

# Healthy Higher Density Living for Families with Children

Design Guide

DRAFT



## Acknowledgement of Country

We acknowledge the Darug people as the traditional custodians of the land covered by Western Sydney Local Health District and pay respect to Elders past, present and emerging.



**Artwork by Leanne Tobin.**

Leanne's artwork reflects the vibrancy and traditional motions of the dragonflies as they move through their journey of life.

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# Overview

From 2016 to 2021, multi-unit developments have made up 70 per cent of housing delivered in Greater Sydney<sup>1</sup>, signalling a significant shift in the urban future of Australia's capital cities towards higher-density living. With this shift, comes an increase in the number of families raising children in apartments, both through lifestyle choice and due to external pressures such as affordability and housing supply.

In Sydney, over 25 per cent of apartment households are families with children under the age of 15<sup>2</sup>. These trends are visible not only in inner-city areas but also in outer western suburbs such as Parramatta, where over 45 per cent of preschool-aged children live in high-density housing<sup>3</sup>. With less families raising children within the "traditional" detached dwelling, designing livable high-density environments which consider the needs of this demographics has never been more pressing.

The Healthy Higher Density Living for Families with Children: Design Guide has been developed with the recognition that good design can both improve the lives of families that are already living in higher-density and encourage more families to make that choice, resulting in a sustainable and compact city which accommodates for diverse needs.

Building on the results of the Healthy High Density for Kids (HHD for K) qualitative study, in partnership with City of Parramatta (CoP), a joint working group including the Centre for Population Health and Hayball Architects have developed this draft document. The aim of the Design Guide is to showcase best practice projects and provide guidelines to support the health of children and families living in high density housing.

The Design Guide has been issued as a 'draft' and will be circulated to community and key stakeholders groups for input prior to the final completion of the document.



“Children are a kind of indicator species, if we can build a successful city for children, we will have a successful city for everyone.”

Enrique Peñalosa (Former Mayor of Bogota)



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# Introduction

Housing and the built environment are fundamental to human health and can directly impact a child's early development<sup>4</sup>.

Experiences in a child's early years (0-5), are 'a critical time for physical, cognitive, social and emotional health' and have been shown to have long term impacts on their health and wellbeing<sup>5</sup>. Therefore, it is important to design environments that consider and apply all known protective factors<sup>6</sup>, enabling children to thrive.

This Design Guide is informed by City of Parramatta and Western Sydney Local Health District's, Centre for Population Health, 'Healthy Higher Density Living' series. The latest component which heavily informed the development of this Design Guide is the qualitative study which asked parents about the perceived health effects of their children (aged 0-5) living in high density housing in City of Parramatta<sup>7</sup>.

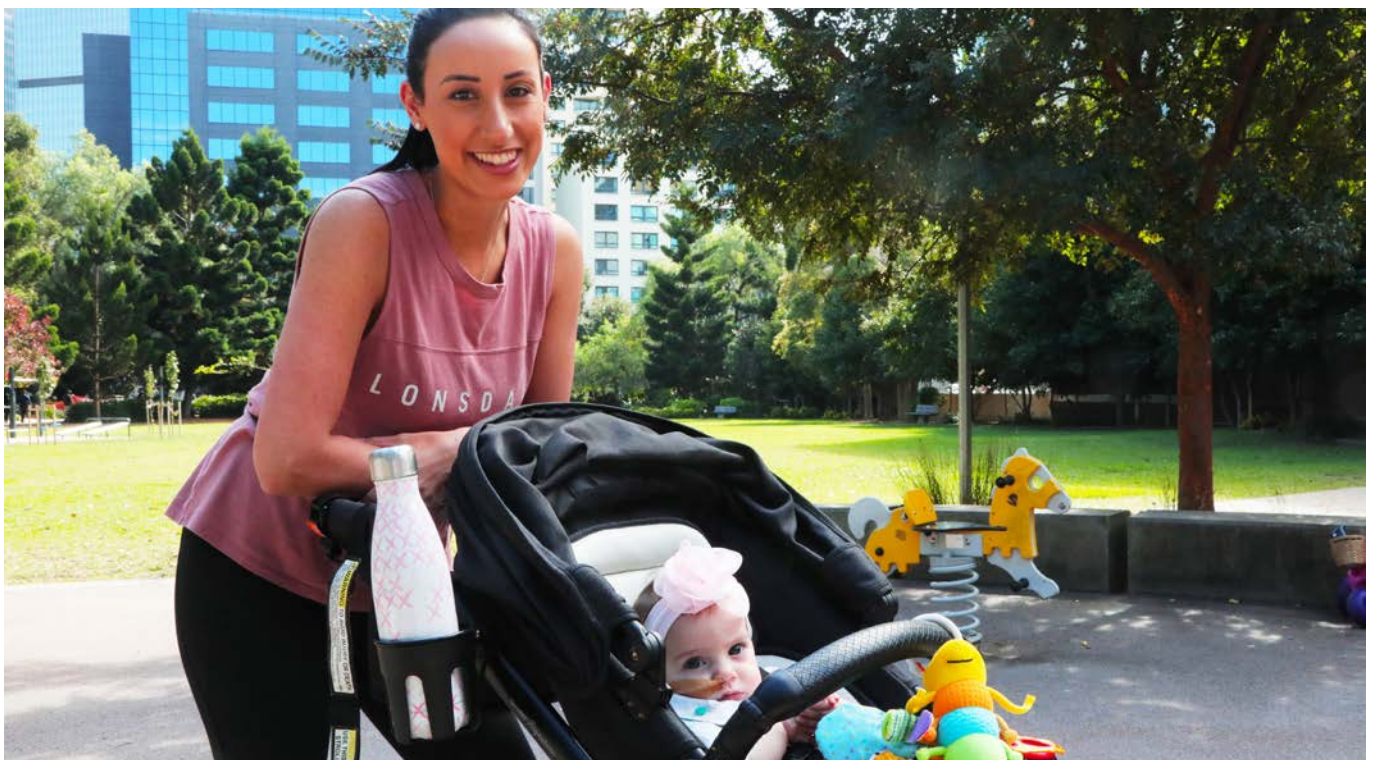
It provides valuable insight into the needs of families with children living in high density housing and adds to the local evidence base.

The series includes:

- Healthy Higher Density Living For Kids: A Qualitative Study (2020)
- Healthy Higher Density Living For Kids: Literature Review (2017)
- Healthy Higher Density Living Survey (2017) and
- Healthy Higher Density Living Issues Paper (2017)



The Healthy Higher Density Living for Kids: Literature Review (2017), considered the effects of high density housing on children, within three domains of child development outcomes: physical health and development; psychosocial wellbeing and mental health; and language, cognition, and communication skills.





The evidence indicates the impact of high density on child health is context dependent; influenced by ‘the particular child, their social environment, the dwelling and building, and the surrounding neighbourhood’<sup>8</sup>.

High density housing in the right location, with good design and accompanying amenity; ‘density done well’<sup>9</sup> can support and enhance health outcomes. With the inverse being true; poorly designed, built, located, and managed high density have a number of known negative health impacts.<sup>10</sup>

To maximise positive health outcomes, it is essential that the health impacts of high density are considered through local and state government planning controls and policies.

Children can be understood as ‘indicator species’, what is good for children is likely to be good for everyone<sup>11</sup>. Design and development that caters for children will therefore have a widespread benefit for all age groups.

Experiences in a child’s early years (0-5), is ‘a critical time for physical, cognitive, social and emotional health.’<sup>5</sup>

**Note 01:** High density in the Design Guide refers to flats and apartments in 3-storey and higher blocks. (Id Profile 2022)

**Note 02:** Family-friendly refers to families with children (under 15 years). Recommendations are intended to support the needs of those caring for children in an apartment and children themselves.



# Greater Sydney Context

The ‘upwards’ trend of increasing high density housing is being experienced across Greater Sydney. With the traditional notion that households with a child/children will relocate to a detached house also being challenged, resulting in more children living in high density than ever before.<sup>12 13</sup>

City of Parramatta exemplifies both these trends and provides an ideal case study. City of Parramatta’s (CoP) population is growing, with more people than ever living in a high density environment. According to CoP’s *Local Housing Strategy*, 70% of all dwellings in 2036 may be apartments (without intervention)<sup>14</sup>.

Currently, almost half of CoP’s residents live in high density dwellings, and the 2021 Census indicates that over 45% of 0-4 year olds in CoP are living in high density<sup>3</sup>. This is a significant increase from 2016, which was 37%. With population doubling by 2041, the number of children living in apartments will continue or even accelerate in the medium to long term.

A key issue for families with children remaining in apartments, (as their family expands or their children age) is the lack of space and storage in a two-bedroom apartment. However, the supply of three- and four-bedroom apartments, that might provide this additional space and encourage families with children to remain

# 45%

## 0-4 year olds in City of Parramatta are living in high density.

living in apartments, is significantly lower and the increase slower, compared to the supply of studio and one-bedroom apartments. Diagram 1 (below) shows that the supply of three-bedroom dwellings has decreased significantly over the past two decades. The trends imply that families with children will experience greater difficulty finding suitable dwellings in CoP.

Addressing the shortage of suitably-sized apartments, alongside a focus on designing housing which considers the needs of families raising children, will enhance liveability and encourage others to chose high density living as a viable option. This will in turn have numerous positive impacts to the future viability of our urban cities, ensuring a successful transition to a more compact and sustainable urban future.

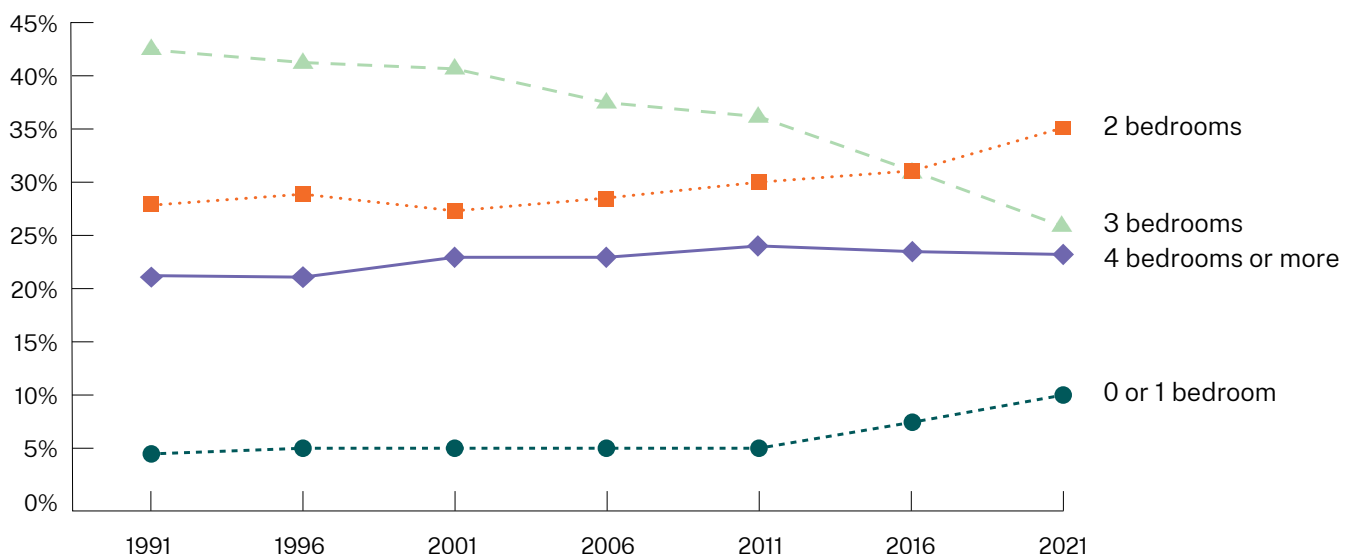


Diagram 1: Dwelling supply in Parramatta from 1991 to 2021 (ABS Census)







# About this Design Guide

Despite the increase in the number of families with children living in high-density environments, to date no Australian city has a policy on family-friendly high density housing, which signals a substantial gap within planning policy<sup>15</sup>.

The effect of neglecting this topic is two-fold. Firstly, it affects the health and wellbeing of the significant and increasing number of families with children who are currently living in apartments, with building and neighbourhood design largely being inadequate for their needs. And, secondly it restricts the long-term viability of the compact city vision as many families do not see apartments as a desirable housing option for raising children.

In the absence of legislative controls, this Design Guide aims to address this gap by highlighting the specific needs of families with children living in apartments and provides best practice examples of how to enhance livable outcomes for this demographic.

## Aims of the Design Guide:

This Design Guide was created with the following aims;

- To highlight the importance of designing livable high density housing and urban environments for families with children.
- To provide recommendations and guidance for the delivery of excellent high density housing and urban design which positively contributes to the health and wellbeing of children and their families.
- To showcase best practice exemplars in the design of high density environments for families with children.
- To promote apartment living as a viable choice for families with children through high quality design outcomes.
- To inspire leaders, inform practitioners and engage communities - including children - to know what is possible for family-friendly built environments.

## Who the Design Guide is for:

The Design Guide is intended to assist multi-unit residential developers, architects, urban designers, planners and consent authorities in the planning and design processes through:

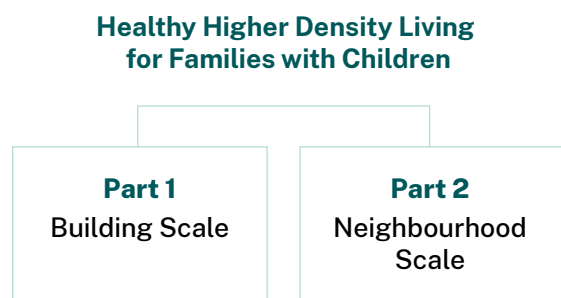
- Advocating for improved high density living environments for families with children.
- Informing the planning system via amending Development Control Plans (DCPs), state guidelines and/or other regulatory mechanisms.

## How to use the Design Guide:

The Design Guide is structured has been structured into two parts:

**Part One (Building Scale):** outlines key design guidelines relating to the building scale, which includes the apartment building and communal space.

**Part Two (Neighbourhood Scale):** provides guidelines relating to the neighbourhood scale of high-density developments, which includes streets, public spaces and outdoor infrastructure.

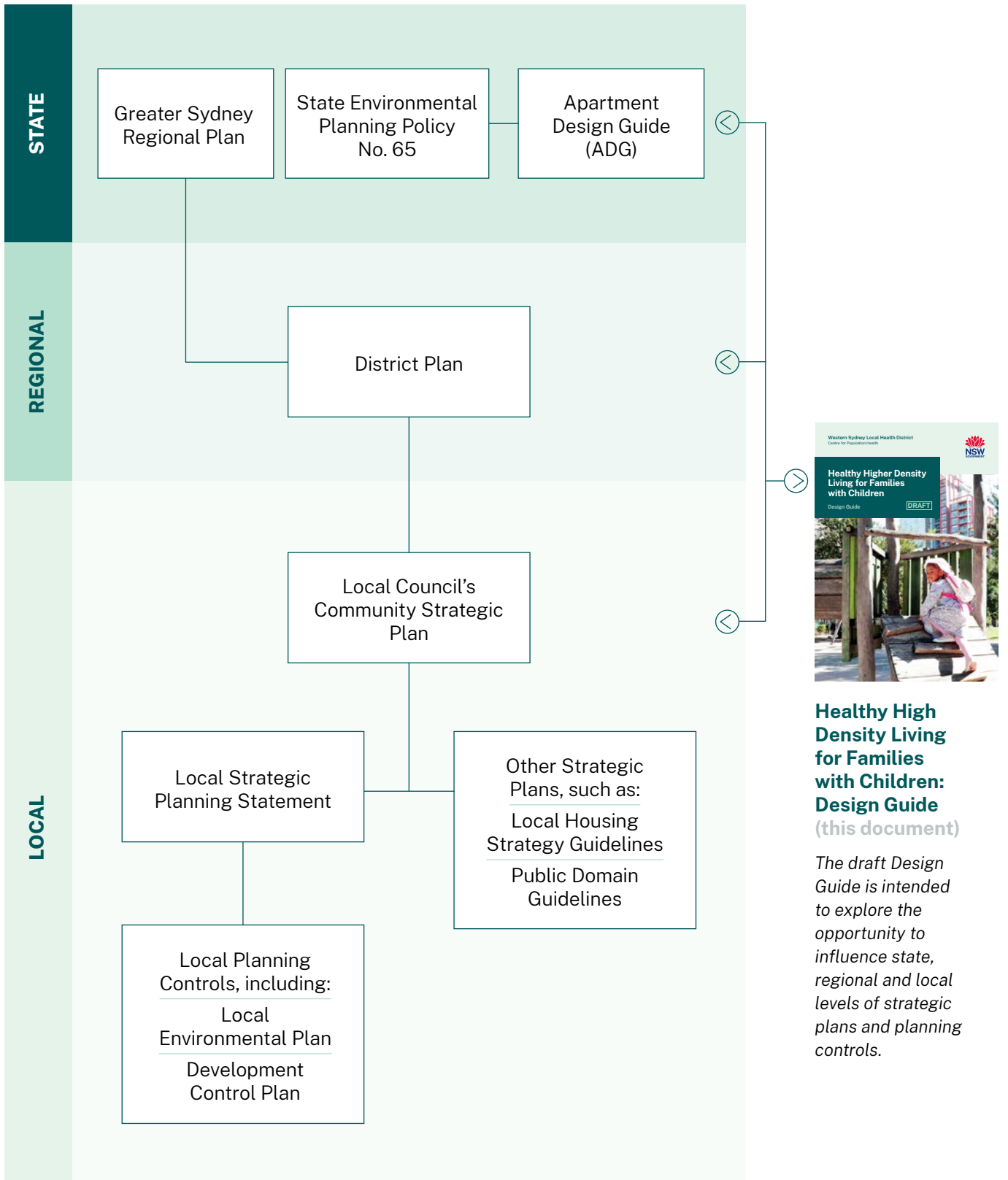


This Design Guide should be read in conjunction with the relevant local and state planning and design policies as outlined in the adjacent diagram.

In particular, this Guide should be used alongside the *NSW Apartment Design Guide (ADG)*<sup>16</sup>. By promoting best practice for families with children living in apartments, it provides guidelines above and beyond the minimum standards, as currently outlined in the ADG.



**Planning Context:**



PART 1

Family-friendly Design:

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# Building Scale

# 1







## PART 1

# Family-friendly Design: Building Scale

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### Introduction

Part 1 of this Design Guide focuses on incorporating the specific needs of children and their families within the design of apartment developments. The considerations within this document should be applied in conjunction with a holistic understanding of good apartment design principles as outlined in the *Apartment Design Guide (ADG)*. The recommended Design Guidelines should be considered beyond any state or local planning policy with the aim of improving liveability of apartments for families with children.

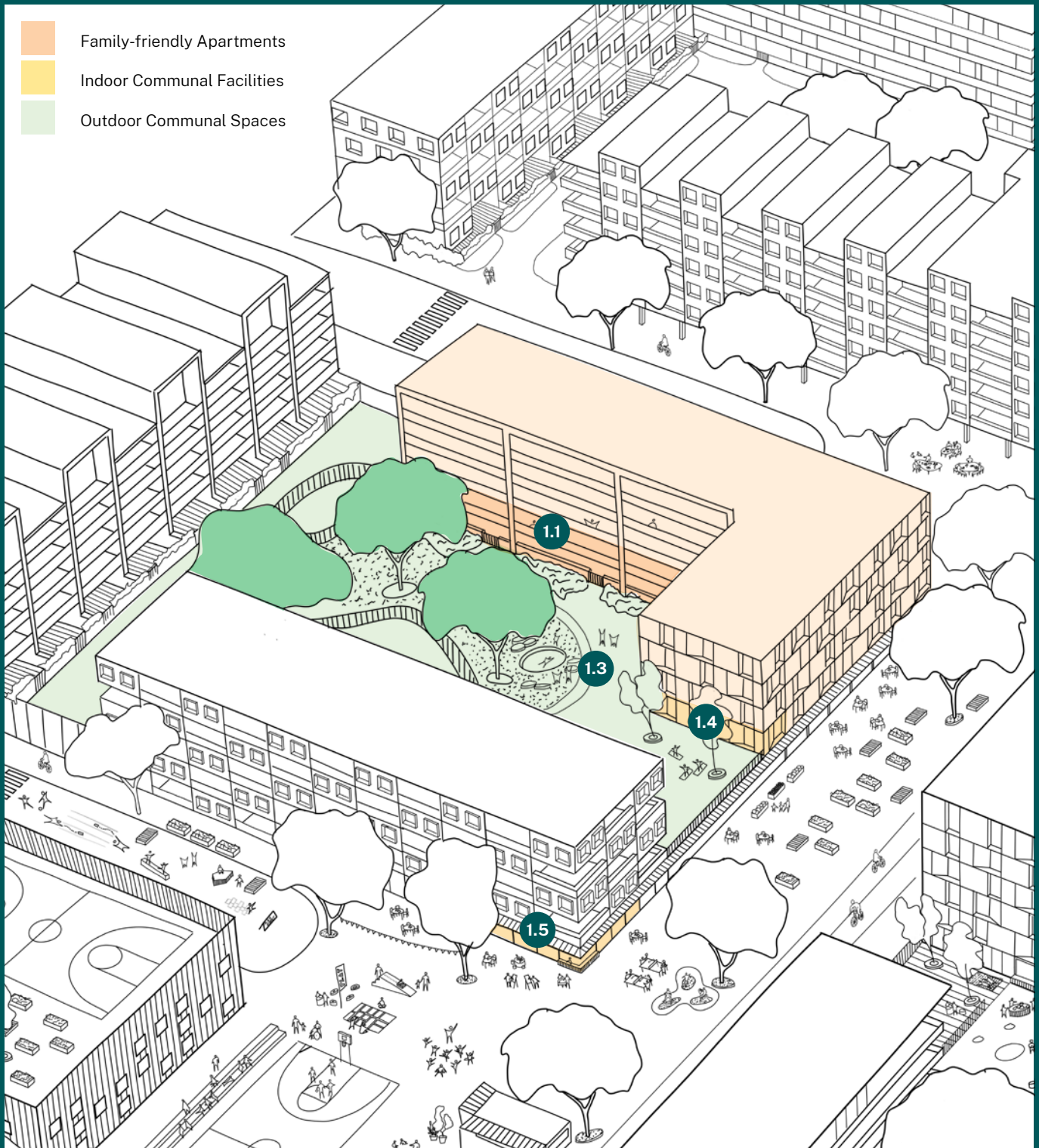
### Why it's important

With the increasing number of families with children living in apartments, it is critical for developers, architects and planners to consider the specific needs of these residents. A well designed home environment will have a positive impact on both the children's life by enhancing their physical, social and emotional development, as well as liveability for parents/guardians.

Additionally, designing high density housing which is suitable to the needs of families with children will help keep diverse populations in cities and promote more sustainable, compact neighbourhoods for all to enjoy.

### Objectives:

- Provide a diversity of housing options suitable to the needs of families with children living in higher density neighbourhoods.
- Strive for best practice in the design of apartment complexes which consider the movement and daily activities of families with children.
- Ensure a percentage of large apartments are designed to address the specific needs of families with children through various life stages.
- Support social and play opportunities to occur directly outside the home within communal outdoor and indoor spaces.
- Provide welcoming and safe environments for children and caregivers with the aim of creating inclusive and healthy higher density communities.



- Family-friendly Apartments
- Indoor Communal Facilities
- Outdoor Communal Spaces

## Building Scale Design Considerations

- 1.1 Building Configuration**  
Consider the needs of families with children in the configuration of apartment buildings.
- 1.2 Family-friendly Apartments**  
Design apartment layouts which consider the needs of families raising children.
- 1.3 Playable Outdoor Space**  
Integrate dedicated play space within communal outdoor spaces.
- 1.4 Flexible Community Rooms**  
Provide dedicated indoor community space within apartment buildings.
- 1.5 Social Circulation Zones**  
Provide opportunities for social interaction and play within circulation zones and lobbies.



# 1.1 Building Configuration

## Why it's important

In order to provide suitable housing choice for families with children in higher density neighbourhoods, special attention should be paid to accommodating their needs within apartment buildings. This will ensure that families with children can remain living in apartments throughout various life cycles, creating more diverse and sustainable compact neighbourhoods.

## How it can be done

A well designed apartment building can enhance the health and wellbeing of families with children by providing opportunities for outdoor play, social interactions between residents and enhanced lifestyle. Considering the everyday needs of families such as easy building access, direct outdoor space for play, and shared communal facilities will contribute to the healthy development of children and provide more inclusive and welcoming environments for all residents.



Image 8: Balconies and windows/external walkways should face play areas for passive supervision.

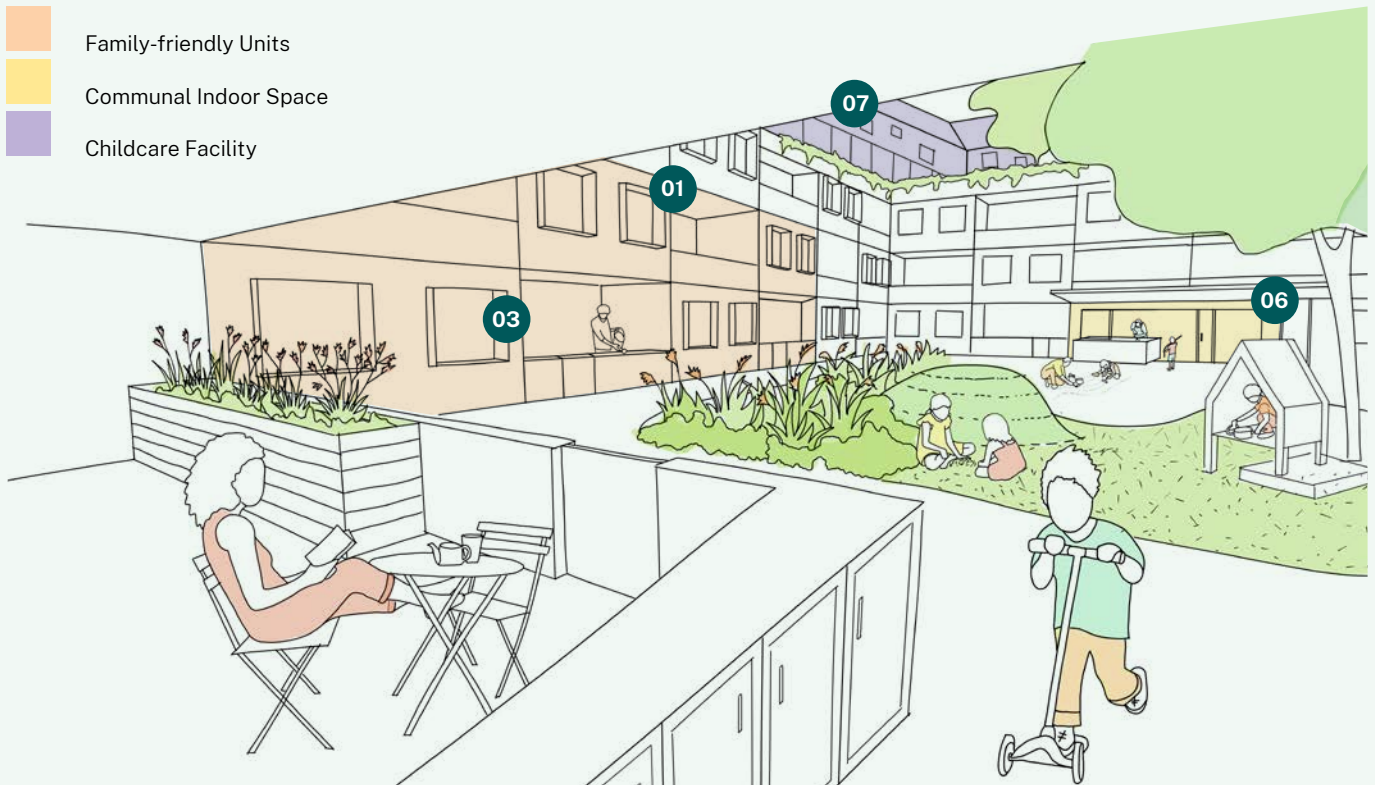


Image 10: Direct access from private yards to communal play space enables easy use and passive supervision.



Image 9: Integrate childcare facilities within an apartment complex to enhance liveability for families with small children.

- Family-friendly Units
- Communal Indoor Space
- Childcare Facility



### Key Design Guidelines

Apartment buildings should be configured to consider the everyday needs of families with children including the following considerations:

- 01** Provide a minimum of 25% of two-, three- and four-bedroom apartments as ‘family-friendly apartments’ to accommodate the needs of families with children. See section 1.2 for overall unit size and design elements of a ‘family friendly apartment’.
- 02** Consider achieving a higher ratio of two- and three-bedroom apartments in line with local context and housing needs. As an example, The Hills Shire Council provides an “incentivised” yield provision if the development achieved a minimum 40% of two-bedroom plus 20% of three-bedroom dwellings<sup>17</sup>.
- 03** Where possible, locate ‘family-friendly apartments’ on ground level, with direct access to outdoor space to enhance children’s opportunities for everyday outdoor play. Where direct access is not possible, ensure that ‘family-friendly apartments’ have visibility to communal outdoor space for passive supervision of playing children.
- 04** Consider grouping family-friendly apartments together to encourage social interaction and a sense of community between families with children.
- 05** Consider the movement of families with children between the home and carparking areas by co-locating family-friendly units close to lifts.

- 06** Provide flexible community rooms with direct access to outdoor space to encourage seamless transition between indoor and outdoor activities, as well as passive supervision of playing children. See section 1.4 for further design guidance on flexible community rooms.
- 07** Where contextually appropriate, encourage the integration of childcare facilities within the apartment complex, to provide convenient care arrangements to families. Consider shared-use arrangements for smaller daycare operators, where viable.

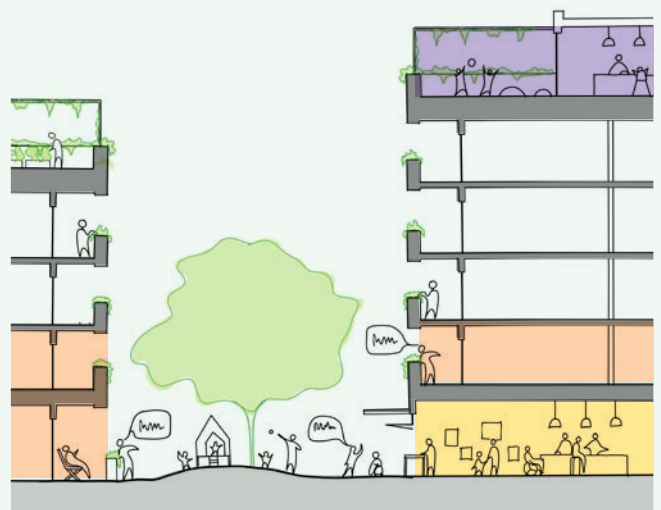


Diagram above: Diagram showing possible adjacencies between family-friendly apartments, outdoor space, communal indoor facilities and childcare facilities.



# 1.2 Family-friendly Apartment Layout

## Why it's important

A portion of larger units within any multi-unit development should be designed to address the specific needs of families with children. As families adjust to various stages of their child/ren's development, their apartment should respond to their changing needs.

Through good design, families will have the choice to remain living in an apartment through various stages in life, while at the same time ensuring the best possible health outcome for the child and parent/guardian.

## How it can be done

A well designed apartment layout can anticipate the everyday needs of a family with children. This includes considerations for adequate internal storage, child-safe balconies large enough for play and acoustic considerations. Implementing these features can contribute to parent's satisfaction of living in an apartment with young children.



Image 11: Consider the movement of families between living and sleeping spaces and the need for more generous circulations and storage areas.



Image 12: Design bedrooms to envision a variety of furniture arrangements including bunk-beds, toy storage and desks.

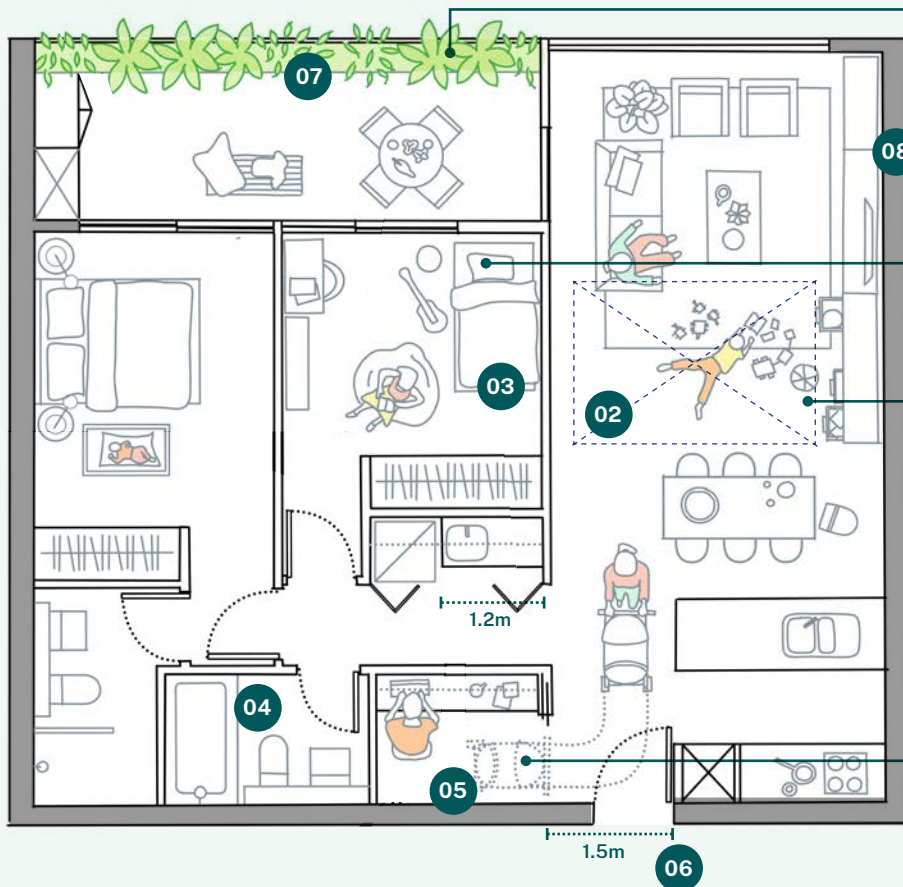
## Key Design Guidelines

Provide a minimum 25% of two-, three- and four-bedroom apartments as family-friendly apartments to include the following considerations:

- 01 Family-friendly apartments should be 10% larger than minimum *Apartment Design Guideline* (ADG) requirements as noted below:

Apartment Type	Minimum Internal Area (1 bathroom)	Minimum Internal Area (2 bathroom)
2 Bedrooms	70m2 (ADG min) 77m2 (Family-friendly min)	75m2 (ADG min) 82m2 (Family-friendly min)
3 Bedrooms	90m2 (ADG min) 99m2 (Family-friendly min)	95m2 (ADG min) 105m2 (Family-friendly min)

- 02 Living rooms should consider floor area for play (2m x 3m flexible play space) with visibility to the kitchen for passive supervision.
- 03 The size and layout of bedrooms should anticipate various configurations of children's furniture including two single beds/bunk beds, space for desks and space for play. A minimum bedroom size of 11sqm (not including in-built storage) is recommended for bedrooms with the assumption that two children may be sharing a bedroom.
- 04 Allow for sufficient space within laundries and bathrooms to anticipate everyday routines such as assisted bathing/dressing children and increased frequency of laundry use. A minimum 1.2m length bench space should be provided in the laundry. Additionally, when two bathrooms are provided, ensure one bathroom has a bathtub for bathing of children.



Balconies should be designed to eliminate any climbing hazards with additional glazed panels or louvres where appropriate.

Bedrooms should allow for a range of configurations including bunk-beds, space for study desks and play space

Space for play must be designed into the living room configuration.

Additional storage space should be allocated within the unit. This could either be distributed throughout or provided as a storage room for storing larger items such as prams, toys or outdoor gear. Opportunities for converting storage spaces into study/work nooks should also be considered.

- 05 Provide 10% additional storage provision to minimum ADG requirements within each family-friendly unit. Consider walk-in storage closets to accommodate the storage of items such as prams and larger toys. These should be at a minimum depth of 1.4m to allow for 0.45m deep shelving and 0.9m space in front of shelving. Storage cages/shelving nearby to carparking should also be considered for storage of seasonal items, outdoor toys and children's bikes/scooters.
- 06 Provide minimum hallway width of at least 1.5m wide to allow for manoeuvring of prams and dressing children. Provide additional structure within entry corridor walls to anticipate wall hooks and shelving.
- 07 Outdoor private space should ensure the safety of playing children by eliminating climbing hazards. Consider increasing the height of balustrades with additional glazed panels or louvred windows where appropriate. Balustrades should be designed to prevent finger entrapment and small items from falling. Integrate a tap and floor waste within courtyards/balconies to allow for outdoor water play, craft and gardening activities.
- 08 Consider increasing the sound insulation of apartment party walls, floors and ceiling to provide for greater acoustic comfort between units, as well as between bedrooms and living spaces within the unit. Additionally, avoid bedroom doors opening directly into living areas to allow acoustic comfort for caregivers while children are sleeping.
- 09 Consider unit flexibility over time, allowing for reconfiguration of non-load bearing walls for changing family needs.



Image 13: Consider the storage provision in "unused" spaces such as under stairs, low ceilings or raised floors.



Image 14: Design entry zones with consideration for needs such as pram storage, coat and shoe shelving and space to dress children.



# 1.3 Playable Outdoor Space

## Why it's important

Research has shown that parents living in apartments greatly desired an outdoor play space located in their building that was convenient, offered access to nature and a 'backyard' similar to what they had grown up with<sup>18</sup>. Outdoor play is essential to the development of children aiding in their physical, emotional, mental and social wellbeing<sup>19</sup>.

## How it can be done

The provision of a communal, outdoor space for apartment buildings is a consistent recommendation through the literature<sup>20</sup> and reinforced by parents in the CoP study<sup>21</sup>, addressing some of the physical, psychological and social needs of residents living in high density.<sup>22</sup>

Integrating designated playable space within communal shared areas ensures that children have direct access to play everyday in lieu of a traditional backyard. Incorporating elements such as playful objects, storage space and shade will make residents feel welcome to use the space for play.

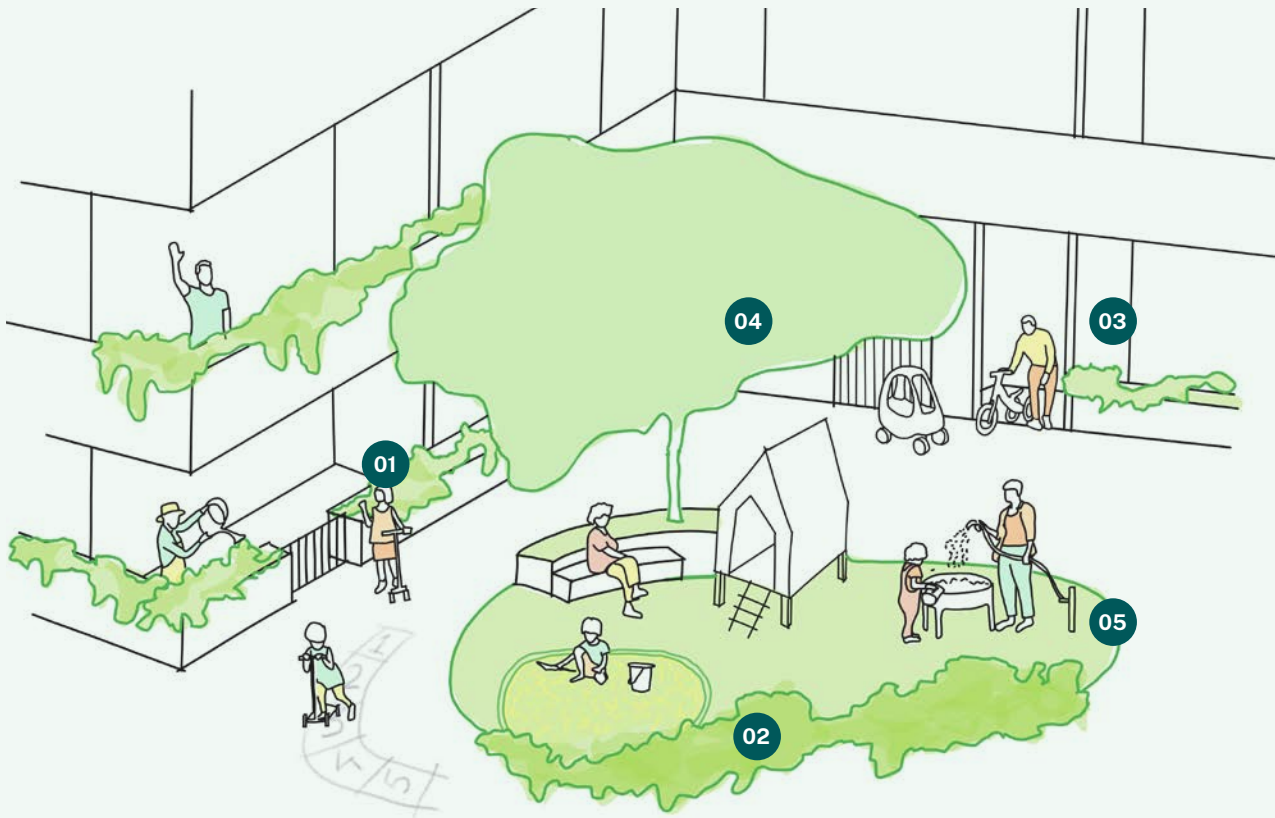


Image 15: Opportunities for imaginative play within communal outdoor space can welcome playful behaviours with the provision of elements such as cubby houses.



Image 16: Visual connection towards playful elements from private space, will ensure that children can play throughout the day with passive supervision.





### Key Design Guidelines

Integrate designated playable space within communal shared areas incorporating the following considerations:

- 01 Where family-friendly units are located adjacent to communal outdoor space, provide direct access (through a gate) to encourage children to easily move between private and communal spaces. Consider sight lines from private courtyards to maximise supervision of playing children, while also maintaining privacy.
- 02 Integrate playable elements within the outdoor space to welcome children and their families to use shared areas for play. Consider playable elements for various ages and abilities including;
  - Areas for toddler play with a focus on sensory experiences with water, sand and nature play.
  - Zones for primary school aged children and teenagers focusing on more active play opportunities such as scooters, play with loose toys or creative play.
  - Create opportunities for intergenerational play between children and adults including elderly residents.
- 03 Integrate shared outdoor storage for loose toys and equipment to enable self-directed play and provide residents with a sense of ownership of communal areas. Storage areas should be visible and easily accessible by children.
- 04 Consider the location of playable elements under trees or shading devices to ensure sufficient sun and UV protection throughout the summer months<sup>23</sup>.
- 05 Provide access to an outdoor tap to allow for water play and gardening activities, as well as wash-down of toys.



Image 17: Storage areas for gardening tools, toys and children's bikes should be easily accessible from communal outdoor space.



Image 18: Areas for play can be multi-use and encourage intergenerational play opportunities.



# 1.4 Flexible Community Rooms

## Why it's important

The CoP study has shown that parents valued social opportunities for their child/children and it was evident that a communal building space would help to facilitate and strengthen their own social connections in the community.

Flexible community rooms enable regular gathering of familiar children and parents and provides opportunities for organic friendships to form. Having stronger connections to other residents also contributes to feelings of safety and belonging.

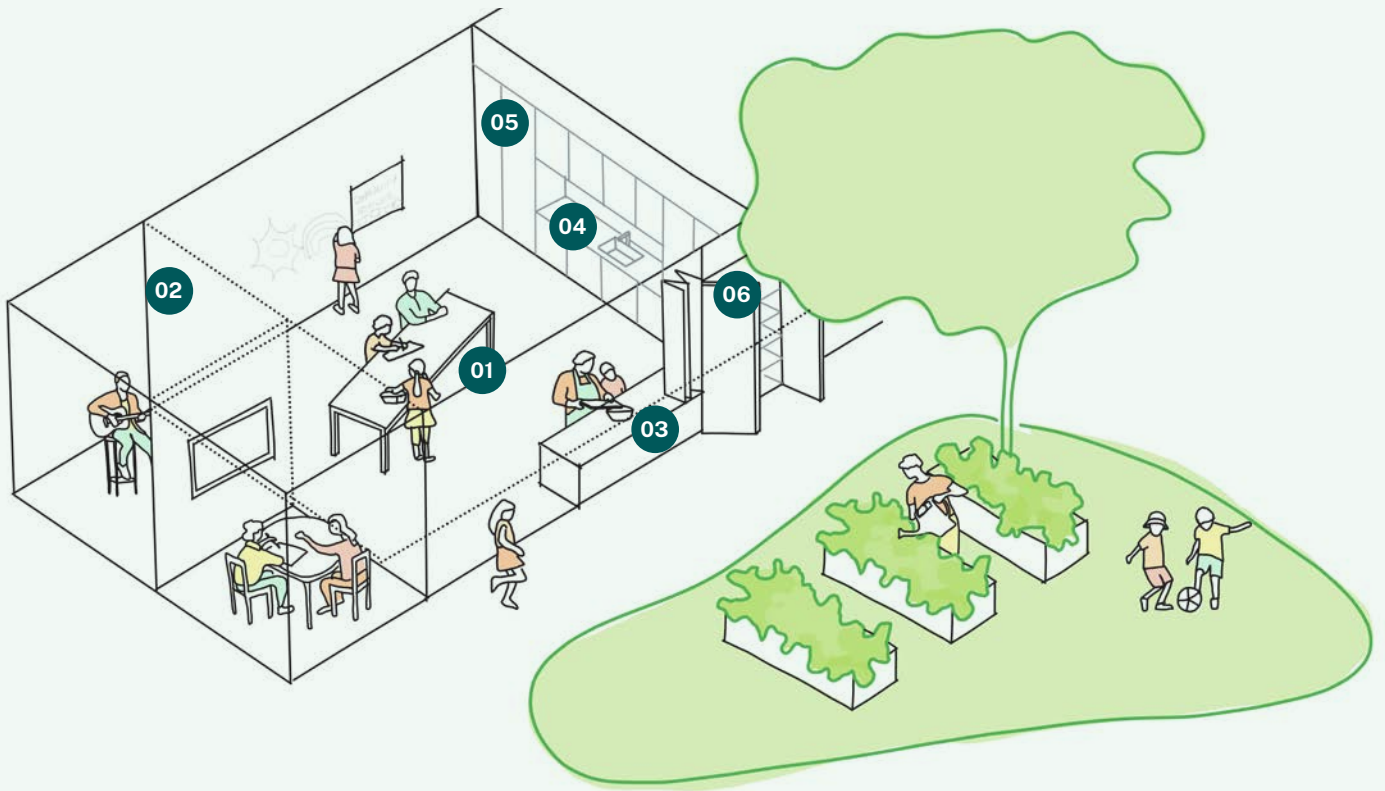
## How it can be done

Indoor communal rooms should be designed to create the opportunity to externalise activities from the home which require more space or acoustic separation including children's birthday parties, music practice or large craft projects. COVID-19 has also accelerated trends towards working from home which flexible community rooms can also support.



Images 19 and 20: Opportunities for a range of activities should be provided within flexible communal rooms including space for games, socialising or dining together.

Image 21: Smaller spaces which are acoustically sealed and enabled with technology (TV screen and power-points) can provide additional flexibility for residents working from home.



## Key Design Guidelines

Provide flexible community rooms within an apartment complex, incorporating the following considerations:

- 01 Provide flexible community rooms which can be used for a range of gathering and common activities. For smaller developments, a minimum sized room of 30sqm should be provided. For larger developments (over 10,000sqm) a total indoor communal area of 50sqm minimum should be provided.
- 02 Where possible, integrate smaller rooms and nooks adjacent to the large flexible space for activities requiring acoustic separation such as meetings, focus work, homework or music practice.
- 03 Provide direct access and visibility from the flexible community room to communal outdoor space, to ensure passive supervision of playing children and opportunities for activities to flow outdoors.
- 04 Integrate a small kitchenette with a sink to provide tea/coffee making facilities as well as enabling messy activities such as craft opportunities for all residents.
- 05 Ensure that storage space is provided within the flexible community rooms to enable storage of items such as craft equipment, loose toys and books.
- 06 Provide a canopy cover at the threshold to encourage indoor-outdoor connection and sun protection.
- 07 Where appropriate, a shared accessible toilet with the provision for baby change, should be provided adjacent to the flexible community room/communal outdoor space.



Image 22: Direct access from the flexible community room to outdoor space can enable supervision of playing children and easy transfer of toys and furniture outdoors.



Image 23: Integrated benches with access to an outdoor sink can encourage more messy activities (such as gardening or crafts) to easily shift from inside to outside spaces.



# 1.5 Social Lobbies and Circulation Zones

## Why it's important

Entrance lobbies and circulation zones were identified as important spaces which can support social interaction between residents, enabling neighbours to get to know one another and providing opportunities for children's play and socialisation<sup>24</sup>.

Similar to the function of a front yard within a detached dwelling, well designed lobby and circulation spaces can enhance liveability for families with children by supporting incidental neighbour interactions and play directly outside the home. This has a positive effect on overall resident wellbeing, enhancing children's social and emotional development, while providing opportunities for parents and caregivers to grow support networks.

## How it can be done

Through the integration of lounge furniture, notice boards and artwork, residents will feel connected to their neighbours, enhancing the sense of collective belonging. Additionally, allowing for the personalisation of entry zones outside each apartment unit, will enhance the sense of "home" and a feeling of collective belonging and safety.

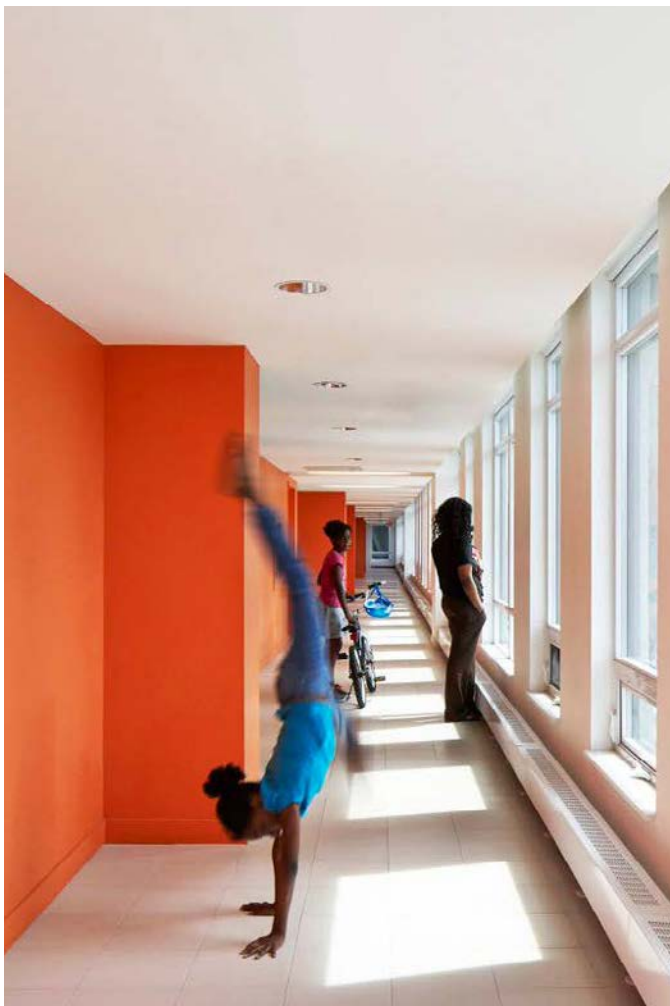
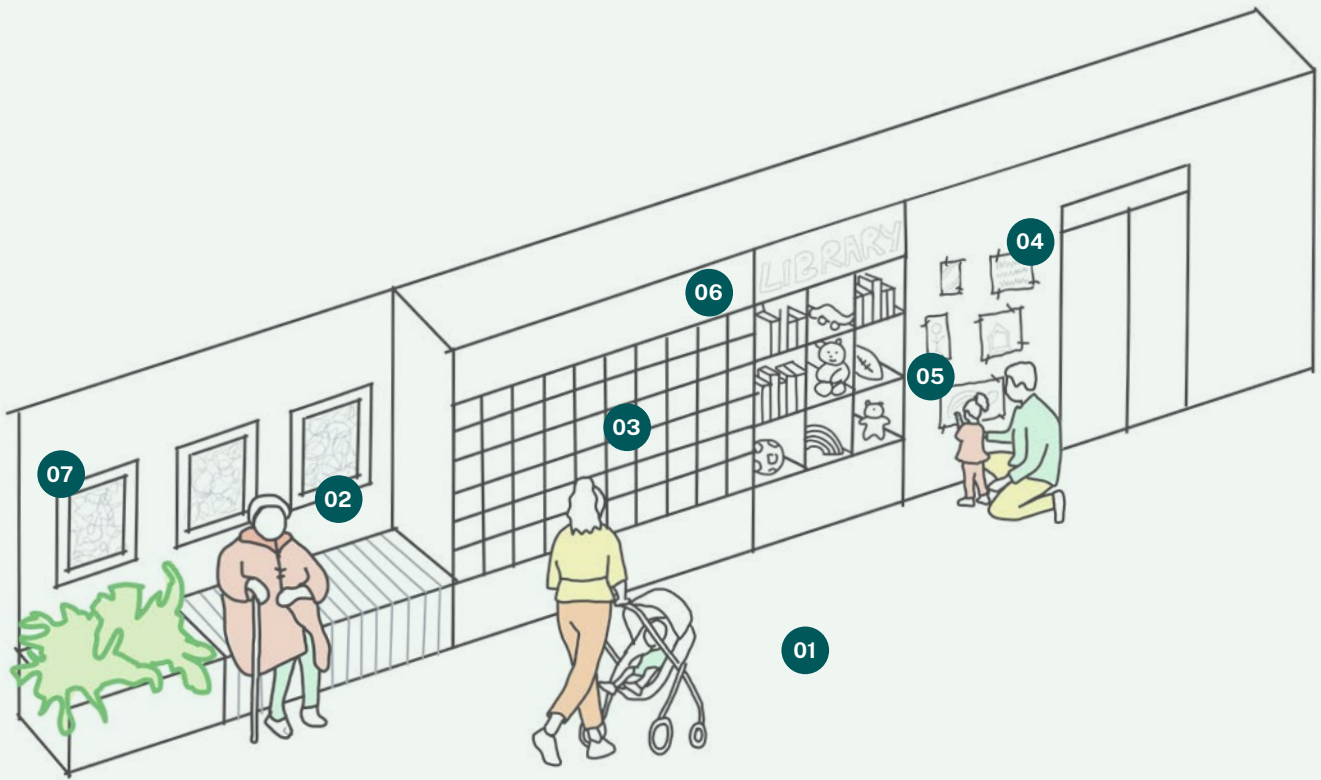


Image 24: Generously sized and well lit circulation zones can enhance opportunities for play and socialisation between residents.



Images 25 and 26: In-built or loose furniture within lobbies alongside space for pinning up artwork or notices can create a welcoming atmosphere and enable social exchange between residents.



### Key Design Guidelines

Design lobbies and circulation zones to support socialisation and play and function as an “indoor street” by incorporating the following considerations:

- 01 Ensure corridors and lobbies are generously sized with ample natural light and ventilation to create more enjoyable spaces for residents to use for socialising.
- 02 Create opportunities for residents to linger and socialise by integrating in-built seating or loose furniture within lobbies at entry level and scattered throughout the building at higher levels. Consider resident visual and acoustic privacy when locating areas intended for socialisation or play.
- 03 Consider using materials such as soft rugs or timber flooring in nominated social areas, which create a welcoming and homely atmosphere.
- 04 Provide zones for informal sharing of information to promote social exchange, such as community notice boards nearby to letterboxes or lifts.
- 05 Integrate elements which spark moments of play and joy, for example chalk walls, or interactive wall elements for children to engage with.
- 06 Consider space for exchange of toys and books in lobbies or common areas, to enhance community interaction and the feeling of “home” beyond the private dwelling.

- 07 Promote a sense of belonging by encouraging artworks created by residents or references to community history. Space for hanging children’s artwork can have a particularly positive effect on children’s wellbeing by creating feelings of pride and a sense of belonging.

- 08 Provide opportunities for residents to personalise their front door or entry space. This could be done by for example providing space for the display of artwork or pot plants or allowing residents to paint their door a colour of their choice.

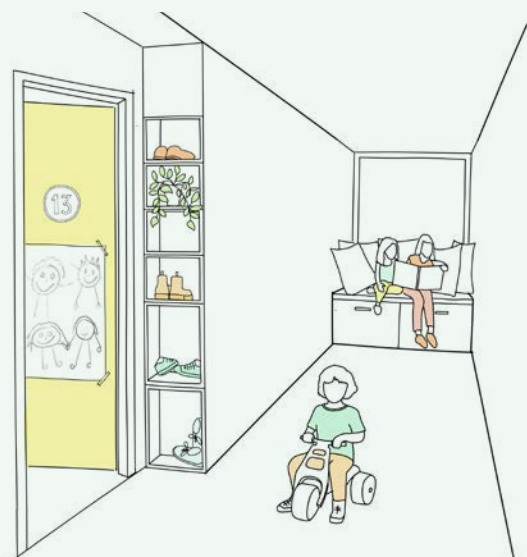


Image 27: Homely and welcoming circulation zones, with opportunities for personalisation, can provide residents with a sense of belonging to their building community.



PART 2

Child-friendly Design:

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# Neighbourhood Scale

# 2







## PART 2

# Child-friendly Design: Neighbourhood Scale

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### Introduction

Part 2 of this Design Guide focuses on incorporating the needs of children and caregivers within the public realm of higher density developments. The design considerations should be applied in conjunction with a holistic understanding of good urban design principles as outlined in documents such as the *Good Urban Design Guide*<sup>25</sup> published by the NSW Government Architect's office, Transport for NSW guidelines such as the *Walking Space Guide*<sup>26</sup>, as well as planning documents as outlined in local council Public Domain Guidelines.

### Why it's important

A well designed built environment can play a significant part in a child's life, by improving their physical, mental and emotional health<sup>27</sup>. A consideration of how children move through their local neighbourhoods and how they use the public realm for play and socialising can improve liveability for families with children. Aspects such as access to diverse play opportunities, safe active transport routes and social connections can all be enhanced through good design.

Additionally, designing urban environments which are welcoming to families with children within higher density developments, will encourage more families to consider living in more compact neighbourhoods which will in turn create more diverse and sustainable communities.

### Objectives:

- Plan for mixed-use developments where key services such as schools, childcare centres and shops are in close proximity to homes, work places and public transport.
- Provide good access to diverse and stimulating spaces for children to play and socialise within their neighbourhood. This includes access to natural and “wild” spaces for children to engage with.
- Support play opportunities to occur directly outside the home, including the provision of playable streets.
- Design urban environments which allow children (either independently or with caregivers) to easily and safely move around a neighbourhood.
- Provide welcoming and safe environments for carers within the urban realm.



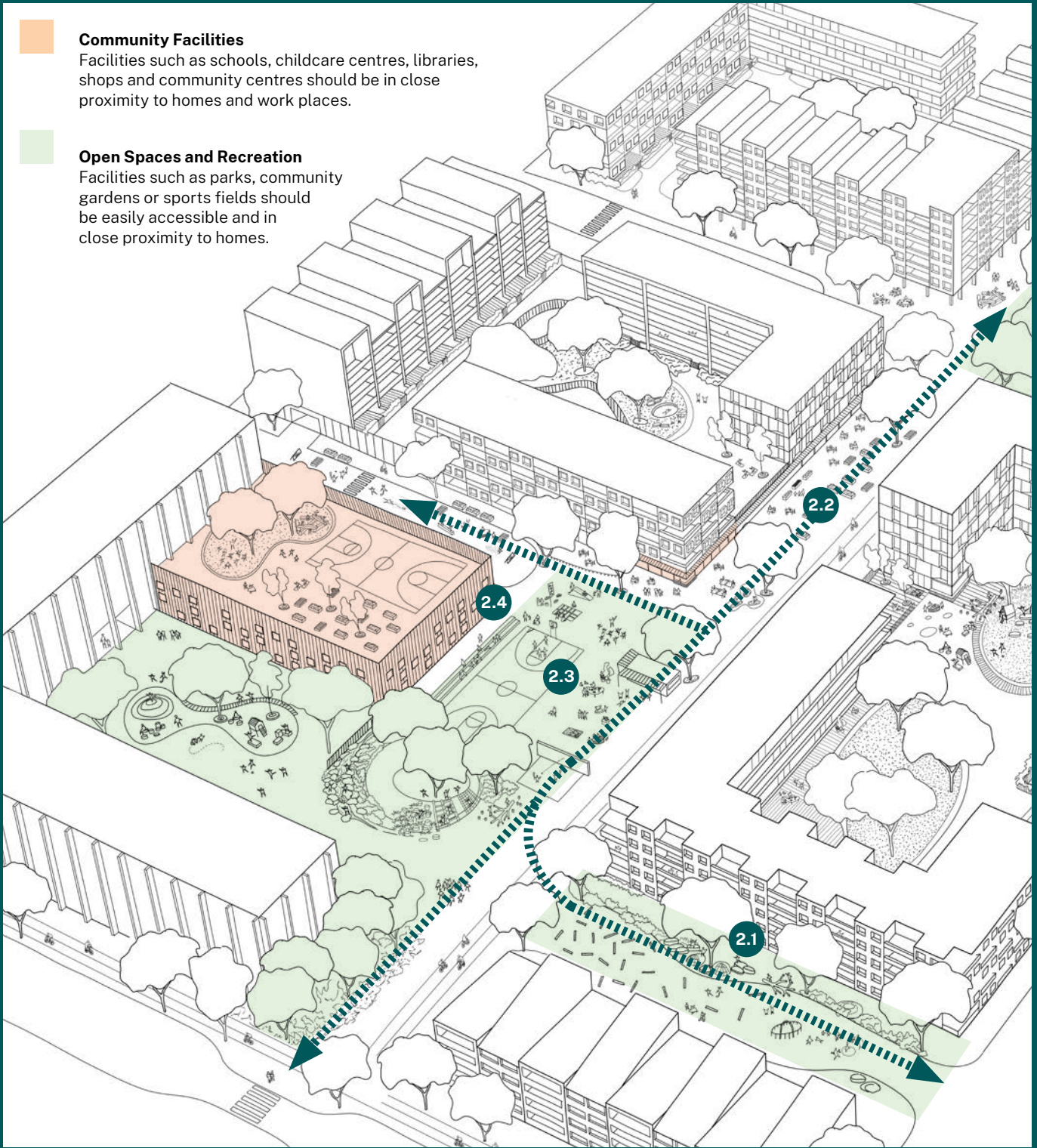
### Community Facilities

Facilities such as schools, childcare centres, libraries, shops and community centres should be in close proximity to homes and work places.



### Open Spaces and Recreation

Facilities such as parks, community gardens or sports fields should be easily accessible and in close proximity to homes.



## Neighbourhood Scale Design Considerations

2.1

### Playable Local Streets

Local streets, adjacent to apartment buildings, should be designed to enable play to occur directly outside the home.

2.2

### Child-friendly Travel Routes

Designated streets, which connect facilities frequented by families, should be designed to accommodate safe active travel.

2.3

### Diverse Play Opportunities

A range of various play destinations should be provided within a neighbourhood.

2.4

### Infrastructure for Caregivers

Facilities for caregivers should be integrated throughout the urban realm providing safe and welcoming spaces.



# 2.1 Playable Local Streets

## Why it's important

In order for children to develop into healthy and happy adults, it is critical for them to play every day<sup>28</sup>. In higher-density neighbourhoods, often families with children do not have a private outdoor space suitable for play and so public space directly outside their building can allow for play to happen easily and frequently.

Playing directly outside the home allows friendships to develop for both children and parents, increasing community cohesion and belonging. It also allows children to play near home where they don't need to rely on adults to take them anywhere, which in turn increases the frequency of play.

## How it can be done

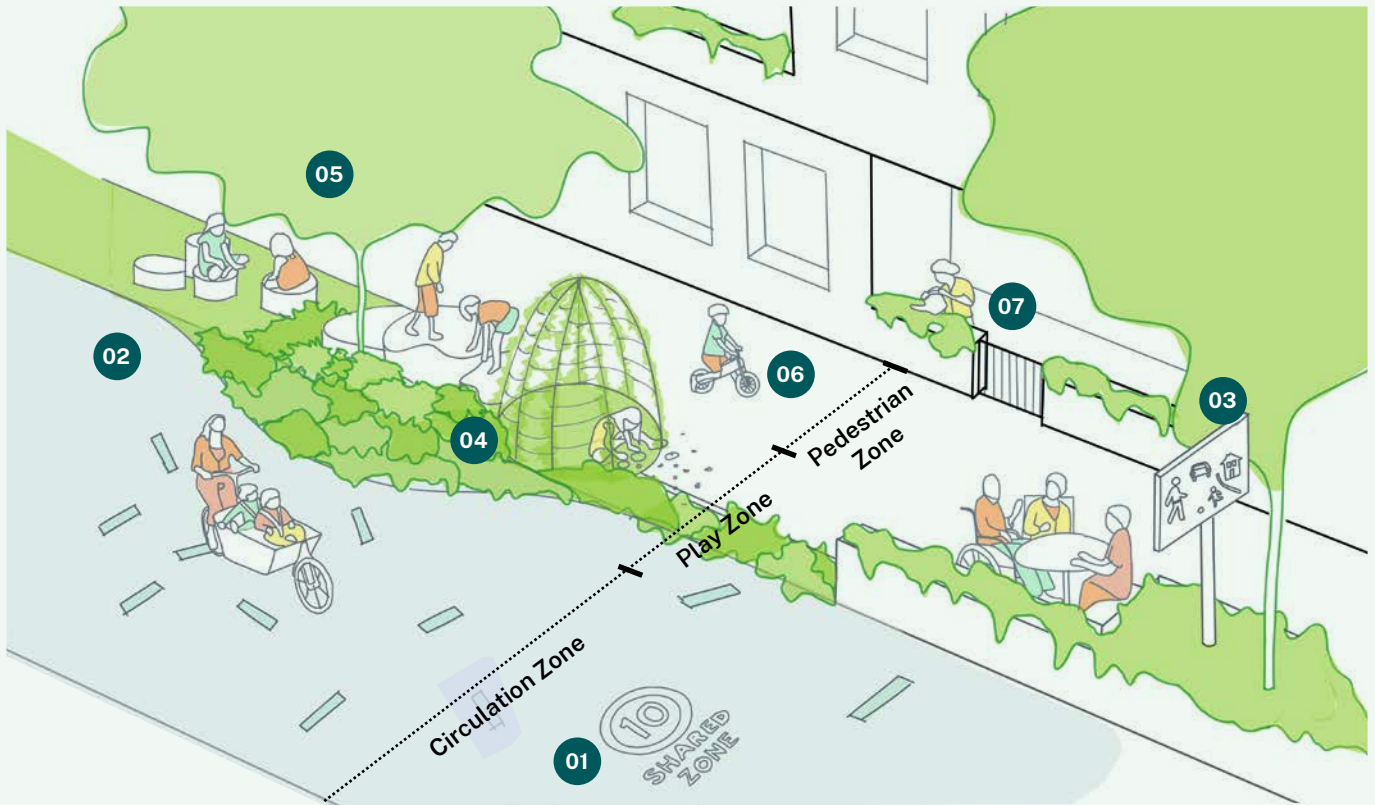
Selected local streets should be designed to encourage outdoor play and socialisation. This can be done through traffic calming measures, signage designating 'Play Streets', graphics on the ground and playful elements which encourage active and passive play. By ensuring that play is prioritised over the movement of vehicles, we can create safer and more social streets for all to enjoy.



Image 29: Clear signage at both ends of the street signals the intention of the street used for play and socialisation.



Images 30 and 31: Playable elements signal to the community the use of the street for play.



### Key Design Guidelines

Designate suitable low-traffic (below 100 vehicles per hour) streets as Playable Local Streets. These designated streets should be designed as per the NSW Shared Zone<sup>29</sup> requirements with additional elements which consider specific play needs of children, including the following design considerations;

- 01 Implement traffic calming measures such as speed bumps, road indentations or narrow vehicle carriageway (<5.5m or 4m for one way). A maximum speed limit of 10km/hr should be enforced. Where suitable, restrict traffic to emergency-only vehicles through collapsible bollards.
- 02 Provide level paving materials across the width of the street and flush kerbs, to signal the shared use of the street and encourage drivers to slow down.
- 03 Create signage which clearly designates the street as a Playable Local Street at both ends of the street. This can be enhanced with graphics painted on the ground and detectable changes in surface texture and colour to distinguish it from a conventional street.
- 04 Integrate “play zones” alongside the street by including play structures and street furniture such as hammocks, cubby houses or nature play elements. Ensure that play elements are low in height to increase visibility of playing children. Separate “play zones” from vehicles by providing planters or natural barriers on the edges.

- 05 Plant ample trees and greenery for shading, particularly under playing and resting spaces.
- 06 Consider space for exchange of toys and books in lobbies or common areas, to enhance community interaction and the feeling of “home” beyond the private dwelling.
- 07 Promote a sense of belonging by encouraging artworks created by residents or references to community history. Space for hanging children’s artwork can have a particularly positive effect on children’s wellbeing by creating feelings of pride and a sense of belonging.
- 08 Provide opportunities for residents to personalise their front door or entry space. This could be done by for example providing space for the display of artwork or pot plants or allowing residents to paint their door a colour of their choice.



Image 32: Playable elements with direct access and visibility to adjacent residences.



## 2.1 Child-friendly Travel Routes

### Why it's important

Opportunities for walking, riding or scooting to school and other child-oriented facilities is an important element of child-friendly design. Studies show that children's active travel promotes health benefits including physical development, improved concentration, positive self-esteem, increased independence and a positive connection to community<sup>30</sup>. Additionally, children's active travel helps reduce emission, traffic congestion and pollution levels around schools. The importance of children's active transport is recognised as a key ambition of the *NSW Active Transport Strategy*<sup>31</sup> which aims to double the number of children walking or cycling to school.

### How it can be done

Through good design, new developments should consider networks of child-oriented facilities such as schools, child care centres and playgrounds.

Routes connecting these destinations are designed to promote safe walking and cycling for children. Traffic calming strategies, signage, graphics and playful elements can be implemented along designated routes to enable more playful and safe routes for children and caregivers.



Images 33, 34, 35: An integration of permanent, temporary and operable signage along designated routes for children, can enhance wayfinding to and community awareness.



## Key Design Guidelines

Child-Friendly Travel Routes should be established within a neighbourhood to connect key destinations that are frequented by children such as schools, child-care centres, libraries or playgrounds. These designated routes should consider the following design elements:

- 01 Implement traffic calming measures along roads which prioritise children. This should include lower speed limits, improved pedestrian crossings and limited vehicle access. Consider existing cycleways and walk-to-school programs along designated routes.
- 02 Provide consistent signage to identify journeys for children and provide awareness to the community of designated routes.
- 03 Ensure comfort for caregivers by creating accessible and obstacle-free paths for easy movement of prams. Provide shaded space for rest for both children and caregivers along routes.
- 04 Incorporate play and learning opportunities to further encourage children's active mobility. This might include painted graphics with games, engaging artwork or signage which aims to improve children's ecological and historical literacy. Ensure that spaces encouraging rest and play are separated from traffic through landscape buffers and have sufficient width to prevent obstruction of pedestrian circulation.
- 05 Design opportunities for temporary street closures particularly around schools during drop-off and pick-up times. This can be done through temporary balustrades or movable gates.
- 06 Consider passive supervision by designating routes along active frontages including shops and public facilities. Extend the street experience into adjacent spaces with setbacks.



Images 36 and 37: Playful elements integrated along routes which are used frequently by children can promote active mobility and social connection.



## 2.3 Diverse Play Opportunities

### Why it's important

Children require a diverse range of opportunities for play within their neighbourhood to support their healthy physical, mental and social development. Research overwhelmingly shows the benefits of play to children's health including emotional regulation, creativity, problem solving, sense of self sufficiency, confidence and attachment to place and community<sup>32</sup>. By providing a diverse tapestry of play environments, children will have richer opportunities to develop social, physical and emotional skills.

### How it can be done

A network of diverse play opportunities should be established within every local development, which enables children to engage in various types of play. This means looking beyond standard fixed play equipment and including diverse play environments such as nature play<sup>33</sup>, staffed adventure play<sup>34</sup>, loose-parts play<sup>35</sup> and play streets<sup>36</sup>.



Image 38: Opportunities for children to engage with natural materials such as water and sand can provide an open-ended and sensory element to play.



Images 39 and 40: Staffed adventure playgrounds provide opportunities for children to engage in diverse play behaviours which are enabled by the playworkers and the loose play objects.



- Child-oriented Public Facilities (such as schools and childcare centres)
- Public Outdoor Spaces
- Children's Travel Routes

**Diagram 2** (left): A Neighbourhood Play Map showing a range of play opportunities distributed evenly across a neighbourhood. Play opportunities are connected with Children's Travel Routes to enable safe active transport between facilities.

**Diagram 3** (below): Diverse Play Opportunities which encourage different types of play.

## Key Design Guidelines

Diverse Play Opportunities should be mapped within a local neighbourhood with the following considerations:

- 01** Ensure that diverse play opportunities are mapped throughout the neighbourhood within an easy walking radius to all homes. Refer to Diagram 2 above. Provide higher concentrations of play opportunities where residential densities are higher.
- 02** Consider larger play spaces adjacent to facilities which are frequented by children such as schools, child-care centres, libraries, swimming pools or larger open spaces.
- 03** Encourage active travel by linking all play opportunities with Child-friendly Travel Routes (refer to section 2.2). Consider how existing public transport routes and bike paths connect into the network.
- 04** Consider diverse play opportunities which encourage children to engage in a range of play types (see Diagram 3). This might include the provision for spaces such as:
  - Nature Play<sup>31</sup>
  - Staffed Adventure Play<sup>32</sup>
  - Play Streets<sup>34</sup>
- 05** Integrate play opportunities for various stages of childhood development, gender<sup>37</sup> and abilities<sup>38</sup>. Consider intergenerational play between children and adults (including the elderly), as well as “hang out” spaces for teenagers.
- 06** Establish types and locations of play opportunities through a co-creation process (refer to ‘Designing with Children and Young People on page 42). Ensure ongoing consultation, by for example, establishing a neighbourhood play committee.





## 2.4 Infrastructure for Caregivers

### Why it's important

Designing public spaces which consider the needs and daily journeys of adults who take care of children is a critical component of creating a child-friendly city. Addressing the needs of caregivers in public spaces can positively impact their health and wellbeing by providing safe, welcoming and social environments which in turn will make their role as caregiver more enjoyable and rewarding.

### How it can be done

Public spaces should support the act of care giving by providing spaces which consider the specific needs of the adults who take care of children, including pregnant women and grandparents. Providing spaces which consider everyday needs such as feeding and nursing babies, resting with a child, changing and washing young children and manoeuvring prams can significantly enhance an experience of public space by caregivers. Additionally infrastructure which support social opportunities for caregivers is critical in enabling social connection and mental health.



Image 41: Nursing rooms should consider spaces for changing, feeding and nursing small children.

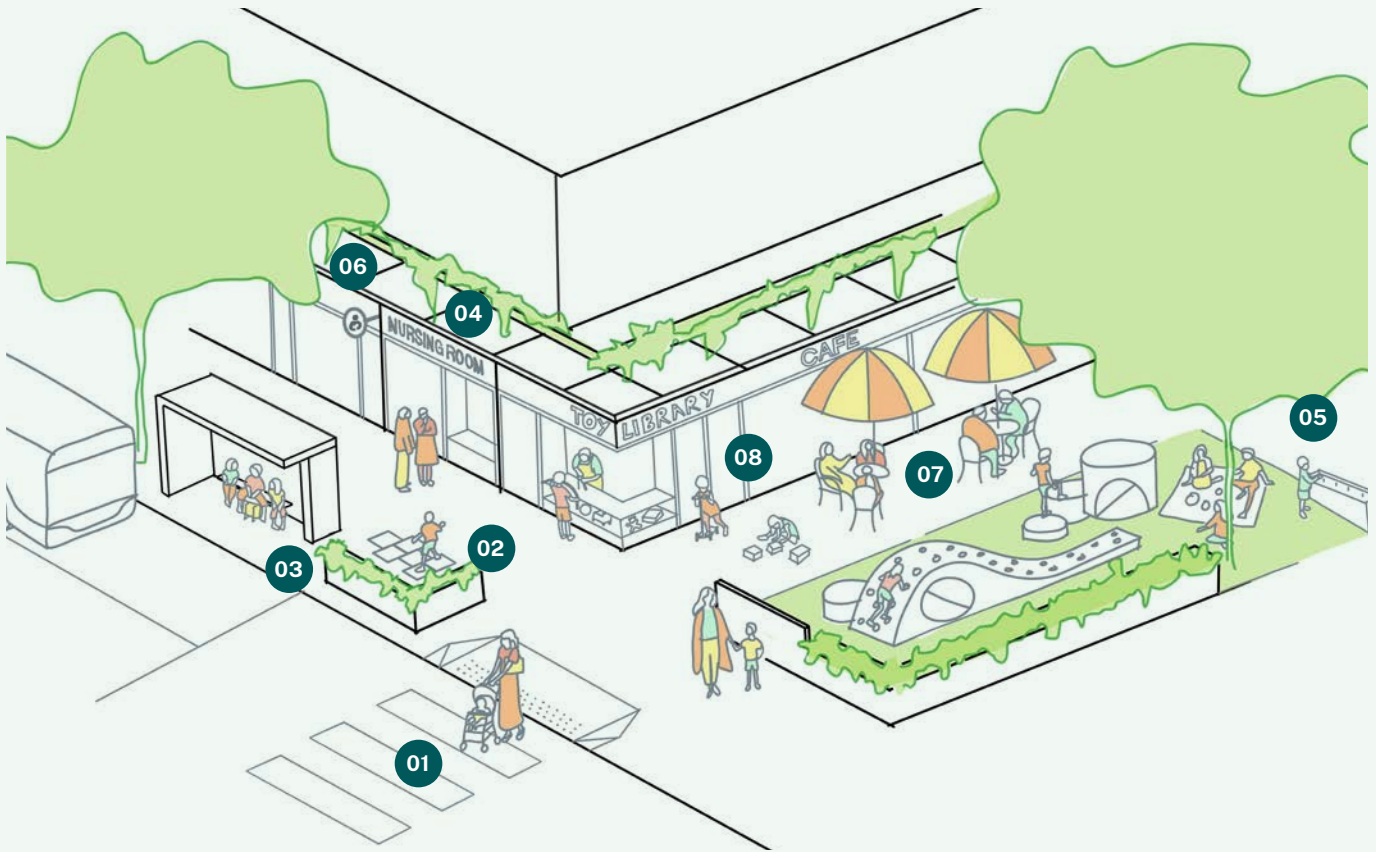


Images 42 and 43: Consider how children drink water and wash-up for independent use within public spaces.

### Key Design Guidelines

Ensure that public spaces and infrastructure supports the needs of caregivers including the following considerations:

- 01 Consider the everyday movements of caregivers, which often includes multiple stops within one journey (sometimes referred to as 'trip chaining'). This might include traveling home from work by stopping at the primary school to collect one child, followed by child-care to collect another, followed by the grocery store and playground. Improve access by co-locating facilities such as playgrounds, shops and daycare facilities, alongside the provision of safe, active transport options.
- 02 Design safe and welcoming spaces for caregivers to pause and rest within an urban street. Ensure that these spaces are separated from heavy traffic, shaded and well-lit at night. Incorporate moments of play nearby to rest spaces, particularly when located nearby to transit stops where caregivers are likely to be waiting for longer periods with children.
- 03 Ensure that sufficient space for manoeuvring prams is provided within urban streets, particularly around transit zones and child-focused public facilities. Provide accessible pram-friendly surfaces to areas frequented by children such as toilets and drinking fountains.
- 04 Integrate nursing rooms within public facilities which enable caregivers to safely change, feed and nurse a small child. Include private spaces for breastfeeding and facilities to warm up food.



**05** Provide drinking fountains and water taps which can be independently accessed by a young child for both drinking and washing up. Ensure that these are co-located with other facilities frequently used by children such as playgrounds.

**06** Ensure that public toilets consider the needs of caregivers with small children, including provisions such as child-height hand-wash basins, child-sized toilets and baby carriers. In areas frequently used by children (such as playgrounds), ensure that toilets are in close proximity and with clear visibility.

**07** Where children are likely to gather, consider spaces for parents to socialise and get to know one another which are welcoming to all. This might include locating a play-space adjacent to a cafe, community room or parents' room. Staffed adventure play spaces<sup>39</sup> often include amenities for caregivers such as tea making and cooking facilities which can greatly enhance their use as social hubs for caregivers.

**08** Consider opportunities for intergenerational play between children and adults (including older adults such as grandparents). This could include the provision of exercise equipment, challenging games or puzzles, recreational gardening or a maker-space alongside spaces designed for children. This will provide caregivers the opportunity to socialise and exercise while their child is playing.



Image 44: Providing comfortable furniture alongside play spaces allows for caregivers to socialise while supervising younger children.



Image 45: Social spaces for parents and caregivers allow for meaningful connections and networks to be formed.



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# Next Steps







# Designing with Children and Young People

Children can provide invaluable insight and creative solutions during the planning and designing stages for higher density developments. The process of co-designing with children can increase their sense of connection to other people, while also supporting their social and cognitive development<sup>40</sup>.

Engagement should occur in purposeful and respectful ways, enabling children to have genuine decision-making powers within the process. This is done firstly by ensuring that the adult-child power balance allows for equal representation of the child's voice, with shared decision making throughout the design process. And secondly, by ensuring that engagement is on-going, starting at masterplanning phase and continuing all the way through to post-occupancy.

Engaging children in a genuine co-creation process will ensure that design considerations meet their needs and are sustainable long term. It will also provide children with a collective sense of belonging and responsibility for spaces within their community.

Decision makers who engage in children's participation will be able to make better informed choices, leading to better outcomes for all.

## How it can be done

Indoor communal rooms should be designed to create the opportunity to externalise activities from the home which require more space or acoustic separation including children's birthday parties, music practice or large craft projects. COVID-19 has also accelerated trends towards working from home which flexible community rooms can also support.

## Design

- A co-design process will have the best outcomes if initiated in the early planning and design stages. Co-designing with children and young people means also engaging their caregivers, siblings, educators and other important members of the child's networks.
- Engagement with children and young people can be achieved through multiple methods including group discussion, interviewing, observation, participatory mapping, visioning play, and construction modelling.



Image 47: Children engaging in a co-creation process on a new master-plan development.

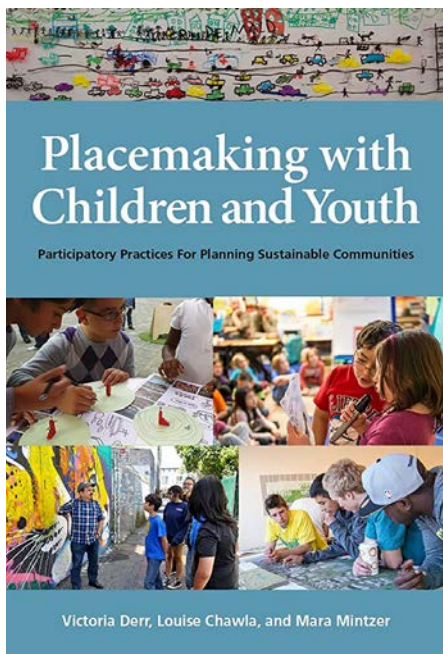
- Ensure that engagement will consult with children and young people of various ages, abilities and cultural and economic backgrounds.
- Provide an ongoing consultation framework to guarantee that feedback is carried through.

**Planning Decisions**

- Local councils and state governments should provide a formal framework for children and young people to share concerns and opinions about planning decisions in their city or neighbourhood. This could take shape in the form of a ‘Youth Council’ which provides young people with the opportunity to input into future planning and policies.

Refer to the sample documents below for further research and best-practice exemplars of engaging with children and youth in city design.

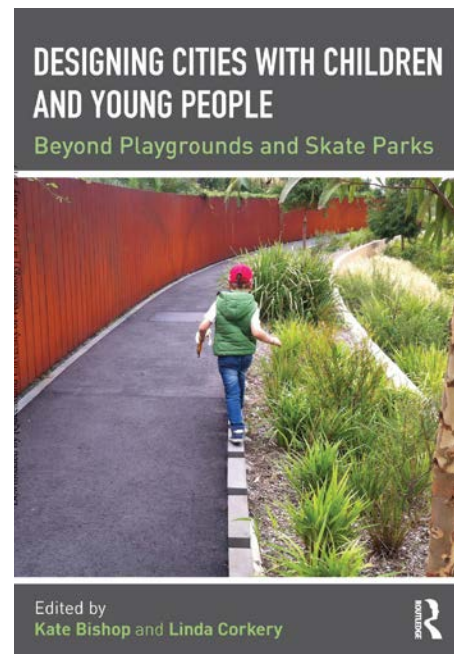
“Meaningful community engagement is the only way to ensure that the voices of vulnerable populations are considered in the city building process. This is especially important for citizens below the legal voting age who have no other means of shaping the world around them.”<sup>41</sup>



Placemaking with Children and Youth: Participatory Practices for Planning Sustainable Communities. By Victoria Derr, Louise Chawla, Mara Mintzer. 2018



Building Better Cities with Young Children and Families: How to engage our youngest citizens and families in city building. By 8 80 Cities. 2019



Designing Cities with Children and Young People: Beyond Playground and Skate Parks. By Kate Bishop and Linda Corkery. 2017



# Next Steps

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This is the first guide of its kind for any Australian city and requires strong governance and leadership to ensure future high density developments reflect these best practice design considerations.

The Healthy Higher Density Living for Families with Children: Design Guide is the responsibility of local and state governments, alongside developers and designers working together. Without strong governance and leadership across industry and government, the needs of children and their carers may continue to be overlooked.

## How can it be done?

### Design

- The principles and design guidelines outlined in this document should be used by developers and design professionals when designing new apartment complexes and master-planned residential communities.
- Design Excellence Review Panels and Design Awards for multi-residential developments should assess if the principles outlined in this document have been considered as a design consideration when assessing Design Excellence.
- A co-design process which engages with children and their families in building and precinct design should be a priority at early planning stages.

### Planning Decisions

- Consent authorities should refer to this document when assessing multi-residential development applications to ensure that the needs of families with children have been considered.
- Training should be delivered to consent authority management, so that officers recognise child-friendly design principles at every scale of the planning process.
- Consent authorities should monitor whether the principles and guidelines within this document are being successfully implemented within the building and neighbourhood scale.

### Update to Planning

- This document should be used to inform new planning frameworks and changes to the planning system via amending Development Control Plans
- (DCPs) and/or other regulatory mechanisms.
- Amendments to existing state-based apartment design guidelines which address needs at a building/ apartment scale, should be considered alongside supplementary policies addressing needs at a neighbourhood-scale.

### Building Management

- Training should be provided to building managers and property boards on the importance of family-friendly building design and management.
- Strata by-laws and residential management procedures should include family-friendly principles, to ensure any design initiatives are able to be used as intended. By-laws should not restrict or ban the design considerations outlined in this document.
- A building's family-friendly status should be clear to incoming tenants and prospective buyers.

### Conclusions

To achieve sustainable increases to population density and create vibrant, walkable and well-connected communities, apartment living must be re-envisioned as a desirable housing choice for all stages in life, including raising children.

For this to be realised, the needs of families with children must be prioritised in the design and planning of future high density neighbourhoods and buildings. This will have numerous positive impacts to the future viability of our urban cities, ensuring a successful transition to a more compact and sustainable urban future.







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# Appendix







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12	20	Childrens Room with Bunk Bed	Room & Board	Room & Board
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19	24	The XI Condominium Development, New York, USA	Bjarke Ingels	The XI Condominium
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26	26	Urby Harrison by Concrete, Amsterdam, Netherlands	Concrete	Ewout Huibers for Concrete
27	27	Drawing of a Social Corridor	n/a	Natalia Krysiak
28	29	Mellemrummet Park, Copenhagen, Denmark	BOGL	Anne-Sophie Rosenvinge
29	32	Play Street, Kings Crescent, Hackney, UK	Muf Architecture/Art	Katja Stille
30	32	Play Street, Kings Crescent, Hackney, UK	Muf Architecture/Art	Lewis Ronald
31	32	Local Street in Amsterdam, Netherlands	n/a	Melissa and Chris Bruntlett
32	33	Drawing of Playable Street	n/a	Natalia Krysiak
33	34	"Home Zone in Freiburg, Germany	n/a	Harry Schiffer
34	34	School Street in Lyon, France	n/a	Catherine Lagrange
35	34	Drawing of a Child-friendly Travel Route	n/a	Natalia Krysiak
36	35	Happy Lane, San Francisco, USA	KABOOM!	KABOOM!
37	35	South Gardens Public Realm, London, UK	Gillespies	Will Wiesner
38	36	Matron Ruby Grant Park Playground, Zetland, Australia	Sprout Landscape Architecture	Architecture & Design
39	36	Legepladsen Øselsgade', Staffed Playyard, Copenhagen, Denmark	n/a	Legeplads Øselsgade
40	36	Skidders Adventure Playground, Victoria, Australia	n/a	Ethan Kent
41	38	Mount Pleasant Shopping Centre, Family Room, Queensland, Australia	Evolve	Evolve
42	38	The White House Tai Tam, Montessori School for children, Hong Kong	n/a	The White House Tai Tam
43	38	Woodlands Drinking Fountain	Woodlands	Woodlands
44	39	Legepladsen Øselsgade', Staffed Playyard, Copenhagen, Denmark	n/a	Legeplads Øselsgade
45	39	Matron Ruby Grant Park Playground, Zetland, Australia	Sprout Landscape Architecture	n/a
46	41	Elephant Park, Elephant and Castle, London, UK	Gillespies	John Sturrock
47	42	Children's workshop with Hayball	n/a	Hayball
48	45	Play Street, Kings Crescent, Hackney, UK	Muf Architecture/ Art	Lewis Ronald
49	47	LUDOBUS Toy Library, Geneva, Switzerland	n/a	Ville de Geneva
50	51	Mellemrummet Park, Copenhagen, Denmark	BOGL	Anne-Sophie Rosenvinge
51	52	Play Street, Kings Crescent, Hackney, UK	Muf Architecture/ Art	Lewis Ronald



# References

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## Endnotes

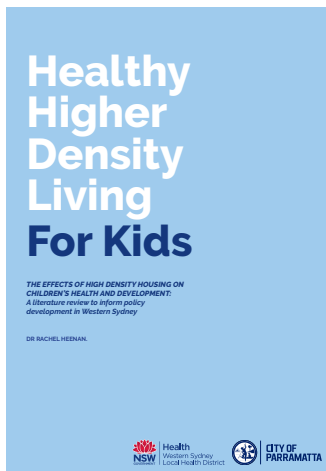
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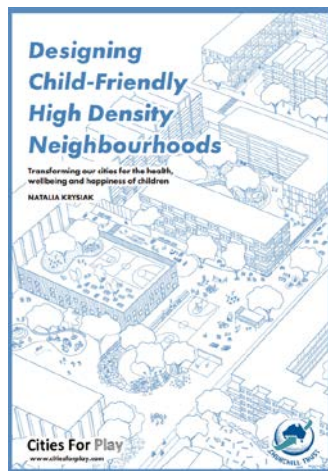




# Further Reading



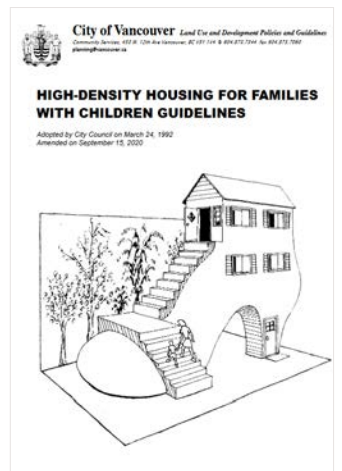
Healthy Higher Density Living for Kids. Western Sydney Local Health District, 2018



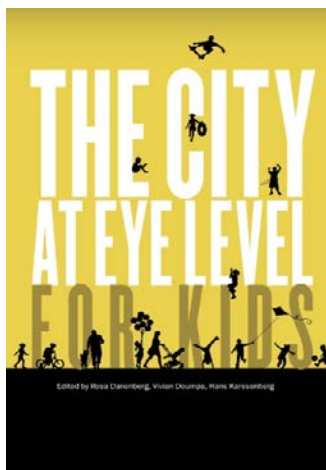
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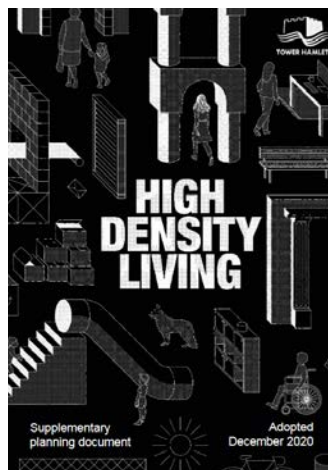
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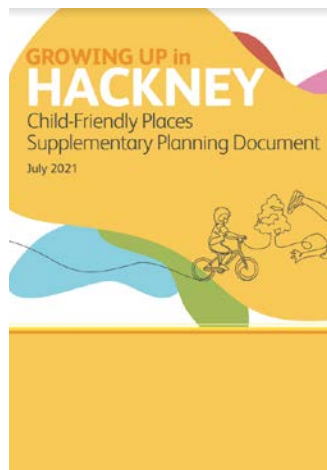
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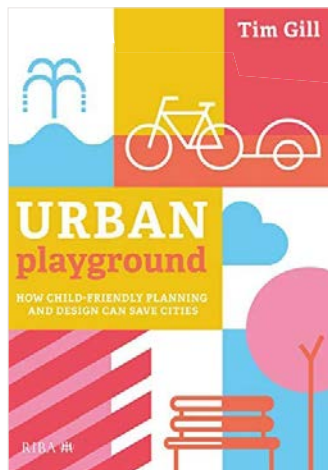
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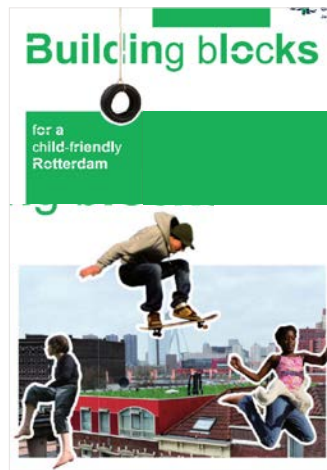
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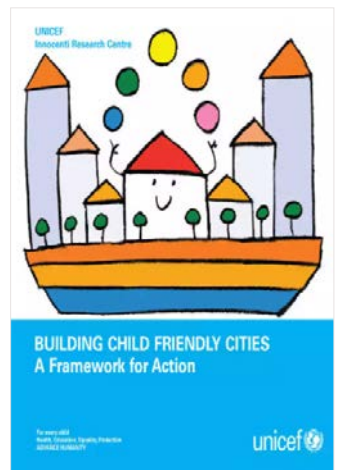
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Building Blocks for a Child-Friendly Rotterdam, 2010



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Scan the QR code to complete a short survey on what you think about the draft Design Guide.

## Get in touch

Email your comments to:

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