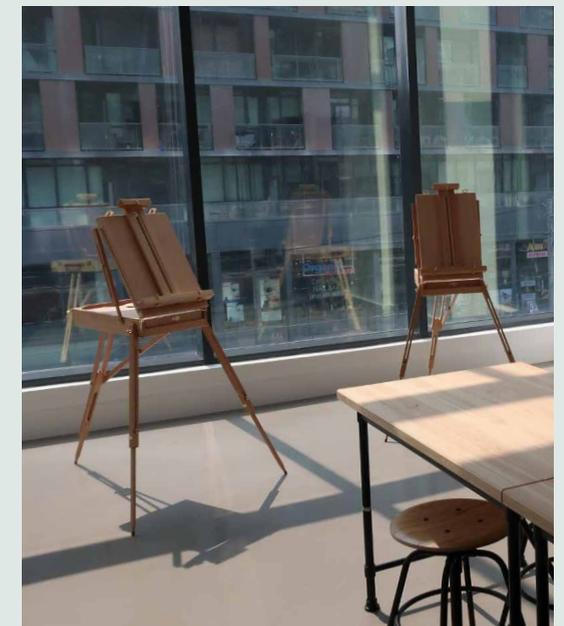
Common courtyard at the First Avenue Housing Co-op in Vancouver filled with children's toys. The apartment units overlook the courtyard and the indoor common amenity has a direct connection to the outdoor space.

16 PLAYFUL LOBBIES AND CORRIDORS
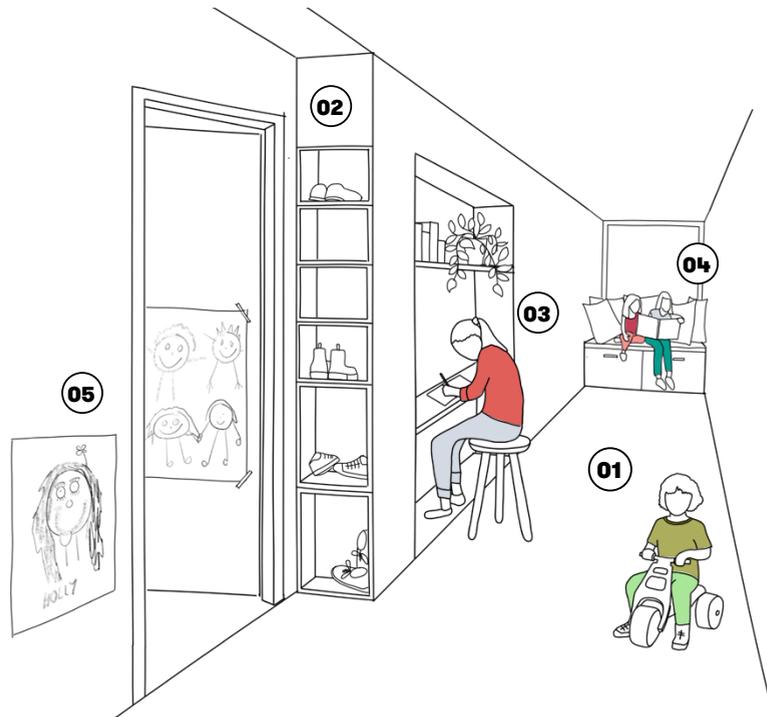
1. Generously sized corridors and lobbies with natural light and ventilation
2. Space for small storage items such as shoes or books
3. Integrated desk for study
4. Reading nooks
5. Display of artwork and personalized items

"In-between" spaces that encourage play

Vancouver, Canada

Project: First Avenue Athletes Village Housing Co-op

In the same way that we should consider streets and laneways as spaces in which people can linger and play, we should apply the same thinking to the spaces dedicated to movement within our buildings. Lobbies, corridors and stair cores should be designed as spaces for play and social exchange between residents and as extensions of the home.

A good example of this is the First Avenue Athletes Village Housing Co-operative in Vancouver. Here it is evident that corridors and lobby spaces are intended for play, with children's artwork hanging on the walls and toys scattered throughout the communal spaces.

Design considerations such as comfortable furniture within the lobby, resident artwork framed on the walls, natural lighting and generous sizing of circulation space all contribute to communal spaces that allow playful and social activities. External corridors facing the common courtyard are wide enough to accommodate small tables and chairs, which encourages residents to sit out and supervise play in the common spaces. And prams and bikes can be stored in the generously sized corridors – a much-needed amenity for residents in smaller units.

Importantly, even when the design of common spaces considers play and social exchange, building management regulations can inhibit this from occurring. Rules such as "no playing", "no hanging of artwork" and "no storage of personal items" can prevent common spaces from becoming communal living spaces. Building managers need to be trained to recognise the value of creating more sociable residential buildings and the role strata management plays in facilitating positive social outcomes.
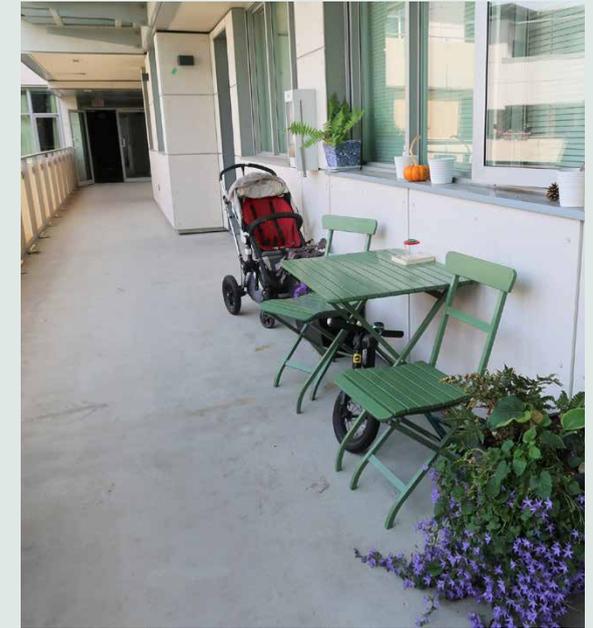
Photos (Top left): Internal corridor with children's artwork displayed and storage of small items such as shoes. (Top right): External walkway as an extension to the home with space for an outdoor table, potted plants and storage of prams. (Bottom): The entrance lobby of the First Avenue Athletes Village Co-op with an array of toys, comfortable furnishing and ample natural light.

A common courtyard at the First Avenue Housing Co-op in Vancouver with an array of playful elements. External walkways are generously sized to allow space for an outdoor table and potted plants and overlook the common outdoor space.

External walkway at the First Avenue Housing Co-op in Vancouver is an extension to the home with space for an outdoor table, potted plants and storage of prams. Parents sitting outdoors overlook the common playspace.

Programmed Interventions

Case studies showcasing interventions that are programed within the physical environment to stimulate children's active mobility, play, socialisation and agency.
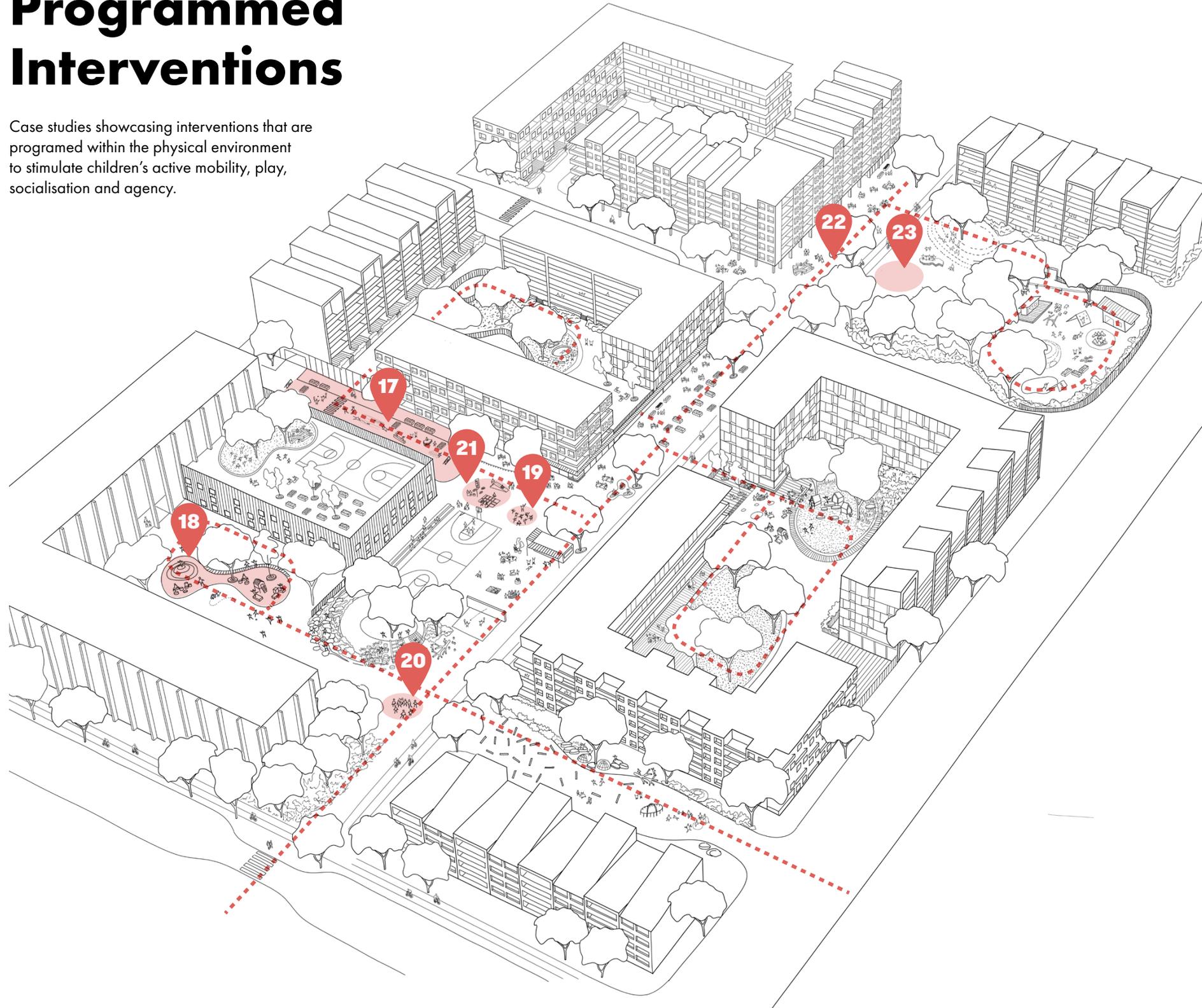
17 Temporary Play Street

18 Hacking the Playground

19 Play Rangers in the Park

20 Designing Cities with Children

21 Promoting the Value of Play

22 Neighbourhood Play Space Web

23 Assessing Playability

17 TEMPORARY PLAY STREET

Street closures for play, gardening & social exchange

Antwerp, Belgium

Project: Living Streets
Design: City of Antwerp

The Living Streets project in Antwerp is a great example of a council initiative that aims to return the streets to people, encouraging social interaction between adults and providing car-free space for children's play. The project recognises the importance of providing children with play opportunities on their doorstep, particularly as many residents might not have a private backyard.

Providing space directly outside the home gives parents the ability to easily supervise children while going about their daily errands and housework. It also means that children can easily transition between home and outdoors and meet young people living nearby.

Through the Living Streets initiative, residents are encouraged to shut down their streets during the summer months and reinvent it as a communal gathering and gardening space. There is a budget for seating, play structures and planting from the council and residents are provided with advice from a landscape designer who can suggest built interventions to create a more social setting as well as plant species appropriate for their context.

The intention of the project is to highlight the benefits of reduced car-dominance. The Living Streets initiative shows that if we are serious about encouraging less car-reliant lifestyles, then returning the streets to people is a fundamental step in highlighting the benefits to both the environment and our social lives.

Photos: Older residents gardening and children play out on a Living Street in Antwerp.
Photos by Antwerpen Leefbaar

Programmed Interventions

18 HACKING THE PLAYGROUND

Engaging with children to "hack" traditional playground spaces

Singapore

Project: Hack Our Play
Design: Participate in Design (P!D)

Research from RMIT University in Melbourne, Australia, has shown that children who engage in play using everyday items such as crates, buckets and card-board boxes spend 30 per cent less time sitting and standing compared with those using a conventional playground (Hyndman et al., 2014)[8]. With this in mind, the traditional playground often fails to provide desirable play opportunities.

The team at Participate in Design (P!D), a non-profit organisation that helps neighbourhoods and public institutions in Singapore design community-owned spaces, created a project called Hack Our

Play, which challenges traditional playgrounds and "hacks" standard equipment to create more engaging environments.

Designers at P!D worked with local kindergarten children in a co-design process to understand the types of built interventions that could improve the play experience. The result was a "hacked" playground space with a focus on enlivening all the senses and engaging in open-ended play.

Objects for music creation and tactile play were introduced and fragrant herbs were planted nearby to add a sensory dimension. With a variety of loose parts and everyday household objects such as crates, pots and pans, the children were able to re-invent their play, creating new games and playful scenarios.

Apart from creating a unique space for play, the process of co-creation provided the children with a sense of ownership, responsibility and a voice within their community.

Photos (this page): Children "hacking" their playspace. Photo (left page): Children playing on their "hacked" playspace. Photos by Participate in Design Limited.

19 PLAY RANGERS IN THE PARK

Stimulating play in the local park with play rangers

Tokyo, Japan

Project: Play Rangers in the Park
Organisation: Bouken Asobiba no Kai NPO and the City of Kokubunji

Negative perceptions of safety and a lack of trust in our communities is often a key barrier preventing children from playing outdoors on their own. Even in neighbourhoods with very low crime rates, parents are often still wary of allowing children to play unsupervised. This means that children have reduced opportunities to engage in free play in public parks and with other children in their neighbourhood.

The idea of play rangers originated in order to alleviate parents' safety concerns. One successful play ranger program is run by the Bouken Asobiba-no-kai NPO, which is commissioned and funded by the City of Kokubunji in Tokyo. Here, play rangers staff public parks on certain weekday afternoons with the intention of activating opportunities for children's play and social exchange.

During a play afternoon, children are encouraged to come to the park on their own and play with various loose objects and craft equipment. Importantly, the parks have storage space allocated in which the equipment can be safely stored.

Employing play rangers is a simple way to encourage social bonds between children in a neighbourhood and normalise the idea of free outdoor play. As children get to know one another and the community begins to value the new opportunities, outdoor play soon becomes a common, visible occurrence.
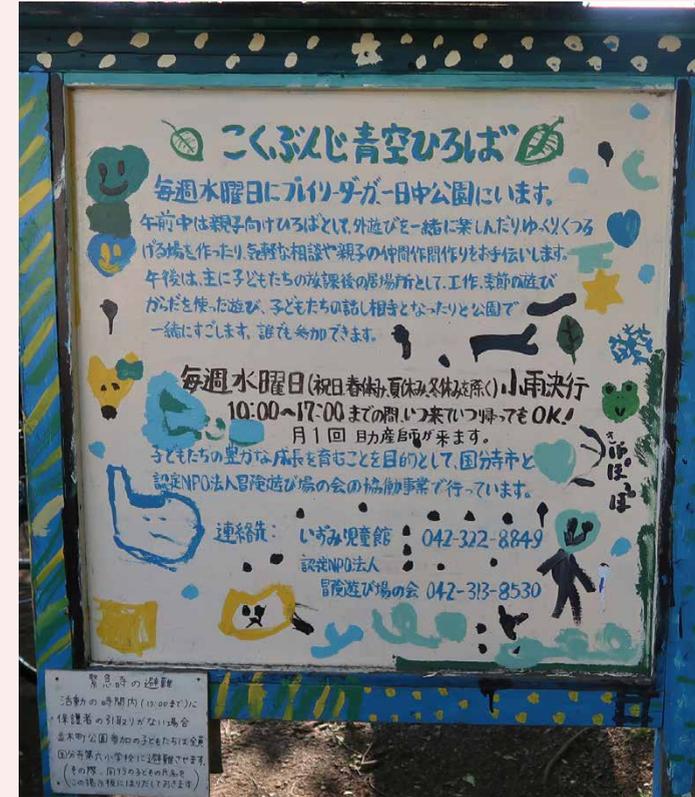
Photos (this page, top): Permanent and temporary signage noting the times when Play Rangers are based in the park. (Bottom and left page): Children working with making tools and play equipment facilitated by Play Rangers who initiate playful opportunities.

Programmed Interventions

20 DESIGNING CITIES WITH CHILDREN

Embedding neighbourhood design into the school curriculum

Hong Kong

Project: Urban Design with Children
Organisation: Vicky Chan, Avoid Obvious Architects

Providing children with an understanding of the principles of good neighbourhood design allows them to meaningfully partake in creating solutions to the challenges their communities face. One example of such an engagement program is in Hong Kong, where Vicky Chan, founder of Avoid Obvious Architects, runs weekly workshops at a local primary school. Students aged 10 to 12 explore what makes their neighbourhood great and how their environment could be improved.

During the workshop sessions, children pick a site from their neighbourhood and add value with an intervention. This has included adding a library to the zoo, an eco-centre in the forest and water play in workplaces. Through the workshops, students start to engage with what makes their city liveable and enjoyable. They also start to question why certain environments are less desirable and, importantly, how these can be improved.

By providing children with the skills to identify the impact our built environment can have on sustainability and on our health, they become future citizens and leaders who value good design decisions for positive impact.

As Chan summarises it: "If we want to create sustainable cities, we should start with children, not adults. If you give children the opportunity to explore what a future city should be like, surely that is a great investment into a sustainable future."

Photos: Workshop with children at a local primary school and models made by the children

21 PROMOTING THE VALUE OF PLAY

Educating communities on the importance of play for children's healthy development

Hong Kong

Project: Community Outreach
Organisation: Playright Children's Play Association

Article 31 of the United Nations Convention on the Rights of the Child states that all children have a right to "rest and leisure, to engage in play and recreational activities appropriate to the age of the child". But as our cities rapidly urbanise, open space for play becomes increasingly rare, and with a lack of infrastructure and motivation from governments and communities, it is easy to forget why we should invest in play opportunities for children.

Non-profit organisations that promote the importance of play for children's healthy development are a vital component of any child-friendly city and should be supported by communities, local councils and governments.

The Playright NGO in Hong Kong aims to "build a society that respects, protects and fulfils a child's right to play, where children can enjoy their childhoods". Playright is actively involved in advocating for play through community outreach programs, play environment improvements and government consultation. It works in a variety of mediums, including running play events in disadvantaged neighbourhoods, publishing research and information pamphlets for schools and creating videos explaining the value of play to communities. As a large organisation, Playright is able to reach people from many backgrounds and slowly change attitudes.

兒童需要遊戲?
Why children need to Play?

透過遊戲,兒童得以探索現實、物質、和幻想世界,挑戰一切可能,繼而學習、成長和發展,成為社區的重要一員。

Photos (Top): Community outreach program
(Bottom): Information pamphlet for communities on why children need to play. Photos by Playright

22 NEIGHBOURHOOD PLAY SPACE WEB

A neighbourhood 'Playspace Web' in Antwerp

Photos (this page): Children engaged in workshopping and neighbourhood walking tours to improve existing infrastructure. Photos by 'Kind & Samenleving' consultants.
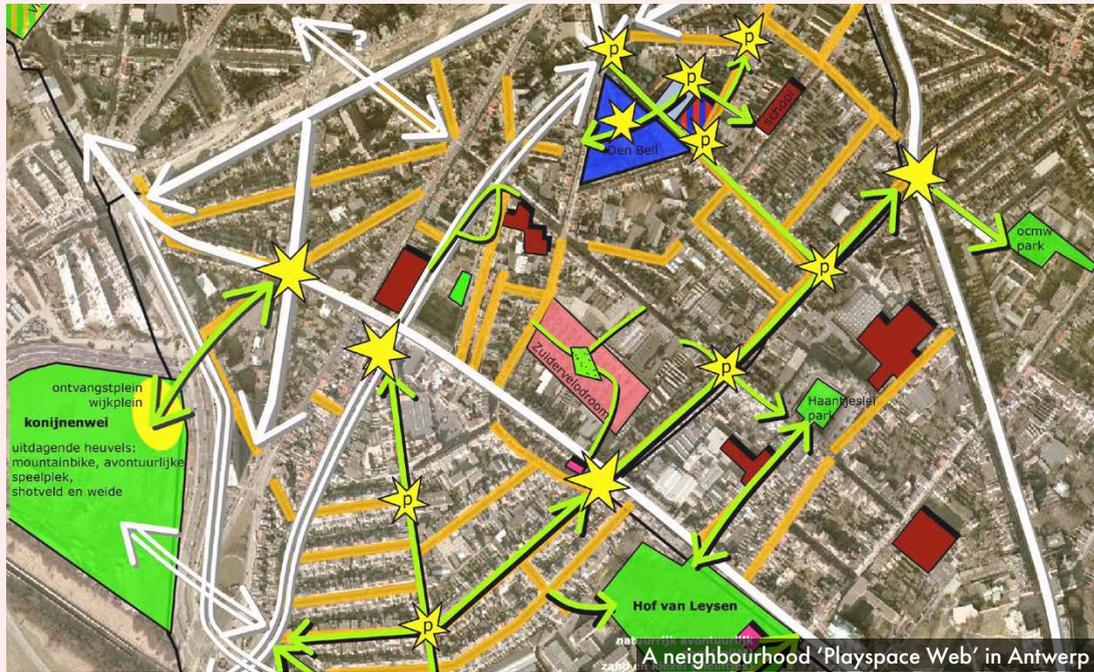
Co-creating a network of diverse play opportunities and child-friendly travel routes

Project: Playspace Web (Speelweefselplan)

Design: City of Antwerp in collaboration with Kind & Samenleving play consultants

In Antwerp, the council believes every child should have a play opportunity near their home (preferably on their doorstep). To achieve this vision, the city creates holistic neighbourhood play strategies that consider diverse play opportunities for various age groups and how these are linked with pedestrian or bike infrastructure.

Through consultation and workshopping with local children, the City of Antwerp, in collaboration with Kind & Samenleving consultants, analyses and maps how children travel to school, where they play, and where they meet their friends. Children are also asked about their play experiences, the places they love and where they would like to see improvements. The data allows the city to start building a Play Space Web, or Speelweefselplan, which networks children's infrastructure such as play spaces, schools and youth centres.

The Play Space Webs are also used by councils to make informed infrastructure improvements, to increase the playability of neighbourhoods and improve common children's travel routes. Any gaps in the quality of spaces or accessibility are filled in by either adding new spaces or changing those that are not working.

By consulting directly with children, the council has a greater understanding of young people's movements and play behaviours, which in turn allows the planners and designers to create unique and connected play opportunities that respond to particular needs. The consultation process ensures children's voices are heard, and their thoughts and suggestions are valued, which gives them a sense of belonging and agency to improve their neighbourhoods.

Importantly, there are dedicated council staff members whose role it is to coordinate the Play Space Webs, and there is a budget for workshops led by specialised consultants. This ensures the program is an ongoing commitment rather than a one-off exercise.

The council also works with the community at large to address any social barriers preventing children from playing outdoors. This includes yearly marketing campaigns that aim to encourage outdoor play and active mobility.

CONVERSATION WITH WIM SEGHERS

Play Space Strategist, City of Antwerp, Belgium

"Our vision and strategy for the City of Antwerp is to create a series of connected 'Playspace Webs' which network playable space within neighborhoods"

Wim Seghers,
Play Space Strategist

What are some of the greatest barriers preventing children from playing outdoors in Antwerp?

We need to talk about the elephant in the room: cars and the effect traffic and parking has had on childhoods. The car takes up a huge amount of space – street parking and parking lots. We have a lot of traffic and congestion on our streets. This is a problem for space, noise and pollution, and of course there are genuine concerns around the safety of children near streets with fast-moving vehicles. Parents are often afraid of allowing children to play outside or walk to school because of the fear of traffic dangers.

How can we address these concerns?

The first thing we need to do is work on improving the infrastructure. Here in Antwerp we are focusing on the quality of our play infrastructure as well as walking and cycling routes. We have an increasing number of children playing outdoors because of the investment in the play spaces within neighbourhoods. Regarding children's mobility, we are constantly working to improve street safety, ensuring traffic-calming and providing "home zones" for shared use and outdoor play. Children want to play near their homes. And in the city council we believe that children should be able to play on their own street, outside their home.

This year we have a city campaign with posters showing children playing on the sidewalks or playing football on the streets, and the campaign is called "We Play on the Streets". We also have a "Playing Out" day once a year in Belgium, where on this day between 1pm and 5pm the screen of the kids' channel is blacked out with a message for children to go and play outdoors. So almost every community

joins the campaign on that day – neighbours set up community activities on streets and in parks.

On this day we start a campaign to promote the value of playing outdoors to the community. Of course the challenge with a campaign like this is for council to ensure that the infrastructure is good enough to be able to support the vision which the campaign promotes. Unless there is a commitment from the city to provide infrastructure which ensures safe and engaging play spaces and travel routes for children, then a campaign like this doesn't make much sense.

How do you ensure a holistic approach for the provision of neighbourhood play?

Our vision and strategy for the City of Antwerp is to create a series of connected Play Space Webs which network playable space within neighbourhoods. Firstly we engage children in participation workshops. We ask the children what they like about their neighbourhoods, where they play and which routes they use to move around their neighbourhoods. Geo-data is also used for the play-space plans, connecting neighbourhood statistics such as provision of open space, resident demographics, school locations, etc, with the information collected from the children's workshops.

With this collected data a report is produced for the neighbourhood indicating suggestions, actions and projects which could be implemented to make the public space more child-friendly. Neighbourhood improvements often come directly from children's suggestions collected at the workshops and are then placed into the larger Play Space Web. By strategically looking at the provision of play within neighbourhoods, we can provide a diversity of opportunities for children.

23 ASSESSING PLAYABILITY

Engaging with children to assess neighbourhood playablility

London, UK

Project: Assessing Neighbourhood Playability[9]

**Organisation:** Dinah Bornat, ZCD Architects, and Matt Bell

Assessing the playability of a neighbourhood is often reduced to a playground count, which ignores the intricacies of what makes environments truly successful for children's play. Characteristics such as ease of access, passive surveillance, clear sight lines and a feeling of safety all contribute to the playability of a neighbourhood and should be understood in order for improvements to be made.

An engagement program developed by Dinah Bornat and Matt Bell aims to understand the everyday experiences and play behaviours of children in order to assess the true playability of an environment. Using a traffic-light system, young people allocate colours to neighbourhood spaces: red for areas that make them feel unsafe or unwelcome and green for areas where they are more likely to play and socialise.

What emerges is a holistic picture of how children use their neighbourhood and what playability means to them. The information collected is used alongside a ranking system such as a heat map (see adjacent diagram) that aims to understand how the built environment can encourage children's play and independent mobility.

By teasing out the characteristics that make a space more playable the design team is able to document and embed these qualities into a vision for a new neighbourhood or to improve existing conditions.

Unless we meaningfully engage with children during the design and planning stages, their needs will be reduced to a playground count, with lost opportunities for children's diverse play needs.
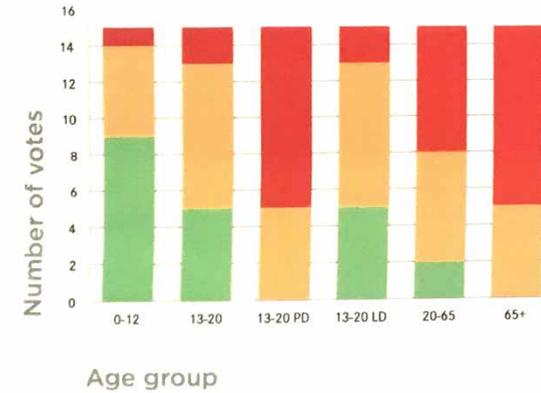
Children's rating of various zones in the neighbourhood (split by children's age) based on how they felt about the space and how they perceived older or younger children would feel.
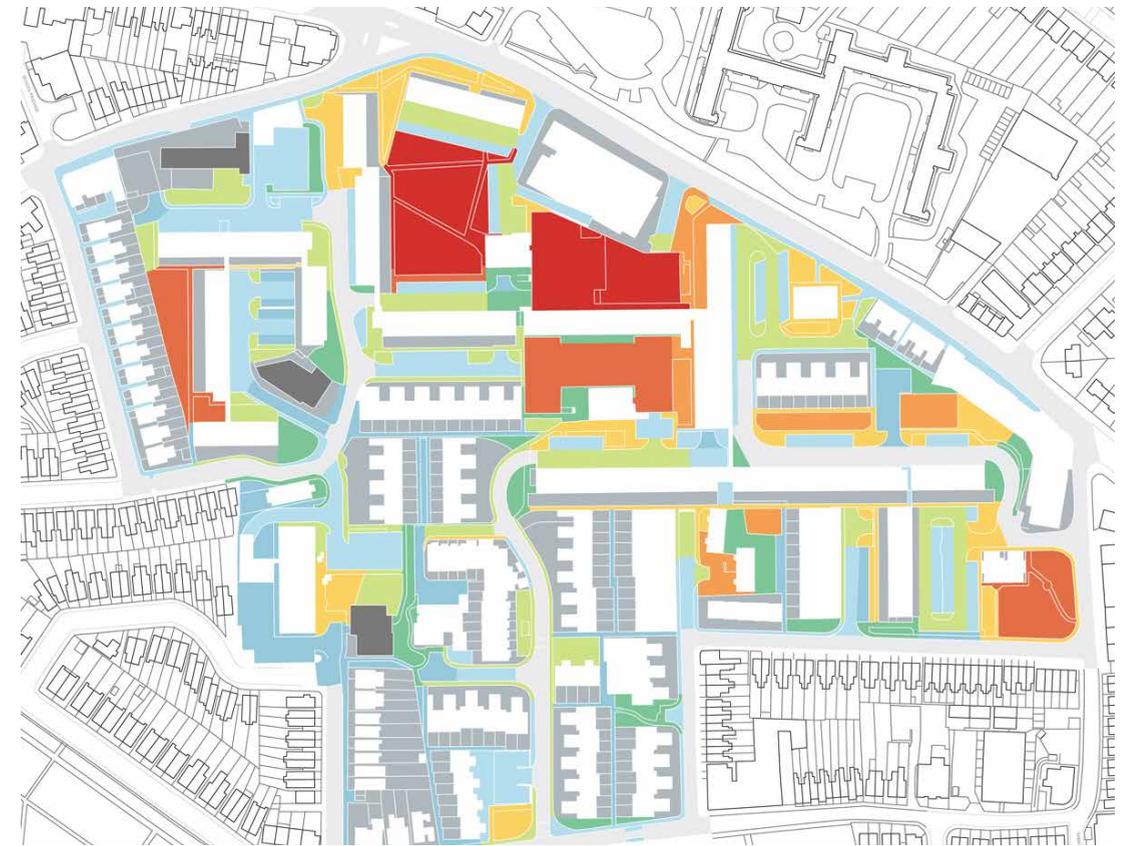
A heat map rating accessibility of open space for play. The map and diagrams are courtesy of ZCD Architects as part of their engagement programme in Cambridge Road Estate, Royal Borough of Kingston. The ranking system for external spaces and playability was originally documented in 'Housing Design for Community Life' by ZCD Architects (Bornat 2016)[10] and further developed in: 'Neighbourhood Design: Working with children towards a child friendly city' by Dinah Bornat and Ben Shaw.

Rooftop Garden in Vancouver with playful elements designed into the landscape such as a 'play house' encouraging children's imaginative play

"In a rapidly urbanizing world it is critical that plans are made to ensure that children aren't the losers in the battle over land use and resource allocation."

Dr Karen Malone

Policy Context

As more families inhabit urban areas, governments and local councils are recognising the shortfalls in planning for their needs within higher-density residential developments. While some local councils market themselves as "child-friendly", very few have seriously considered how this translates into planning guidance and policy.

To date, no city in Australia has an explicit family-friendly design policy for high density neighbourhoods.

The shortfall in planning guidance that considers the needs of families with children in higher-density neighbourhoods must be addressed to ensure liveability for this growing user group.

Four policies investigated from Vancouver, London, Rotterdam and Toronto specifically looked at the needs of children living in urban areas.

The City of Vancouver has been at the forefront of planning for the needs of families with children, with the document *High Density Housing for Families with Children Guidelines* released in 1979. These guidelines specify in-depth considerations for the needs of families living in apartments, including minimum provisions for outdoor play space (for both younger and older children) and the location/percentage of larger family-friendly units per development. The updated guidelines are currently used by councils within Vancouver to assess residential development applications of 75 units or more per hectare in density.

More recently, the City of Toronto released draft guidelines *Planning for Children in Vertical Communities* (2017) and is currently implementing the guidelines into planning policy. Similar to the Vancouver guidelines, this document addresses the needs of children through design consideration at the neighbourhood and building scale. This includes looking at the size and location of family-friendly apartments, pram storage provision, open play space and children's active mobility.

Other cities, such as London, have explicitly stipulated for children's play needs in the supplementary guidelines *Shaping Neighbourhoods: Play and Informal Recreation,* which is outlined in the *London Plan*. The core aim is to "find and protect space in our city for children to play and for young people to meet", which is particularly vital as cities such as London rapidly densify. Importantly, the document stipulates minimum outdoor space provision for all new residential developments of 20 units or more. This visionary policy ensures that architects, developers and councils are considering the needs of children through minimum play space provisions and good design practice.

New South Wales Context

In NSW, the *Apartment Design Guide* stipulates minimum requirements for high-density residential developments to safeguard quality living environments (SEPP 65). This includes minimum sizing for apartments, minimum requirements for storage space and outdoor communal and private open space, all of which are vital components of ensuring high-density neighbourhood liveability.

Nonetheless, when it comes to the particular needs of families with children, the ADG lacks meaningful consideration. It refers to the specific needs of children three times, as outlined below:

 • Communal spaces for children should be safe and contained (pg. 57);
 • Balconies should be designed to be safe outdoor spaces for children (pg. 92 & 94); and
 • Ground floor apartments suit families with small children (pg.108)

These are suggested acknowledgments that lack statutory weight or an in-depth recognition of the needs of families with children. Overall, there is little consideration of how specific needs should be addressed, such as the storage of prams and larger toys, indoor and outdoor play, and the distribution and location of family-friendly units.

In regards to addressing the provision of play opportunities, the ADG does not stipulate any minimum requirements. This essentially means that architects and developers are not required to consider the need for children's play when designing communal outdoor and indoor space within residential building developments. Adding communal play space as a design requirement for multi-unit developments would significantly improve apartment liveability for families with children and make higher density housing a more viable choice for parents.

The lack of overt reference to child-friendly design within the ADG adds to the assumption that families with children live in apartments as transition homes while they look for more suitable family-friendly detached dwellings in lower-density suburbs. If we are serious about building compact neighbourhoods that include families with children then this must change, both at the scale of apartment building design (through a revision of the ADG) and at a neighbourhood scale (through the provision of holistic child-friendly neighbourhood strategies). Refer to page 110 for recommendations.

Without overtly highlighting the needs of children and parents within planning policy and guidelines, these needs will continue to be omitted, particularly if the required outcomes do not align with the profit goals of developers.

Policy Change

Comparing the guidelines

Comparing city-level planning policy and guidance for child-friendly neighbourhood design

SHAPING NEIGHBOURHOODS: CHILDREN AND YOUNG PEOPLE'S PLAY AND INFORMAL RECREATION

DRAFT SUPPLEMENTARY PLANNING GUIDANCE
FEBRUARY 2012
PUBLISHED FOR PUBLIC CONSULTATION

LONDON PLAN, 2011
IMPLEMENTATION FRAMEWORK   **MAYOR OF LONDON**

PLANNING FOR CHILDREN IN NEW VERTICAL COMMUNITIES

Growing Up
DRAFT URBAN DESIGN GUIDELINES
2017
TORONTO

City of Vancouver *Land Use and Development Policies and Guidelines*
Community Services, 453 W. 12th Ave Vancouver, BC V5Y 1V4 F 604.873.7344 fax 873.7060
planning@city.vancouver.bc.ca

HIGH-DENSITY HOUSING FOR FAMILIES WITH CHILDREN GUIDELINES

Adopted by City Council March 24, 1992

City of Rotterdam
Youth, Education and Society

Rotterdam, city with a future

How to build a Child Friendly City

Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation
City of London, 2011

In 2012, the office of the Mayor of London released a revised supplementary planning guideline, *Shaping Neighbourhoods: Play and Informal Recreation* (adapted from the original 2008 document). The guidelines aim to ensure that children have access to engaging play and informal recreation by stipulating minimum neighbourhood play provisions alongside minimum standards for play space in new residential developments. They recommend a minimum play space provision of 10 square metres per child for developments of 20 units or more. The document showcases the importance of considering play during the design stage of developments.

Planning for Children in New Vertical Communities
City of Toronto, 2017

With the recognition that families are increasingly choosing to live in higher-density neighbourhoods, the planning division of the City of Toronto created the guidelines *Growing Up: Planning for Children in New Vertical Communities* with the intention of ensuring that new developments address the needs of children and their families. Looking at "the neighbourhood", "the building", and "the unit", the focus is on how the built environment can create positive health and wellbeing outcomes for children and ensure liveability for families. The guidelines are currently in draft format, undergoing consultation for the final document and implementation into planning policy.
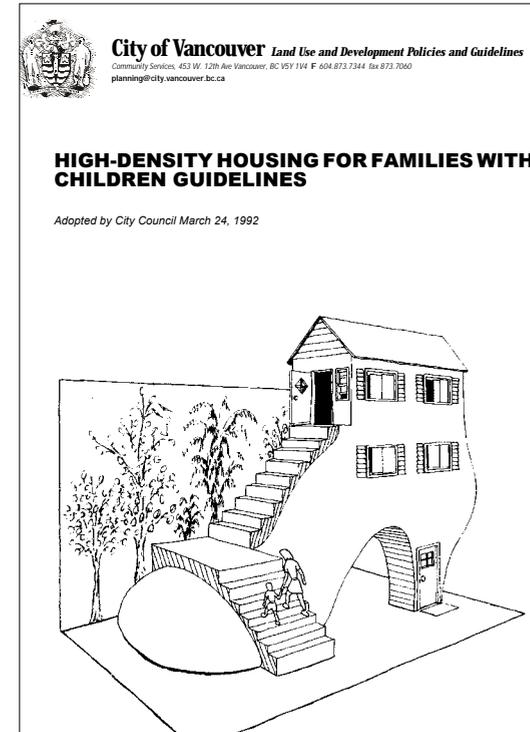
High-Density Housing for Families with Children Guidelines
City of Vancouver, 1992

In the 1970s, the City of Vancouver made a decision to overthrow a plan to build a freeway linking residential suburbs to the city and instead focus on housing families in multi-unit inner-city neighbourhoods. The city realised that in order to ensure liveability for families with children moving into compact neighbourhoods, they needed to understand how high-density housing could address their needs. From this research emerged the original guidelines *Housing Families at High Density* in 1979, later adapted to become the *High-Density Housing for Families with Children Guidelines*, which are currently used as planning guidance for residential developments of 75 and more units per hectare in density in conjunction with zoning and development by-laws.

How to Build a Child Friendly City
City of Rotterdam, 2010

In 2007, the program *Child Friendly Rotterdam* was formed with the objective of retaining and attracting more families into the city in order to stimulate the economy, enhance liveability and improve the quality of life for children in Rotterdam. It focused on four "building blocks", including "child-friendly housing", "public space", "facilities" and "safe traffic routes" to enhance the conditions for children and their families to thrive in urban neighbourhoods. These "building blocks" are used as an assessment tool to establish which neighbourhoods are child-friendly and where council interventions are required to improve conditions. Subsequent pilot studies conducted in 11 neighbourhoods have been established to improve the child-friendliness of inner-city areas.

Policy Change

Comparing the guidelines

Comparing planning policy and guidance for multi-unit residential developments including minimum requirements for outdoor and indoor child-focused amenity and minimum per cent of family sized units.

	Sydney	London
Communal Outdoor Space	Communal open space has a minimum area equal to 25% of the site [1] *50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)	Dependent on Local Development Plans, for example the Borough of Southwark in South London has a minimum requirement of 50m2 of communal open space [2] *Outdoor play space provision (see below) is additional to requirements outlined in Local Development Plans
Communal Indoor Space	No minimum communal indoor space requirements for multi-unit developments	No minimum communal indoor space requirements for multi-unit developments
Play Space provision	No minimum play space requirements for multi-unit developments	A minimum of 10 sq m of dedicated outdoor play space per child [1] *In developments with an estimated occupancy of ten children or more, based on area demographics (calculation template provided by planning authority) *Play provision area is in addition to other standards for open space required within Local Development Plans

	Toronto	Vancouver
Communal Outdoor Space	Minimum 40 square meters of outdoor amenity space [1] *Minimum 4.0 square meters for each unit of combined indoor and outdoor amenity *Location adjoining or directly accessible to the indoor amenity space *No more than 25% of the outdoor component may be a green roof	As per the 'Play Space Provision' requirements (see below)
Communal Indoor Space	Minimum 2.0 square meters of indoor communal amenity per dwelling unit [1] *Minimum 4.0 square meters for each unit of combined indoor and outdoor amenity *A portion of the required amenity space should be designed for children and youth. The proportion should relate to the number of large (family-friendly) units in the building (~25%) [2]	A 37 m² multi-purpose communal room must be provided for non-market and moderate rental family housing developments [1] *Preferred to be paired with an adjacent outdoor space *A wheelchair accessible washroom and kitchenette is recommended within the multi-purpose space
Play Space provision	25% of allocated indoor and outdoor amenity should be child-focused [2]	Total outdoor play area should range in size from 130 m² to 280 m² [1] which should include: *Preschool Children's Play Areas: minimum of 50 m² or 1.0 m² per bedroom, excluding the master bedroom *Elementary And Teen Aged Children Play Area: minimum of 85 m² or 1.5 m² per bedroom, excluding the master bedroom *Minimum of 2 hours of sunlight between the hours of 10a.m. and 5p.m. on December 21st (winter) *Preschool play areas should be located near common indoor amenity areas and laundry rooms where they can be overlooked by adults

Policy Change

	Sydney	London		Toronto	Vancouver
Minimum % of family sized dwellings	*Dependent on the Local Development Plan; for example in North Sydney Council no more than 55% of all dwellings (in residential flats of 20 units or more) can comprise a combination of both studio and 1 bedroom dwellings [2]	*Dependent on the Local Development Plan		Target of 25 percent family units: 10% of the units should be three bedroom units and 15% of the units should be two bedroom units [2] *The majority of large units should be grouped together to encourage socializing between families and create a sense of community *Large units should be located primarily in lower portions of the building to provide direct outdoor access for families with children *Larger units should overlook public open space and/or private outdoor amenity areas to allow informal supervision of children's play	Target of 25 percent family units in new market housing and 50 percent family units in all new non-market housing [2] *Family units are defined as 2 or more bedrooms *Family units should be grouped together to encourage socializing between families and create a sense of community *Family units should be located to overlook common outdoor play areas to allow informal supervision of children's play
Referenced Guidelines	[1] Apartment Design Guide for NSW [2] North Sydney Development Control Plan (2013)	[1] The Shaping Neighbourhoods: Play and Informal Recreation: Supplementary Planning Guidance (2012) [2] Southwark Residential Design Standards: Supplementary Planning Document (2011)		[1] City of Toronto Zoning By-law 569-2013 (Residential Zoning, Apartments of 20 units or more) [2] Growing Up: Planning for Children in New Vertical Communities: DRAFT Design Guidelines (Applicable for apartment developments of 20 units or more)* *Guidelines in Draft Format: Under Consultation	[1] High-Density Housing for Families with Children Guidelines, City of Vancouver (1992). (Applicable for residential developments of 75 and more units per hectare in density) [2] Housing Mix Policy for Rezoning Projects (2016)

*City of Rotterdam guidelines "How to Build a Child Friendly City" do not specifically look at multi-unit developments and so has not be included in this comparison table.

Policy Change

CONVERSATION WITH
DR. ANN MCAFEE

Former Co-Director of Planning, City of Vancouver

"It's important to have the design guidelines, but you also need the household economics to work to actually get the lower income households into the family-friendly units"

Dr. Ann McAfee, Former Co-Director of Planning at the City of Vancouver

Dr. Ann McAfee is the co-author of the original Housing Families at High Density guidelines written for the City of Vancouver in 1979. The guidelines aim to ensure liveability for families with children living in higher-density neighbourhoods.

What are some of the factors which you think make these guidelines successful?

I think there are three requirements to produce effective guidelines. Firstly, you need to base the guidelines on solid research which aims to understand the needs of the user, the architect, the developer, and builder and embeds these user needs and project economics into the guidelines.

Secondly, you need a process which encourages architects to be creative by asking them to demonstrate that they are meeting the needs of families with children. We didn't want to specify design through legislation but instead made sure that architects were thinking about the needs of families and providing creative solutions. This requires staff with the expertise to review proposed designs to ensure that the principles set out in the guidelines are being met and the wisdom to support creative design solutions to meet family needs.

And thirdly you need a council with the will and legal authority to push back. Vancouver has a City Charter. Under the Charter, Council has the authority to make land use decisions with no appeal to a senior government. This means that Council has the power to reject developments if the proposal does not satisfy the family design principles as set out in the guidelines. This effectively ensures that the consideration of the needs of families with children is a mandatory design requirement.

What are some of the challenges today in regards to providing family-friendly housing in cities?

In recent years discussions around family-friendly housing have focused on providing homes in the context of increasing land values and reduced government assistance. Part of the problem is that in attractive stable cities housing is increasingly seen as a commodity as people are using housing as an investment bank. Some issues around the lack of affordable family-friendly housing in Canadian cities are the result of regulations which cities have little control over, including permitting offshore investments into the housing market.

In Canada, cities have limited funding sources and a requirement to balance budgets. In the past, the national (Federal) government provided housing assistance. To give you an example, the south shore of Vancouver's False Creek inner-city neighbourhood, developed in the 1970s, was built with 55 per cent co-op and non-profit housing funded through Federal programs. This ensured a household and income mix reflective of the broader city. But by the mid-80s the federal programs ended. Lacking assistance, the City could still require family-designed units, but the percentage of affordable housing developers must now provide has been significantly reduced. This limits housing assistance for families (often single parent) on limited incomes and service workers who are vital to a thriving economy.

Vancouver's experience suggests we can plan for families, and guidelines can ensure that designs consider their needs, but to be successful we need a combination of good design alongside funding to make housing available for families with a range of incomes.

Recommendations

As our cities rapidly densify, the question of children's health, wellbeing and happiness must be seriously addressed to ensure liveability. Their needs should be overtly addressed in state planning policy and neighbourhood design strategies. Below are some key recommendations to be considered at both state and neighbourhood level:

State Level

1. Supplementary planning guidance should be implemented to ensure the needs of families with children are considered in the design of new residential developments.

In NSW, this includes a review of the Apartment Design Guide to address the needs of the growing number of families with children living in apartments. A review should include detailed design considerations such as the storage of prams and larger toys, bathing of children, space for children's study, adequate acoustics separation between units and the provision of play in communal spaces.

Apart from reviewing existing standards such as the ADG, supplementary child-friendly design guidelines should be implemented at a state-wide level. Similar to the planning guidelines implemented in the cities of Toronto, Vancouver, London and Rotterdam, a guiding document outlining best practice for child-friendly neighbourhood design would ensure that children's needs are placed on the design agenda and provide valuable guidance for architects, planners and councils (refer to page 102 for precedent guidelines).

2. Minimum "playable space" provisions should be mandated for all new multi-unit residential developments.

Similar to planning requirements in the cities of London, Vancouver and Toronto (refer to the policy comparison table on page 104), minimum provisions for children's play space in communal areas should be mandated within multi-unit residential developments.

Mandated minimum play space provisions will ensure that children living in higher-density housing have access to play opportunities on their doorstep, improving developmental outcomes for children and apartment liveability for families.

Neighbourhood Level

3. Local councils should implement child-friendly neighbourhood strategies that are context specific and co-created with children.

Child-friendly neighbourhood strategies should holistically assess the local built context and prioritise the needs and everyday freedoms of children through an ongoing co-creation process. Neighbourhood strategies should establish diverse play opportunities and networks of accessible child-friendly travel routes (case study #22).

Alongside improvements to the built environment, programed interventions must be considered to enhance useability and address social barriers. Genuine opportunities for shared decision-making and co-creation will give children and their carers agency and ensure the sustainability of use (see case study #23).

4. Appropriate funding and dedicated staff must be allocated within local councils, for the management and implementation of child-friendly neighbourhood strategies.

In order for child-friendly neighbourhood strategies to be successful and sustainable, investments must be made for specialised teams within councils and external experts.

A communal courtyard in Vancouver with shared toys scattered around the playground. Apartment balconies and private courtyards look out onto the shared play space, providing passive surveillance.

Conclusion

Over the past few decades, we have been warned by numerous experts about the detrimental consequences of the decline in children's spontaneous outdoor play and active mobility on their health and wellbeing (Gray 2011, Chudacoff 2007). Increasing rates of obesity, diabetes, anxiety, depression, loneliness and phobias of the natural world have all been linked to the decline in outdoor play and are of increasing concern (Gray 2011, Panksepp 2003).

As noted by author Joe L. Frost: "For the first time in history, the children of entire industrialised nations are losing their natural outdoor grounds for play and forgetting how to engage in free, spontaneous outdoor play. The consequences are profound."

Planners, architects, councils and developers have significant parts to play in ensuring that neighbourhoods are designed to prioritise the health and wellbeing of children. This includes creating cities that provide children with access to nature, playable spaces, social connectedness, independent mobility and a sense of ownership and agency.

The provision of safe, engaging and natural environments for play is particularly important as our cities continue to densify and land becomes increasingly valuable. As cities transition into higher densities, it is vital that we consider how families with children can thrive in a vertical "Australian Dream" as an ideal place to raise a family.

In order to ensure that child-friendly design strategies are considered in the development of compact neighbourhoods, planning policy must be revisited and design guidance provided to developers, planners and architects.

The African proverb "it takes a village to raise a child" rings true centuries on. Parents need the support of communities in raising children and in turn communities should recognise the benefits of supporting children and their families. As summarised by Golinkoff and Hirsh-Pasek (2016), this means supporting our youngest citizens to be "happy, healthy, thinking, caring and social children who will become collaborative, creative, competent and responsible citizens tomorrow".

Any government concerned about its future would be wise to invest in policy that aims to provide children with the best possible start in life and in turn ensure a more stable, sustainable, healthy and happy society.

At the University of Chiba in Tokyo, Professor Isami Kinoshita noted:

"It is true that it takes a village to raise a child, but it is also true that it takes a child to raise a village".

This phrase highlights the need for us to go beyond what we can provide for children to how we can empower children to take the lead in creating liveable and sustainable cities. It is often children and their families who bring life into neighbourhoods, stimulating community interaction and generating joy and a positive outlook for all residents.

Ultimately, designing child-friendly neighbourhoods will not only provide the best possible developmental outcomes for our youngest citizens, it will also create more inclusive and liveable higher-density neighbourhoods for everyone to enjoy.
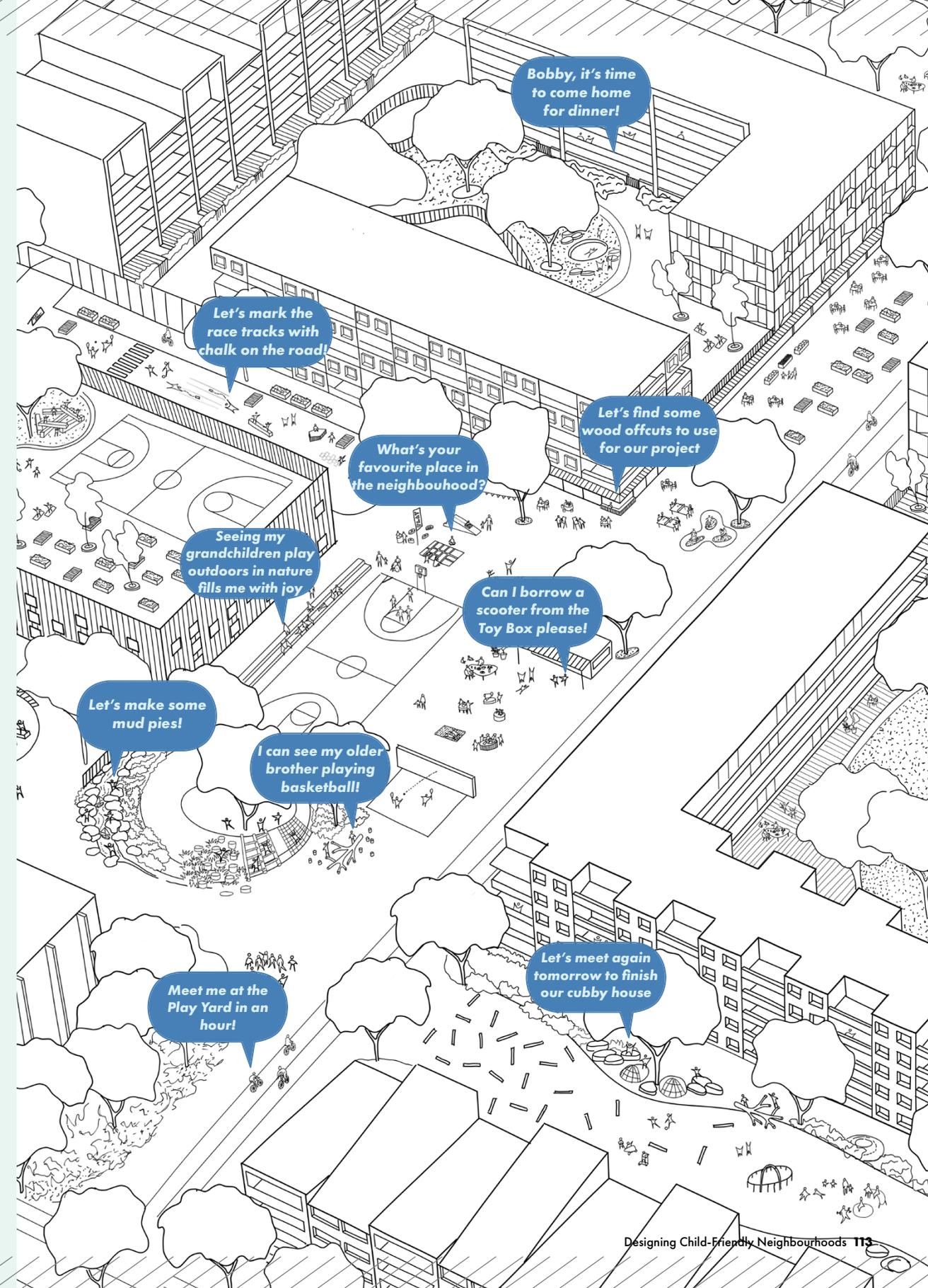
"Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."

Jane Jacobs, Urbanist

Children in Hong Kong at a communal maker-space called the 'Play Depot' where residents and children come together to play and share. Photo by the 'Play Depot'.

Endnotes

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Photo: Children walking to school in Tokyo. Photo by Davidf

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