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DESIGNING NEIGHBOURHOODS FOR CHILDREN:

Case Study - Hobsonville Point,
Auckland

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Shaping Places: Future Neighbourhoods



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Executive Summary

Children are at the heart of this research. To evaluate the opportunities for independent mobility and play within residential areas, we observed, documented and analysed the access to and the design of different open spaces as places for children to play where they can experience and learn about co-operation, creativity, freedom, and joy and gain deeper knowledge about themselves and the world.

This report provides an examination and analysis of the design of the built environment of 6 study areas in the recently developed suburb of Hobsonville Point, located in the north-west of Auckland. The analysis contributes to the discussion of the quality of design and safety of outdoor public spaces for children who live in those neighbourhoods.

Report:

The study focus is on the relationship between open spaces and the built environment within the residential area. A methodological approach developed by Dinah Bornat (2016) is used. Bornat's research, on "Housing DesignforCommunityLife", investigated how residents used external spaces in 10 new residential developments in England. The researchers undertook observations of the type, duration and location of resident activities at different times and in different

sections within the study areas. These observations supported analysis of the quality of the built environment and the relationship between buildings and open spaces. The analysis included the production of four maps for each case study assessing:

- 1. Street-entrance relationship
- 2. Open space accessibility
- 3. Networks
- 4. Access from the surrounding houses

A similar research methodology is used in analysing six case study areas at Hobsonville Point. This report illustrates the application of this methodology; and discusses whether the design of the built environment and open spaces has provided safe places for children to move independently through their local neighbourhood and access opportunities for external play.

Findings:

Children's independent mobility is more likely to be granted where there is a strong sense of community, and where risks of accidents from moving vehicles are minimised.

Community can be fostered with physical design elements that encourage social interaction. Keeping parked cars from blocking footpaths and ensuring safe routes in areas otherwise dominated by reversing vehicles are critical factors.

- 1. Children tend to use outdoor open spaces within neighbourhoods more and for a greater duration if the spaces are safely accessible, well-connected and well-equipped.
- 2. Connected and safe neighbourhood open spaces (including the journey to / from the park) can be places of social interaction.
- 3. Amenities in open spaces can enhance and diversify the types of activities undertaken by both children and adults.
- 4. A comprehensive approach to ensuring safe accessibility for walking children - the location, size and amenities of neighbourhood parks can significantly increase their desirability.



Chapter 1: Introduction

This report is part of a research programme *Shaping Places: Future Neighbourhoods in Auckland*. The report delivers a spatial investigation and analysis of six study areas in the recently developed suburb of Hobsonville Point with regards to the use, access, and safety of public outdoor spaces for children. The study makes use of two different methods (mapping and field observations) to collect data and undertake assessments.

Background

This research is part of '*Shaping Places: Future Neighbourhoods*' within the National Science Challenge 11, *Building Better Homes, Towns and Cities* (2017).

This research stream is on the design and performance of neighbourhoods to meet the needs of vulnerable groups including children, old people, and people with disabilities in the outdoor open spaces. A review of the research literature has been completed (Austin et al., 2019). Separate research is being undertaken on the performance of neighbourhoods for people with disabilities. The focus of this report is on children. It has several components, including identifying the most relevant research literature; site observations and mapping of the 6 study areas at Hobsonville Point, Auckland; and analysis of the data collected.

The background of the research follows principles from '*Shaping Places: Future Neighbourhoods*' to "improve future urban environments through better planning and better integrating affordable housing in future communities" (National Science Challenge 11, 2018). The neighbourhood assessment draws on research methodology developed and applied to 10 residential developments in England (Bornat, 2016).

This chapter lays out the research approach taken.

The Context

The research context is geographically based on new development in Hobsonville Point. The site was a former NZ Air Force base that is being developed at a higher density than

has been the case for New Zealand residential suburbs. The layout utilises a street grid form (rather than cul-de-sacs); a combination of stand-alone houses on small plots and terrace housing is dominant in the early stages, with some low-rise apartment buildings also appearing in later stages. The majority of dwellings have very small gardens and as a result access to communal places to play outside is increasingly important for children and their care givers. The study is concerned with the spatial and behavioural analysis of outdoor open spaces for children to be independently mobile and to play. Overall the focus is on issues of urban design principles, safety and well-being of the community.

Chapter 2: Methodology

The research methodology developed by Bornat (2016) was based on Gehl's (2001) and Biddulph's (2011) studies of the use of public open spaces within neighbourhoods and residential areas.

This methodology is centred around interconnected methods of data collections and analysis:

- a. Field observations
- b. Spatial Mapping

The analysis of the data collected by these two methods considers the contextual particularities of the site. The analysis of the observational data and mapping assessments explores the quality of design for children's independent mobility and play in six study areas within Hobsonville Point.

Field observations were carried out for each case study during weekdays and weekends, over various time periods from December 2017 through August 2018. The researcher observed the use by residents of the open spaces in the times between 9 am to 5 pm (a total of two days for each space, one weekday and one weekend). The observational data covered the activities performed during the different hours of the day. Not to disturb the residents, the researcher assumed the age of the residents who were using the space during the observation.

Four types of maps were prepared for all of the six case study areas to describe the layout of all of the external spaces, the particular relationship of the open spaces to each other, to the dwellings and the opportunity for neighbourly connections related to the front entrances of the homes. The four types of maps are:

1. Street-entrance Relationship
2. Networks
3. Open Space Accessibility
4. Access from Dwellings

Chapter 3: Case Studies

Hobsonville Point was chosen for this research as from its establishment it was conceived as an exemplar for future housing developments and preparation of national housing strategies. The Hobsonville Point project is a government-led greenfield development. Hobsonville Land Company was set up by the Government, as a subsidiary of

Housing New Zealand, to develop the 167 hectare site, with development starting in 2011. By 2024 there will be 4,500 dwellings. 6 case study areas were chosen for this research.

The report on each study area begins with general introductory information, including the area, the total number of dwellings and the housing typology. The study area and its open spaces will be further presented through bird's-eye view perspective, a cross section and images in order to give a better understanding of the relationship between the built form and the

open spaces. Four key maps are provided showing: (1) Street-entrance relationship, (2) Networks, (3) Open Space Accessibility and (4) Access from Dwellings. For each study area a table showing a simple ranking of the area for each criteria is produced.

The observational data is also ranked and compared with the average ranking of each study area. This data is presented through graphs. The criteria for the rankings are:

- Optional and social activities in the space
- Time spent in the space

- Supervised vs. unsupervised activities of children in the space.

Alongside the quantitative observations, the quality of open spaces is assessed. The domination of the car and car parking in some open spaces is considered, due to potential risks for children playing or moving through the study areas.

Chapter 4: Data analysis

Following the report on the case studies, a series of data comparisons is presented for all the study areas, combining the findings of the spatial mapping analysis and observational data in a thematic format.

Activities

The type of activities were categorised to passing through, playing and supervising children, dog walking, domestic chores, and others. Apart from passing through, the rest of the activities are analysed based on the categorization of activities in open spaces as optional and social activities, following Gehl (2001). These optional and social activities are compared to the figures for passing through on a graph, for all of the six study areas. The analysis of these activities reveals how the provision of appropriate and well-connected neighbourhood parks can impact the intensity of activities.

Time spent outside

The analysis of the time spent in the

open spaces further explains how the space is used, appreciated and appropriated.

Age group representation

Through the analysis, the number of users and the number of supervised vs. unsupervised children undertaking a variety of activities in the outdoor open spaces depicts how safe, accessible, and desirable the open spaces are for different groups and their needs.

Transportation mode

This part of the analysis focuses on how children access and use the site, categorising them into their use by foot, bicycle, or scooter, illustrating the flexibility and accessibility of the open spaces for different modes of transport and the safety risks involved for children playing unsupervised.

Chapter 5: Conclusion

This chapter presents a summary of the findings and explains how this report can guide the future studies on the design of residential neighbourhoods in New Zealand. Based on the findings of this study, we provide recommendations to be considered in both policy making and design guidelines for child-friendly residential neighbourhoods and the wider urban context.



Background

This section summarises the relevant research literature and introduces policies and plans relating to independent mobility and unsupervised safe play for children. A description of the spatial context of the study areas follows.

The Scope

This report provides an examination and analysis of the design and built environment of six study areas in Hobsonville Point. Hobsonville Point is a recently developed suburb located in the north-west of Auckland. The analysis contributes to the discussion of the quality of the design and safety of neighbourhood (outdoor) spaces for children to play.

The Literature

A full review of the research literature relevant to designing neighbourhoods for children, older people and people with a disability is available in Working Paper 19-03 (Austin et al., 2019). This section provides a summary of the relevant research on designing neighbourhoods for children; particularly for fostering children's independent mobility and access to external play opportunities.

Neighbourhoods play an essential role in children's lives. "Neighbourhoods are places where they begin to encounter

the world outside their home, where they make their first independent forays and where they become part of wider public life" (Freeman & Tranter, 2011, p. 77). Children understand the value of 'ambient companionship' from a young age, and therefore, prefer to spend most of their time around other people (Nansen et al., 2015; Moran et al., 2017). In this regard, urban designers and planners need to consider children's needs and priorities in order to enable children to access play opportunities and spend time safely moving within their neighbourhood open spaces. This is of importance for medium-residential neighbourhoods, where the option of playing in the garden is limited or not available.

Several studies on the quality of neighbourhoods suggest a number of factors and variables which contribute to the quality of neighbourhoods for children. Three of the most influential factors in the quality of the children-friendly neighbourhood are as follow:

- The built environment; area, form,

density, networks and connectivity (see Aarts et al., 2012; Babb et al., 2017; Sharmin & Kamruzzaman, 2017; Brockman et al., 2011; Noonan et al., 2016; Tappe et al., 2013; Wheway & Millward, 1997; Christian et al., 2016; Foster et al., 2015; Villanueva, 2014)

- Socio-economic status of the residents (see Veitch et al., 2008; Oliver et al., 2015; Rogers, 2012; Chaudhury, Oliver, Badland, Garrett, & Witten, 2016; Witten & Carroll, 2016; Ziviani, 2008; Castonguay & Jutras, 2009; Sage et al., 2010; Karsten, 2005; Rigolon, 2017; Thomson & Philo, 2004; Aarts et al., 2012)
- Children's participation in neighbourhood urban design (see O'Brien, 2003; Jansson et al., 2016; Scarlett et al., 2005; Whitzman & Freeman, 2015; Mitchell et al., 2007; Gleeson et al., 2006; Broberg et al., 2013; Hendricks, 2001; Thomson & Philo, 1997).

This research is primarily concerned with the built environment; area, form, density, networks and connectivity. Earlier research (1986) by Cooper Marcus and Sarkissian identified the following criteria in designing safe places for children in their neighbourhood:

1. Direct access to private open spaces in order to facilitate easily supervised outdoor play,
2. Direct, safe access to an area for communal outdoor play for school-

age children, and

3. Reasonable auditory and visual privacy in order that neighbours are not disturbed from children's daytime noises and infants' night-time cries; and visual privacy from neighbour's eyes (Cooper Marcus & Sarkissian, 1986, p.109).

In addition, good design can contribute to the level of social interaction and community bonds in a neighbourhood, enhancing parental perceptions of community safety. This translates into a greater willingness of parents and caregivers to grant a level of independent mobility and play, but also depending on the age and gender of the child (Malone, 2007; Noonan, 2017).

Play strategies in policy

A brief review of relevant policies and other literature produced by the Ministry of Health, Auckland Council, Auckland Transport, and other city councils reveals some awareness of the health benefits and broader societal benefits of children's unsupervised play and independent mobility. However, these documents do not always demonstrate clear pathways from policy wording to implementation and action to support children's independent mobility.

The Ministry of Health released a short brochure helping children (5-12 year old) to be more active, by providing advice for parents on supporting their children to maintain a healthy body weight. It encourages active school travel and outside play (Ministry

of Health, 2017). However, other recommendations such as: being active as a family; encouraging children to join local sports teams; and promoting walking school buses, do not support children's independent mobility, because they require the ongoing involvement of supervising adults.

Sport New Zealand, as a Crown entity, is responsible to the Minister of Sport and Recreation. *'The Importance of Play'* published by Sport New Zealand demonstrates some government recognition of the value of unsupervised play (Sport New Zealand, 2017). It acknowledges that play should involve limited adult input, providing children with opportunities to experience risks and challenges in a variety of settings within their local environments (Sport New Zealand, 2017).

Although the term 'independent mobility' is not used, Sport New Zealand's 'principles of play' appears to encourage children to experience unsupervised play in their neighbourhoods. *'The Importance of Play'* recognises many barriers to independent mobility, including parental perceptions of danger and problems with traffic (Sport New Zealand, 2017). No suggestions are offered about how these barriers might be overcome to better enable unsupervised play.

'The Auckland Plan' is the blueprint for Auckland's future development. It refers to the importance of integrating transport planning and investment

with land-use development by noting: "the system must be designed for safe and universal access for all, including children, older persons and those with disabilities" (Auckland Council, 2011, p. 322). The Plan acknowledges the value of safe and convenient walking and cycling routes, "to encourage those modes of travel for commuters and others" (Auckland Council, 2011, p. 322). However, a chapter regarding transport in Auckland fails to make any further references to children. Other chapters that could focus on the needs of children in future development of the city (such as Chapter 10: Urban Auckland, and Chapter 12: Auckland's Physical and Social Infrastructure) do not mention children (Auckland Council, 2011). This omission suggests that children's neighbourhood experiences have not been widely recognised within Auckland Council.

However, the 2014 report *'I Am Auckland'* was produced as a strategic action plan to address the specific needs of children and young people. It is intended to assist in the implementation of *The Auckland Plan* (Auckland Council, 2014). Many of the strategic directives and targets discussed in *'I am Auckland'* are relevant to independent mobility, such as improving community safety and perceptions of safety, and maintaining and extending the existing public open space network (Auckland Council, 2014). These directives and targets will help to create the type of conditions that might encourage independent mobility (Auckland Council, 2014).



Auckland Transport promotes the Walking School Bus scheme, and offers various support mechanisms to encourage this form of supervised active school travel. This can be broadly interpreted as a policy response to support independent mobility, given that the mobility licence to walk to school often leads to children being granted further mobility licences by their parents (Carver et al., 2013). However, there are no specific Auckland Transport policies designed to encourage or support children's independent mobility.

Current guidance

Auckland Council discusses the importance of play, and provides suggestions for effective play space design.

The 'Auckland Design Manual' (Auckland Council) provides design guidelines for the creation of safe parks and open spaces for children to play and learn about their environment as well as interacting with each other outside their homes. The design guidelines in the Manual include: 'Designing Child Friendly Parks & Open Spaces'; 'Play Spaces'; and 'Skate Parks' (Auckland Council, 2018).

However, the Manual only provides guidance for urban designers, developers and the public with a curated collection of case studies, guidance notes, and best practice to assist them in making private and public design decisions. This does provide some indication of Auckland

Council's thinking with regard to public space.

In 'Designing Child Friendly Parks & Open Spaces', Auckland Council (2018) acknowledges the importance of providing leisure facilities that enable children to play a meaningful role in community life. The guide explicitly discusses the importance of children being able to access local affordances (formal and informal play opportunities), and acknowledges the broad range of benefits that independent mobility generates both for children and for the wider community (Auckland Council, 2018).

The guide highlights specific issues that should be addressed through consultation with young people, to ensure that public space design better accommodates their needs and aspirations (Auckland Council, 2018). Urban designers are challenged to consider a broad range of perspectives at the planning stage, including early acknowledgement of the diverse needs of end users (Auckland Council, 2018).

The Spatial Context

Hobsonville Point is located in north-west urban Auckland, on the former Hobsonville air force base. It is accessible via the Northern or North Western motorways and it is about a 25 minutes drive from the CBD during off-peak hours. At 167 hectares, it is one of the largest developments in the Auckland region.

The Auckland Plan lists nine areas as priorities for public investment to support growth and development in the Auckland region. Hobsonville is one of those nine areas. The Hobsonville Point Development Plan has been established to deliver a new suburb of predominantly medium-density housing over the next decade.

Hobsonville Land Company Ltd (HLC), a wholly owned subsidiary of Housing New Zealand Co. Ltd., is responsible for the development of Hobsonville Point. Initially, the developers proposed to accommodate approximately 10,000 residents and provide up to 2,000 jobs in Hobsonville Point. The plan was to build over 3,000 houses, as well as community

facilities and services such as schools, a community hall, recreational spaces as well as nature reserves (Opit & Kearns, 2014). Over time, employment sites have been reduced and anticipated housing development increased, with a current target of 4,500 dwellings.

The development process in Hobsonville Point has been staged. Each stage covers one or two precincts within Hobsonville Point. This study focuses on six case study areas which have been developed in different time-periods and stages of development. The following table illustrates the size of each study area along with the size of different types of open spaces within and adjacent to each precinct.

Table 1: Context breakdown of each study area.

Study Areas	S.A.1.	S.A.2.	S.A.3.	S.A.4.	S.A.5.	S.A.6.	Total
Total Area (hectare)	6.7	6.3	2.9	4.3	7.4	4.3	31.9
Number of Dwellings	105	162	123	118	224	92	824
Terraced houses:	33	119	27	44	166	66	455
Single-detached houses:	64	29	30	48	46	26	243
Semi-detached houses:	8	14	6	26	12	0	66
Apartments:	0	0	60	0	0	0	60
Gross Residential Density (Units/hectare)	15.5	25.7	42.5	27.3	30.2	21.3	Ave. 27
Area of Green Space (sq.m)	≈ 17,000	≈ 1900	≈ 11,000	0	0	≈ 542.5	≈ 30,440
Area of Neighborhood Park (sq.m)	0	1100	0	≈ 1,600	2,911	2,542.8	≈ 8,150
Area of Shared Driveways (sq.m)	2,680	6,294	2,709	≈ 2,630	3,023	154.6	≈ 17,500
Area of Pedestrian Pathways (sq.m)	≈ 5,573	≈ 10,240	≈ 6,998	≈ 5,560	≈ 12,053	≈ 8,011	≈ 48, 435

Chapter 2: Methodology

This chapter explains the research methodology and how the the case studies have been investigated. It provides a summary of the methods used for data collection and the analysis of the data. It also addresses some of the contextual differences of the case studies that are key to this research.

6 Study Areas

The 6 study areas are located in different neighbourhoods in Hobsonville Point. The majority are purely residential areas and have differing spatial layouts.

The study areas range in size from 3 to 7 hectares. All areas either have an internal neighbourhood park or are adjacent to green open space.

4 Data Collection Methods

Data collection includes mapping different spatial layouts and built forms, and observing behaviour of adults and children in parks and outdoor spaces.

Spatial mapping analysis and observational data analysis are used to consider accessibility of, and opportunities for, independent mobility and play.

Data Collection Methods

The two methods used to gather the data are explained here.

1. Behavioural Observations

The main methodological approach is built upon a rich tradition of field observations developed by the renowned Jan Gehl. The purpose of these observations is to investigate how the space is used, for how long and by whom. Due to the objective of the research, the researchers paid careful attention to the use of neighbourhood parks and open spaces by children to understand how the spatial dimensions of these spaces, and their accessibility, are linked to levels and types of activities.

Each case study area was observed during weekdays and weekends over various time periods from December 2017 through August 2018. The researcher observed the use of the open spaces by the residents for six hours in the times between 9 am to 5 pm (a total of two days for each space, one weekday and one weekend). The observations were designed in this way so that they covered the activities performed during the different hours of the day and different days of the week. In order not to disturb the residents, the researcher assumed the age of the residents who were using the space during the observation.

The open spaces which were observed were either neighbourhood parks (surrounded by residential dwellings within the study area) or green open spaces which were adjacent to the study area, and bordered by residential dwellings only on one side. The observation of the use of these spaces covered the following aspects:

- The type of activities categorised under passing through, social activities (playing), and optional activities (supervising children, dog walking, domestic chores and other activities).
- The time spent by the users in the space (measured in minutes and then collated into three time periods: 0-4 minutes, 5-9 minutes and 10 or more minutes).
- The mode of transportation used: by foot, by bicycle, scooter, pushing child, car.
- The number of users and if the children were alone or accompanied by one or more adults including older people.
- The approximate age of users: Pre-school children 0-5, Children 5-12 years, teenagers, adults and elderly.

08 Neighbourhood Design and Children

2. Spatial Mapping Analysis

Each case study was explored through the development of four analytical maps.

Map 1.) The **Street-Entrance Relationship Map** depicts the possibility of social interaction between the residents of dwellings that face each other across an open space. Social interaction and the formation of community bonds is known to enhance parental perception of safer play environments for unsupervised children (Malone, 2007; Noonan, 2017).

Map 2.) The **Network Map** illustrates the safe car-free walking paths within the area; the streets that pedestrians will need to cross; and the shared driveways. The latter are less likely to be considered to be safe play spaces or mobility pathways for unsupervised children.

Map 3.) The **Open Spaces Accessibility Map** shows the quality and accessibility of all open spaces, including shared driveways utilising a heat map. For example, some open spaces like the shared driveways may have direct access to the dwellings yet due to the dominance of cars, they are likely to be deemed as less accessible compared to the ones that are car free and completely pedestrianised.

Map 4.) The **Access from Dwellings Map** identifies the number of dwellings that have direct physical and visual access to neighbourhood parks that are safe and car-free open spaces.

Map 4 is presented in two versions: (1) visual access and / or direct physical access and (2) direct physical access. The first version of this map assumes that some parents may feel confident about their children's ability to cross a local road independently, as long as the parents have visual access to the play area. This confidence may be based on age and gender of the child, perceptions of community and level of understanding of local traffic flows. The second version of the map shows only those dwellings from which the children have direct physical access to the open space, without having to cross a road.




Map 1: Street-entrance relationship



 Dwellings facing each other across a street

Map 2: Networks



 Green is a safe, car-free route
 Red is shared surface driveway
 Orange is a crossing over a road

Map 3: Open spaces accessibility



Not overlooked, tends to be car dominated
 Open space that is overlooked but separated by a road
 Open space, directly accessible from homes
 Overlooked shared external space, driveways
 Pavements

Least accessible  Most accessible

Map 4: Access from dwellings



 Dwelling with both direct physical and visual access
 Dwellings with either direct physical or visual access

Terminology

This section clarifies the terminology adopted for this study in Hobsonville Point in Auckland.

Study Area:

The term 'Study Area' is used to refer to a number of urban blocks with the majority of dwellings surrounding an open space/pathway within a residential development area in Hobsonville Point. This research refers to each of the case studies as a study area. Thus, six study areas are investigated in this report.

Open Space:

In general, the term open space is too generic to be used in studying the quality of outdoor spaces. This research uses the term 'open space' to refer to the outdoor spaces which have the capacity of being used by a variety of users. These may include: car drivers, cyclists, scooters, as well as pedestrians. However, whilst 'open space' in this study does include pedestrian footpaths, it does not include roads. Open space includes neighbourhood parks, green spaces, car-free pathways and pedestrian footpaths.

Neighbourhood Park:

The term Neighbourhood Park refers to the public open spaces within the study areas which are designed in terms of landscape, pathways, urban furniture, and in some cases are equipped with playgrounds for children. Neighbourhood parks are surrounded by residential blocks and primarily serve only one study area within the neighbourhood.

Green Space:

Every open space which serves more than one study area according to its size, location and the services provided, is referred to as a 'green space' in order to be differentiated from neighbourhood parks which serve only one study area within the neighbourhood.

Shared Surface Driveways:

In this study, we use the term shared surface driveways or shared driveways to refer to the car parking areas and their access routes which are found to the rear of much of the medium-density housing. They provide vehicle access to the garages and the rear entrances to the dwellings. These shared driveways are shared between pedestrians, cars and bikes.

Car-free Pathway:

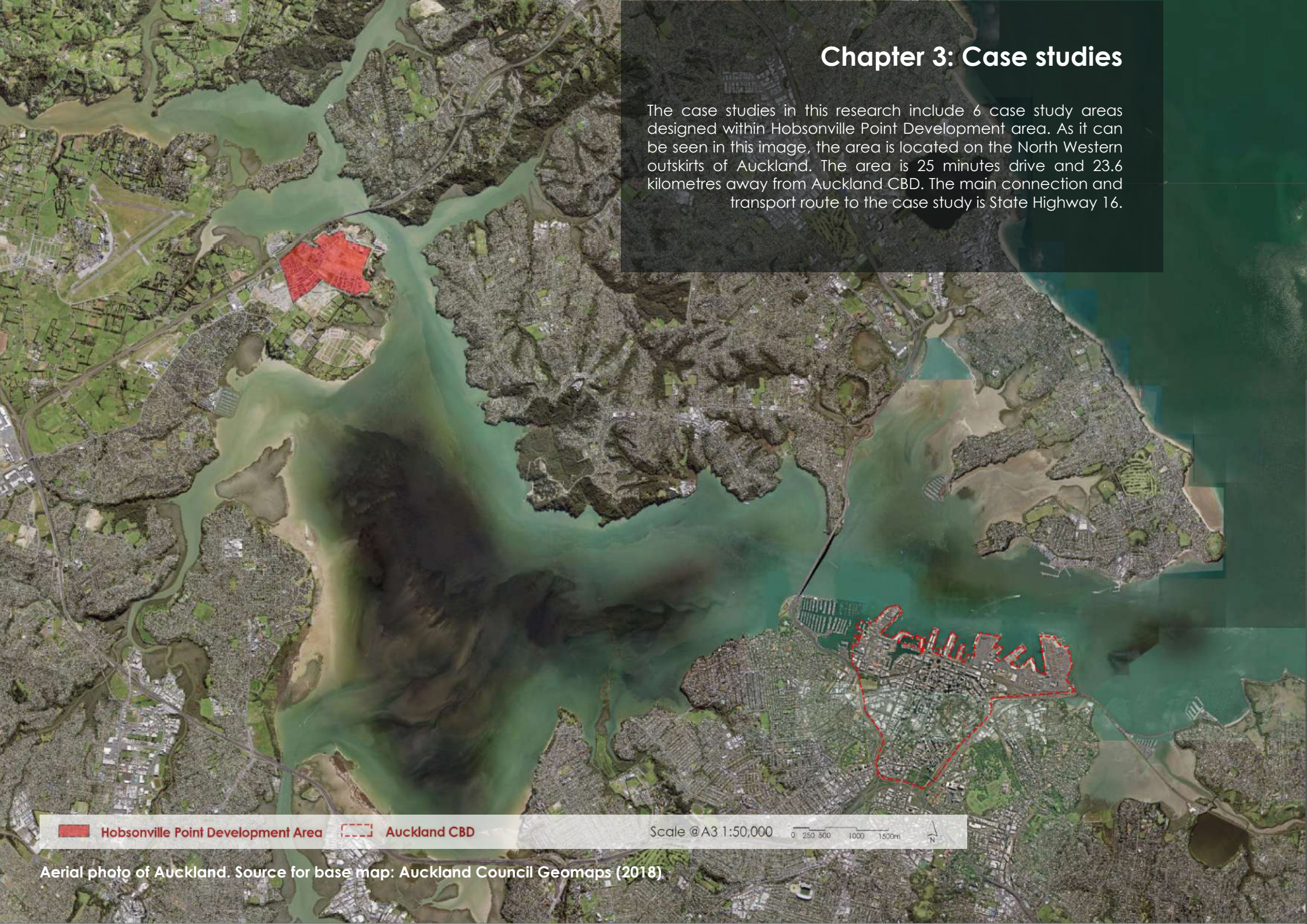
A car-free pathway in the study area is a pathway where cars are not allowed to enter, such as a footpath. It is therefore used only by pedestrians and, in some places, by cyclists.



Data Analysis:

The methods of analysis of the data is based on the comparisons between the spatial mapping analysis, and the observational data collected for the six study areas. Through this comparative interpretation of the data, we can assess the accessibility, quality and also the quantity of open spaces that are suitable or are deemed unsafe for independent access or unsupervised children's play.

Chapter 3: Case studies

The case studies in this research include 6 case study areas designed within Hobsonville Point Development area. As it can be seen in this image, the area is located on the North Western outskirts of Auckland. The area is 25 minutes drive and 23.6 kilometres away from Auckland CBD. The main connection and transport route to the case study is State Highway 16.



 Hobsonville Point Development Area  Auckland CBD

Scale @A3 1:50,000

0 250 500 1000 1500m



Aerial photo of Auckland. Source for base map: Auckland Council Geomaps (2018)

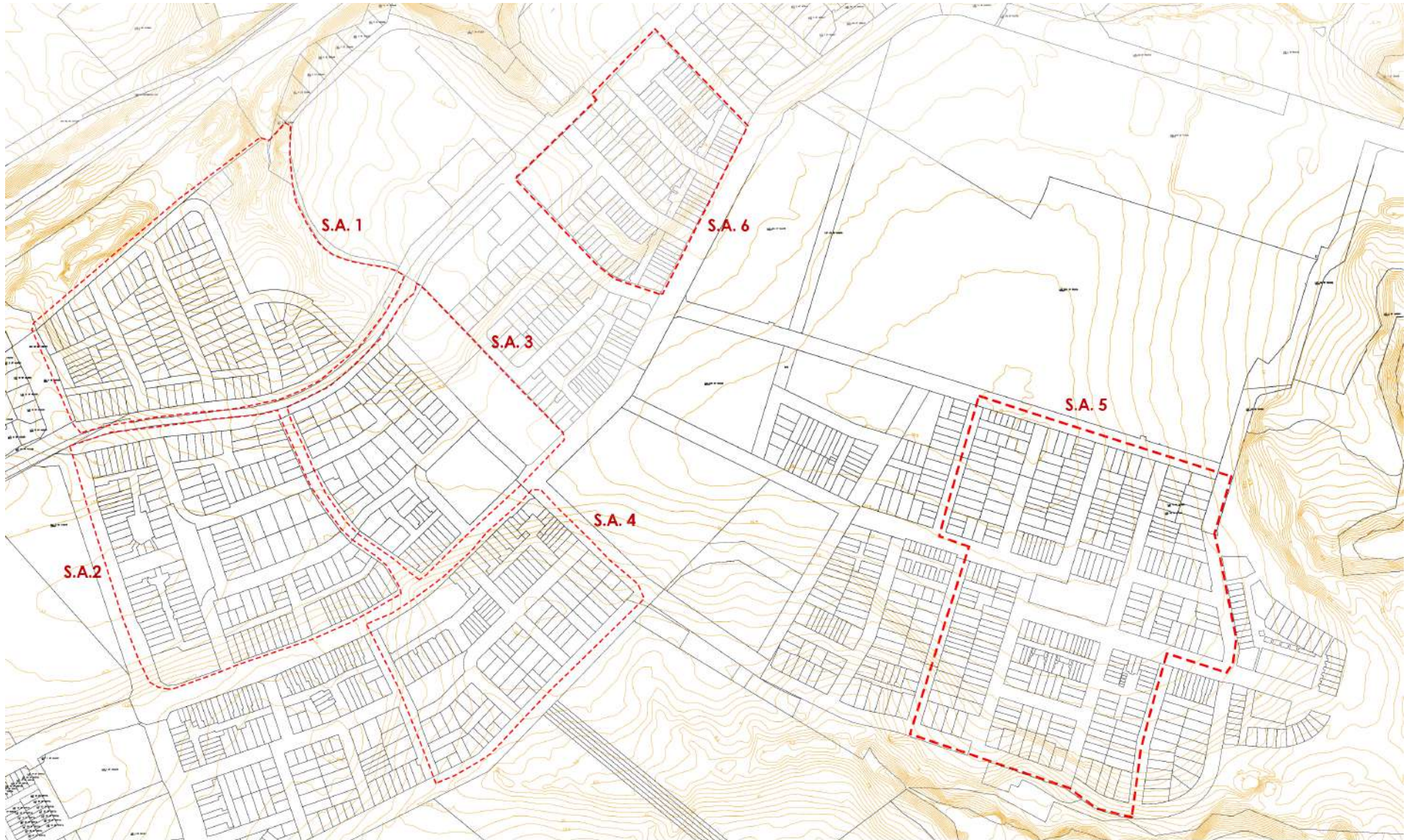
Hobsonville Point Development Area - Satellite Image



Hobsonville Point Development Area - Satellite image (Auckland Council Geomaps, 2018)

Study Area Boundaries 0 25 50 100 150m

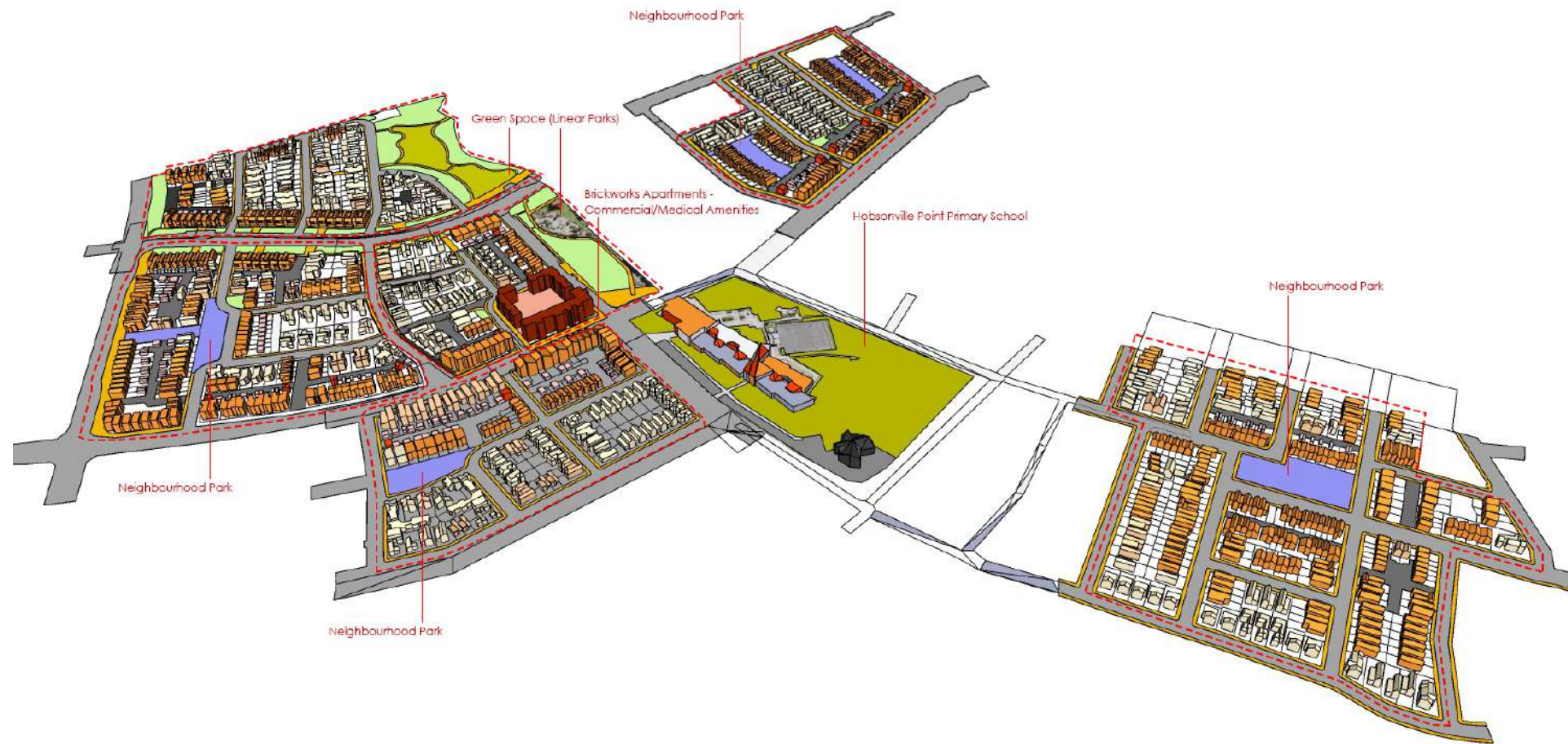
Hobsonville Point Development Area - Topography Map



Hobsonville Point Development Area - Topography Map (Auckland Council Geomaps, 2018)



Hobsonville Point Development Area - Bird's-eye view of the Six Case Study Areas



Hobsonville Point Development Area - Bird's-eye view

Hobsonville Point Development Study Area No.1

Area: 6.7 ha.

Number of dwellings: 104

Terraced houses: 33

Single-detached houses: 64

Semi-detached houses: 8

Gross residential density: 15.5units/ha



① Dwellings overlooking the pond and park adjoining the Study Area.

Study Area No.1

The first Study Area is located in the north-western part of Hobsonville Point and is part of Buckley-A Precinct. It is north of Buckley Road, which divides the precinct into two and is lined with Phoenix Palms. The Study Area consists of four streets blocks. There is a linear park and ponds to the east, a green buffer zone and Upper Harbour Motorway to the north and Squadron Drive to the west of the Study Area while Buckley Road to the south acts as a main edge and through route for the precinct. The area is solely designed for residential use and includes detached, semi-detached and terraced housing typologies.

- Green space: 17000 sq.m. (approximately)
- Shared driveways: 2680 sq.m
- Green space adjacent to residential area: 0 sq.m

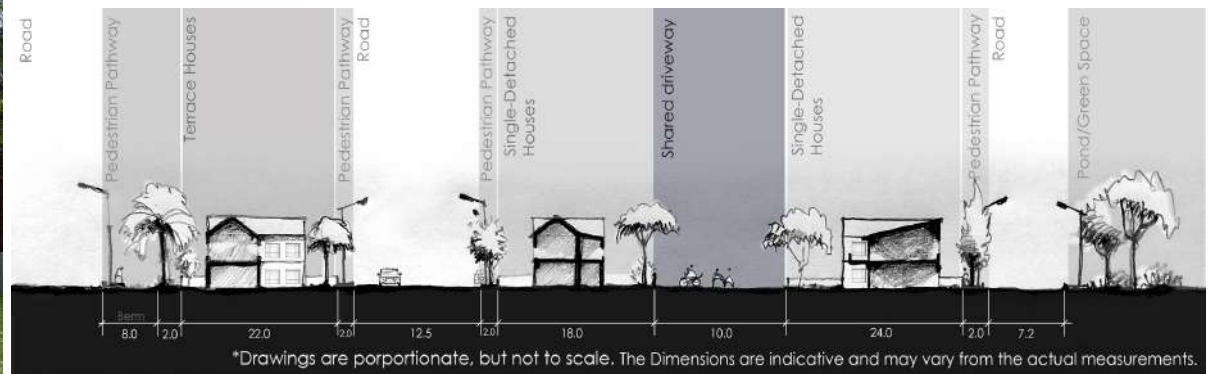


Note: The numbers in the circles indicate the location of the photos presented below.



2 This shared driveway is for the residents, and provides car-parking spaces and access to garages. Children at play may be at risk from reversing vehicles, especially those with poor rear visibility.

3 This car-free pathway is a through-block connection and is not directly overlooked by any of the houses. Whilst it is car free, parents may perceive the lack of surveillance makes the pathway unsuitable for children on their own.



Cross-Section A-A

16 Neighbourhood Design and Children



The distance between the furthest point of the Study Area (26, Station Street) to the Hobsonville Point shops and services (Hobsonville Point Medical Centre, 3a/160 Hobsonville Point Rd) and Hobsonville Point Primary School is equivalent to 8 minutes walking. Similarly, it takes 10 minutes walking from the furthest point of the Study Area (35, Station Street) to the Secondary School of the area.

Street-entrance relationship: Approximately 50% of the residents living in this Study Area have their dwellings' entrances facing each other. This facilitates opportunities for social interaction and fosters perceptions of community.

Networks: Some (but not all) of the pedestrian routes through this study area are connected to each other by slightly raised platforms across the roads. None of these platforms are clearly marked for drivers as pedestrian crossing points. There are shared surface driveways within the study area, which allow some pedestrian access, but they are designed for vehicle use.






Street-entrance relationship

 Dwellings facing each other across a street



Networks

-  Green is a safe, car-free route - can be a pavement, green or a hard space
-  Orange is shared surface driveway, where pedestrians and cars share the route
-  Red is a crossing over a road

Open spaces accessibility:

A large green space adjacent to this Study Area serves the entire development, and is overlooked by some of the dwellings. However, it is across a road so is not directly accessible for the children of residents whose parents are concerned about their child independently crossing the road. Some of the dwellings overlook this space, so parents could see their kids playing in this green space, yet independent access to this park may not be perceived as safe.

There is only one through-block pathway that is designed for pedestrians to use. However, here is minimal informal surveillance possible from the adjacent dwellings.

Other open spaces are shared driveways which are car-oriented (giving access to parking areas and garages) and are at the rear of dwellings, with limited opportunities for surveillance from the surrounding properties. Buckley Avenue is another significant element of this area, with large berms and iconic Phoenix Palms. Whilst the green edges and berms, and the adjacent footpaths, could be used as a car-free external space by children, as the planting forms a visual and limited barrier to the road, it is unlikely to be a significant area for unsupervised play.

Open Spaces Accessibility Map



Visual Access Opportunities from Dwellings:

The road between the park and the dwellings is a barrier to direct physical access to the park. However, it is a quiet local road, so with adult supervision children may be allowed to cross it. In addition, a number of the dwellings have good visual access.

Direct Physical Access from the Dwellings:

None of the dwellings have direct physical access to the green space, due to the road. This road becomes a barrier for parents concerned about safety, and hence children, especially younger children, may only be allowed to cross it with adult supervision.



- Dwellings with both direct physical and visual access to the park
- Dwellings with either safe physical access or visual access to the park

Observational Analysis of the Green Space

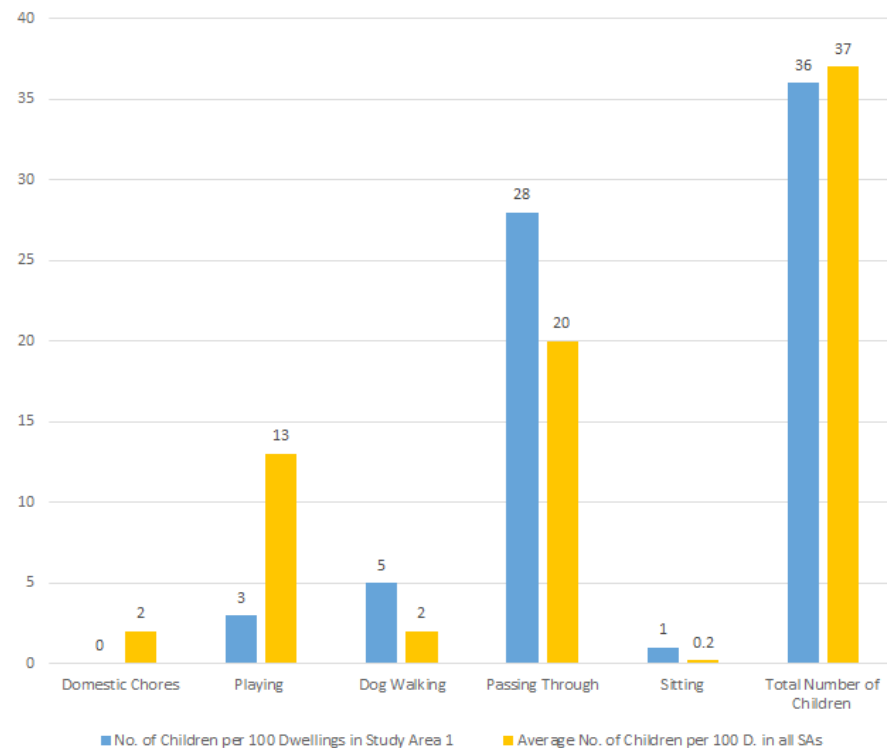
Current activities:

The only attracting point for activity is the duck pond, where users specially families (children supervised by adults) come to watch the ducks. Dog walking is another popular activity observed in this green space. These activities are considered as optional activities within the area (Gehl, 2001).

In addition, the space has a slight incline which limits the potential activities which could occur there.

Function & location:

This open space is undefined in its characteristics, its main function is as a connecting route to other precincts.



Graph 1: the number of children participating in different activities in Study Area 1 compared with all study areas

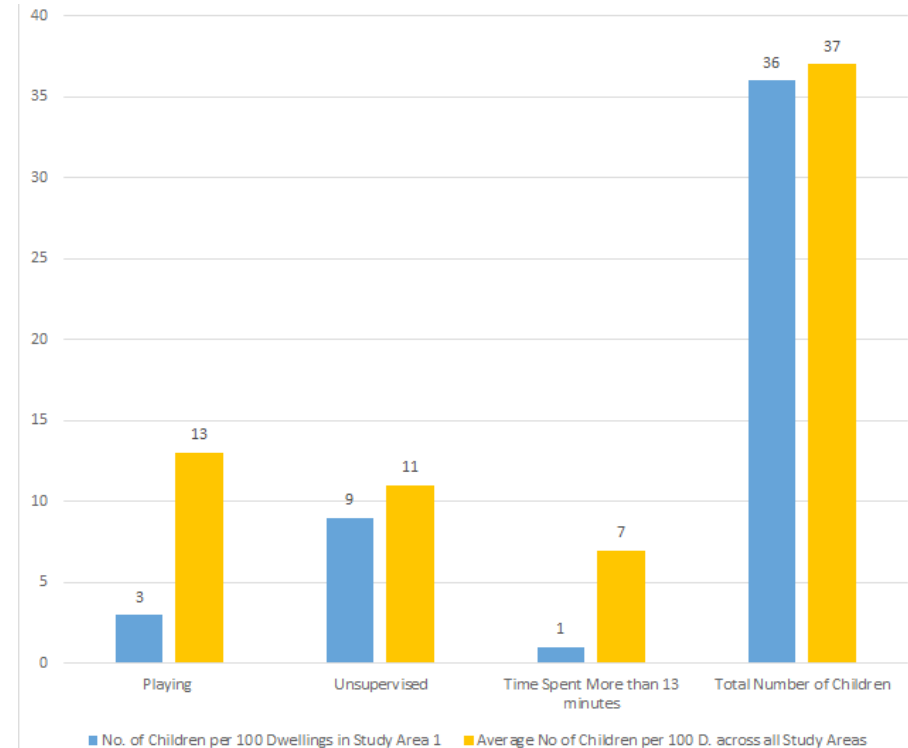
Usage time by users:

In the case of rain, this space is rarely used due to the absence of any kind of shelter. During school holidays and during weekends, the maximum time users spent in the space is between 1 to 2 min as they are passing through using foot, bicycle or scooter.


In rare cases, some users stay for around 5 minutes, when they are watching or feeding the ducks.

Future prospects:

The construction of a residential area (a retirement village) to the east of the space may generate more activities in the future and will help in defining the space.



Graph 2: the number of children playing supervised and unsupervised in Study Area 1 compared with all Study Areas



Hobsonville Point Development Study Area No. 2

Area: 6.3 ha.

Number of dwellings: 162

Terraced houses: 119

Single-detached houses: 29

Semi-detached houses: 14

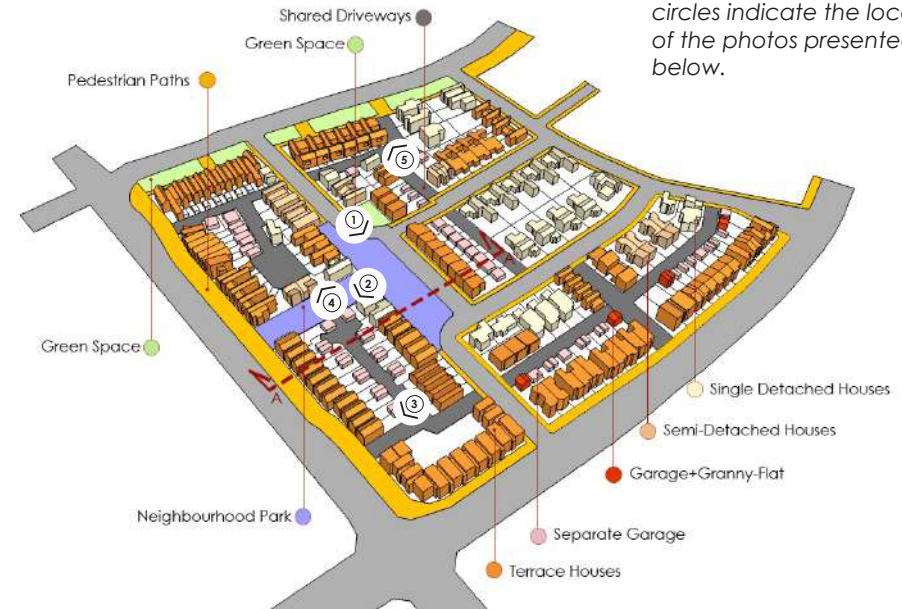
Gross residential density: 25.7 units/ha

1 The 17 metre wide pedestrian linkage path

Study Area No.2

The second study area is located at the heart of Hobsonville Point and is part of Buckley-A Precinct. It is between Buckley Avenue and Hobsonville Point Road and includes six street blocks. The area has a neighbourhood park, acting as “passive recreational space” and a 17m wide “pedestrian linkage” (Buckley Hobsonville Comprehensive Development Plan, 2009). Apart from a few residential units with commercial uses on their ground floor located on the south-eastern side of the area, the entire study area is residential and consists of detached, semi-detached and terraced housing.

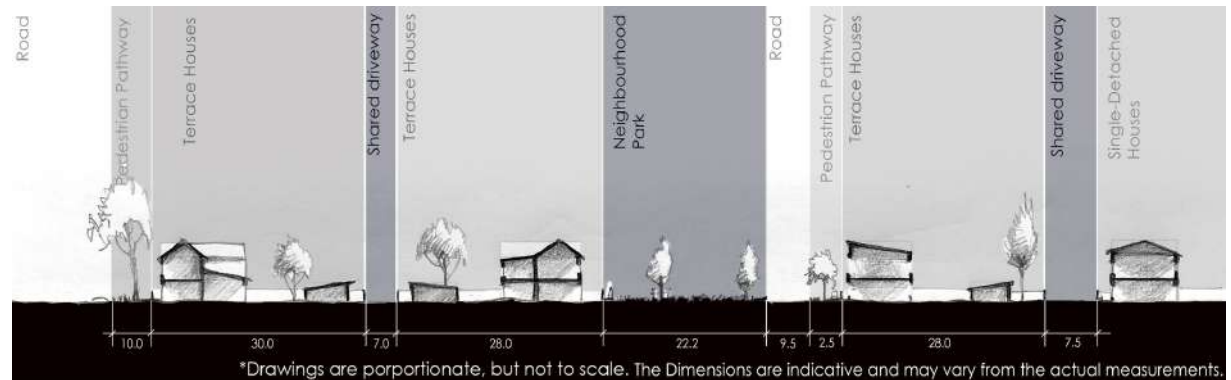
- Green space: 1900 sq.m. (approx)
- Shared driveways: 6294 sq.m
- Neighbourhood park: 1100 sq.m



2 One of the main study area parks that is centrally located, has direct physical and visual access from some of the houses, yet it is disconnected from the rest of the study area by roads.



3 The communal spaces that could be used as children's play area are occupied by vehicles and parking spaces.



Cross-Section A-A






Street-entrance relationship

 dwellings facing each other across a street



Networks

-  Green is a safe, car-free route - can be a pavement, green or a hard space
-  Orange is shared surface driveway, where pedestrians and cars share the route
-  Red is a crossing over a road



Street-entrance relationship:

Only the entrances of those dwellings that surround the neighbourhood park face each other and provide opportunities for social interaction within the study areas.

Networks:

There are options of crossing over the roads which connect the blocks within the study area, although they are not all safely designed for pedestrian crossing. There are also numbers of shared surface driveways within each block where pedestrians and cars share the route. The safest option for pedestrian activities, however, is provided within the central neighbourhood park and the green pathway.

Open Space Accessibility:

Each block within this study area has a level of accessibility to outdoor open spaces. However, the related map shows that there is unequal distribution of these spaces around the study area in terms of size and the safety of open spaces for pedestrian activity.

The central neighbourhood park is overlooked by the surrounding terrace houses and is directly accessible by dwellings from its western side. However, this neighbourhood park does not provide any variety of choices for children to play.



4 Access from driveways to the Pedestrian Linkage



5 The Pedestrian Linkage

Open Spaces Accessibility Map



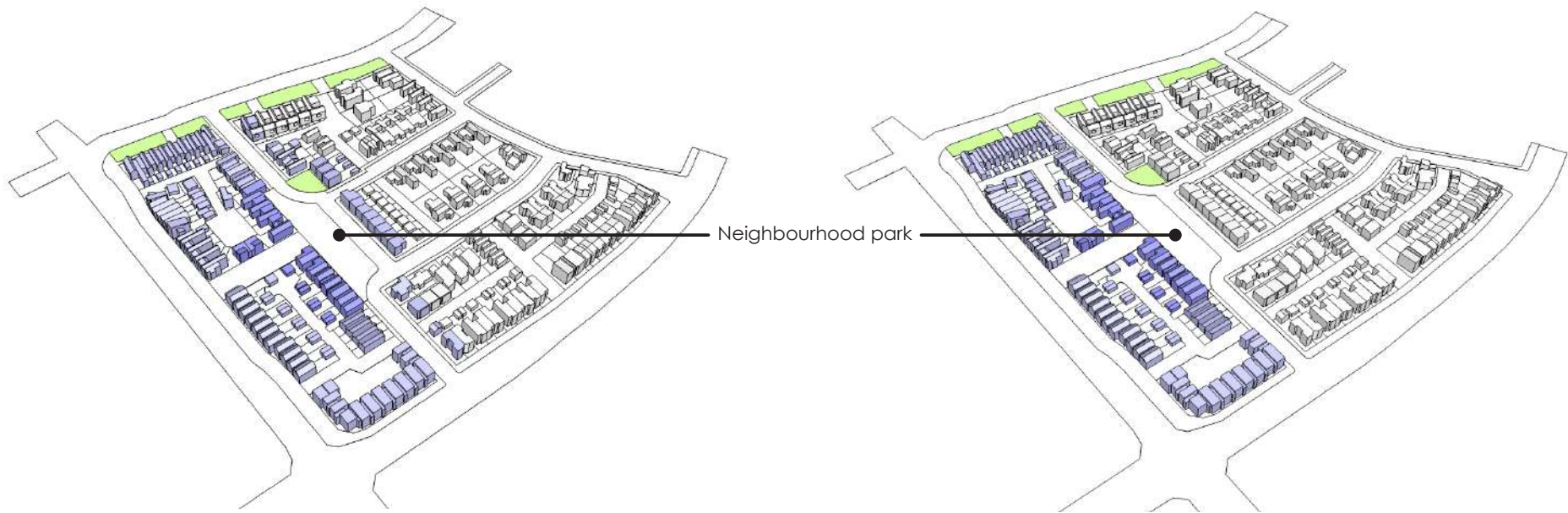
From the furthest point of the study area (45 Buckley Ave) to the Hobsonville Point main commercial area (Hobsonville Point Medical Centre, 3a/160 Hobsonville Point Rd) and Hobsonville Point Primary School is 7 minutes walking distance. The study area is adjoining the Hobsonville Point Secondary School and may only take 5 minutes walk from the furthest house to the school; yet accessing the school on foot requires crossing Squadron Drive to the west of the study area, which at times could have heavy vehicle traffic.

Visual Access Opportunities from Dwellings:

Some dwellings have direct physical access along safe car-free routes to the neighbourhood park. The road between the park and the dwellings is a quiet local road, internal to the residential block. With adult supervision children may be allowed to cross it. In addition, a number of these dwellings have good visual access to the park.

Direct Physical Access from the Dwellings:

Only the dwellings on the western side of the park have direct physical access to the green space. This road becomes a barrier for parents living to the east of the park concerned about safety, especially for younger children.



- Dwellings with both direct physical and visual access to the park
- Dwellings with either safe physical access or visual access to the park

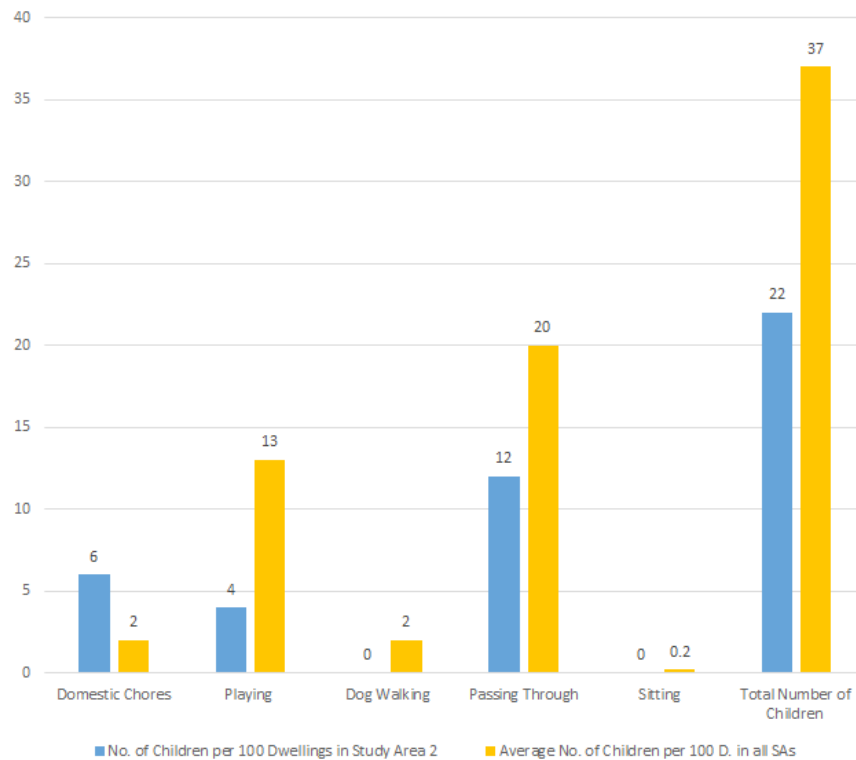
Observational Analysis of the Neighbourhood Park:

Current activities:

The only activity in this space is users passing through or doing their domestic chores (optional activities) in the space. This is due to the lack of any infrastructure or playgrounds or activities that could attract users to spend more time and to do more social activities in the space.

Function & location:

Although this neighbourhood park is surrounded by residential dwellings (terraced and semi-detached houses), it is one of the least used space in the whole of Hobsonville Point.



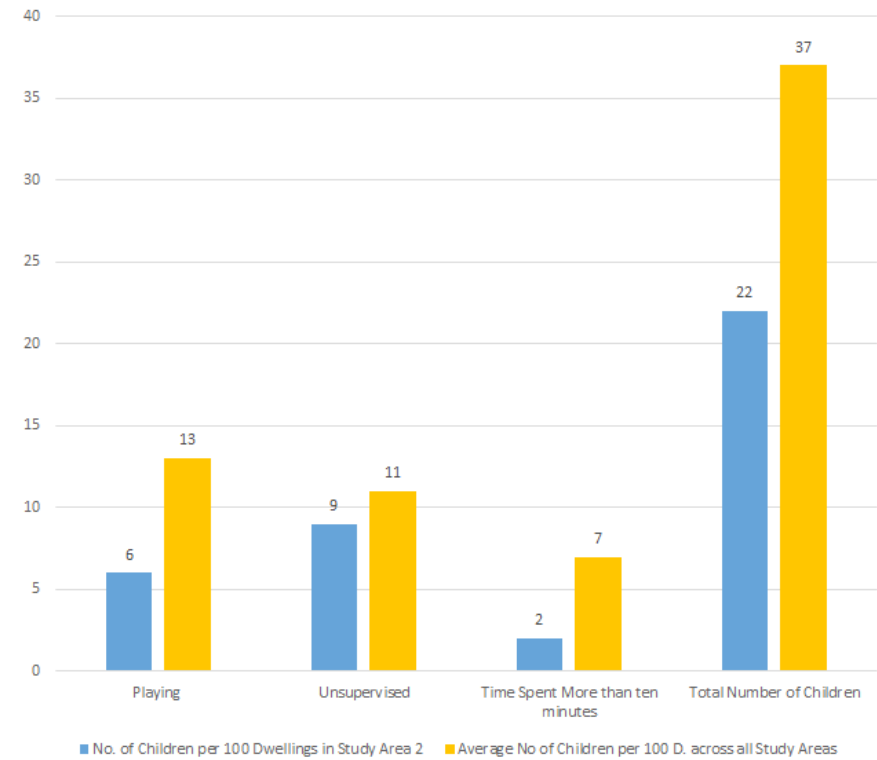
Graph 3: the number of children per 100 dwellings in Study Areas 2 relative to all Study Areas participating in different activities

Usage time by users:


In the case of rain, this space is rarely used due to the absence of any kind of shelter. During school holidays and during weekends, the maximum time users spent in the space is between 1 to 2 minutes as they were passing through using foot, bicycle, scooter, or car.

Future prospects:

Unless there is any change in the configuration of the space or installation of shelters or a simple playground in the space, it is highly unlikely that the usage of this space will improve from the current status to have more social activities for children in the area.



Graph 4: the number of children per 100 dwellings in Study Areas 2 playing supervised and unsupervised relative to all Study Areas



Hobsonville Point Development Study area No. 3

Area: 2.9 ha.

Number of dwellings: 123

Apartment units: 60

Terraced houses: 27

Single-detached houses: 30

Semi-detached houses: 6

Gross residential density: 42.5 units/ha

① The park adjoining the study area provides a space for children's play, yet it is disconnected by De Havilland Road from the adjacent dwellings. Due to its scale it serves as a park for the wider area.

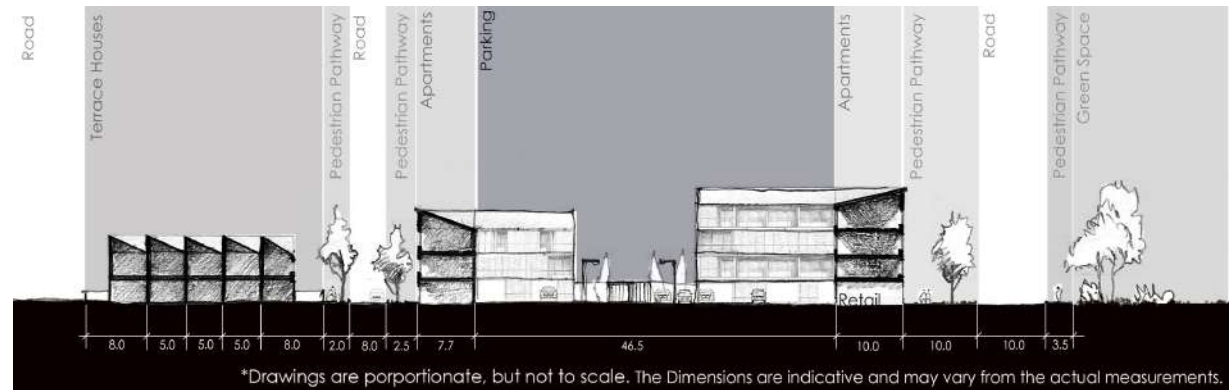
Study Area No.3

The third study area is at the centre of Hobsonville Point Development and includes cafés, a medical centre and pharmacy, a bank and other commercial uses. This area accommodates the only apartment street block of the Buckley-A Precinct. The apartment block, the Brickworks, consists of four apartment buildings and include 60 residential units with commercial and retail uses on the ground floor of the two corner buildings. This study area has five street blocks, consisting of detached, semi-detached, terraced and apartment buildings. Study area No.3 has the smallest area (2.9 ha) and highest gross density of residential units per hectare amongst the case studies.

- Green space: 11000 sq.m. (approx)
- Shared driveways: 2709 sq.m
- Neighbourhood park: 0 sq.m



Note: The numbers in the circles indicate the location of the photos presented below.



*Drawings are porportionate, but not to scale. The Dimensions are indicative and may vary from the actual measurements.

2 The communal space of the only apartment block of Hobsonville Point is used merely as gated parking space, significantly reducing the possibility of the space being used as a play area for children.

3 There are some pedestrian only pathways and connections that could be used to facilitate the space as a play area, yet most of these pathways are isolated and disconnected by roads.

Cross-Section A-A



Street-entrance relationship:

Except for some of the apartment units on the second and third floors and a small number of the single detached houses, there is rarely a situation provided for residents to have social interactions within the study area.

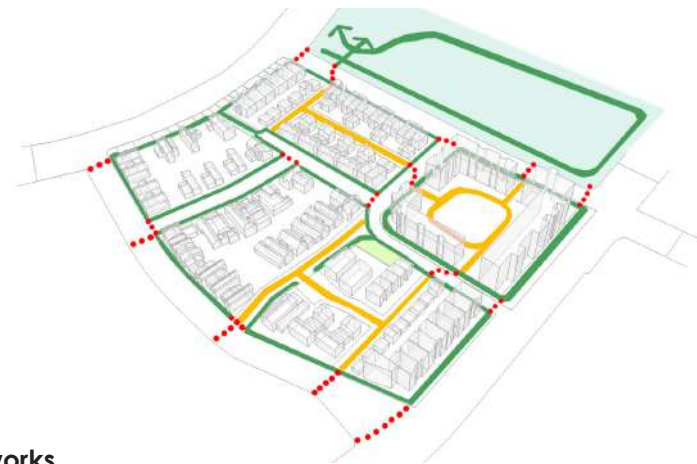
Networks:

The shared surface driveways provide some pedestrian activities inside some of the blocks within the study area.



Street-entrance relationship

dwellings facing each other across a street



Networks

- Green is a safe, car-free route - can be a pavement, green or a hard space
- Orange is shared surface driveway, where pedestrians and cars share the route
- Red is a crossing over a road

Open Space Accessibility:

Except for the green space outside the block, all the outdoor open spaces tend to be car dominated and unsafe for children to play. The communal space surrounded by the apartment units is also dominated by its use as a car parking space.

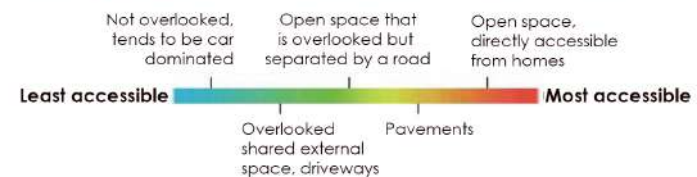


4 Car-dominated shared court yard of Brickworks apartments



The cafe of Brickworks apartments

Open Spaces Accessibility Map



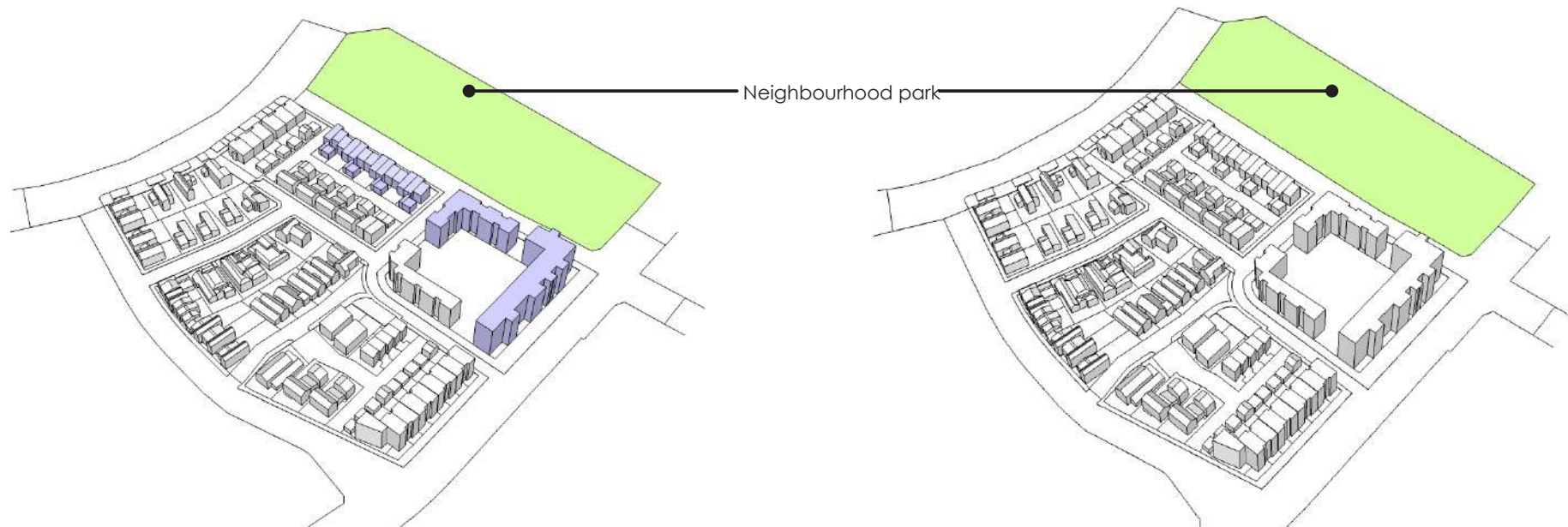
Across from the south-eastern intersection of Hobsonville and De Havilland Roads is the Hobsonville Point Primary School. However, the intersection is one of the main and busiest junctions in the area, imposing a risk factor for unsupervised children to access the school for education or play purposes. From the furthest point of the study area (93, Buckley Ave) to the Secondary School of the area is a 10-minutes' walk.

Visual Access Opportunities from Dwellings:

The road between the park and the dwellings cuts the physical access to the park. It is quite a busy road for traffic moving through Hobsonville Point. As a result, it forms a physical barrier for children's independent mobility. A number of the dwellings have good visual access to the park and to the apartment building's communal space. However, this is a space dominated by vehicles and not safe for young children to play.

Direct Physical Access from the Dwellings:

None of the dwellings have direct physical access to the green space, due to the road. This road becomes a barrier for parents concerned about safety (especially younger children), and hence children may only be allowed to cross it with adult supervision.



- Dwellings with both direct physical and visual access to the park
- Dwellings with either safe physical access or visual access to the park

Observational Analysis of the Green Space

Current activities:

This green space has one of the main children playgrounds in the area, providing opportunities for adult supervision and a popular meeting point especially on weekends. Observations were held on weekdays to record the usage by local residents rather than people travelling from further away. Few people used this green space during the week. Graphs 5 and 6 show weekday observations only.

Function & location:

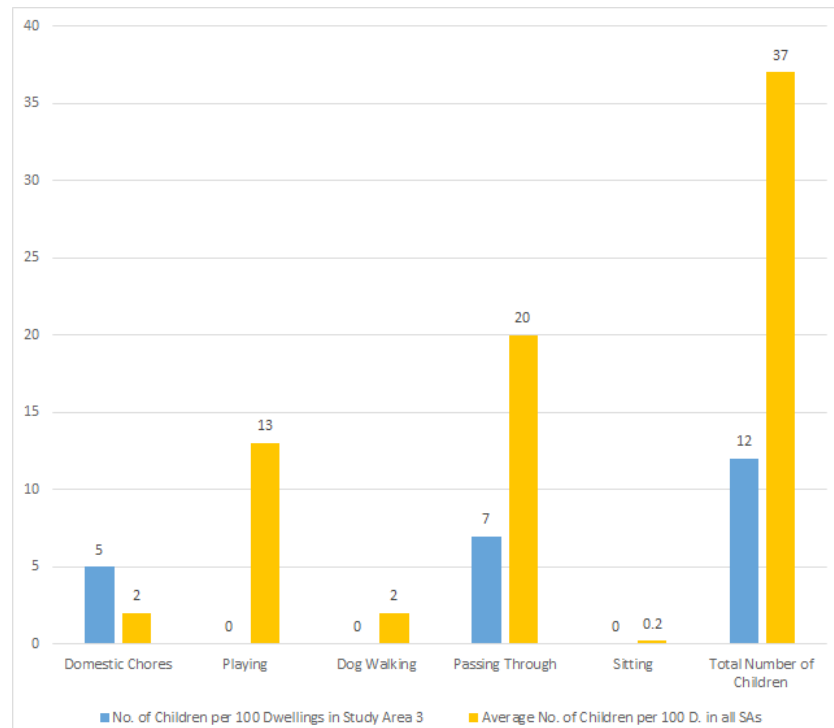
Due to the location of this green space in front of shops / restaurants/ cafes and in proximity to the primary school, it is one of the most used outdoor spaces in Hobsonville Point. The bus stop located opposite to the school also facilitates access to the space.

Usage time by users:

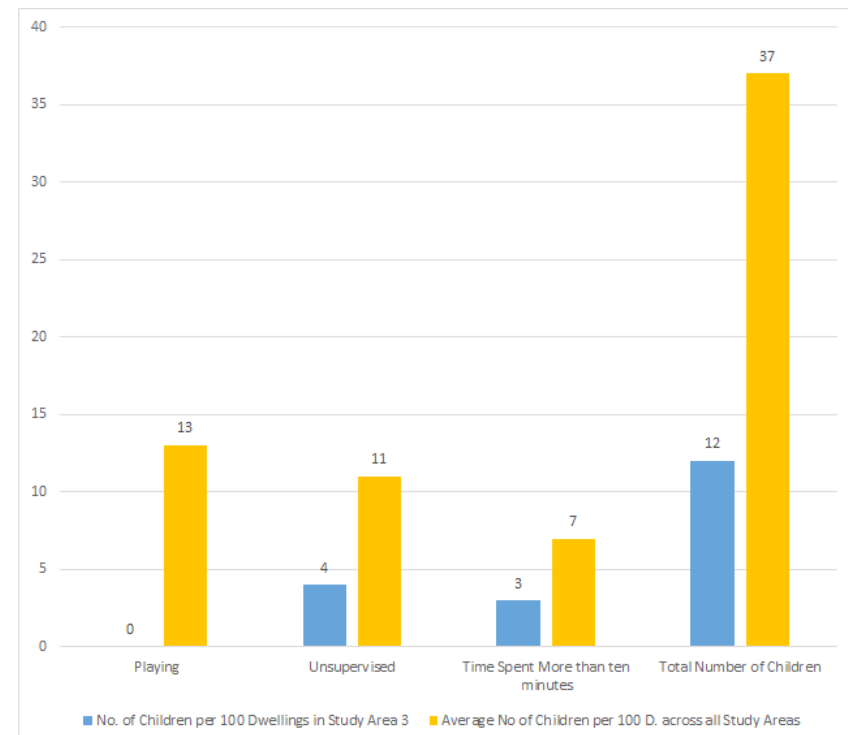
The users usually come by car, bicycle, or on foot to use this space as it is centrally located within Hobsonville Point. However, during the weekday observations there were few unsupervised visits by children, most of whom were passing through the space and not playing.

Future prospects:

The space is expected to still be heavily used on the weekends, as most of the services and primary school are near to it, also due to the existing facilities within and around the space (e.g. playground) as well as the centrality of this green space in relation the surrounding blocks.



Graph 5: number of children per 100 dwellings in Study Areas 3 relative to all study areas participating in different activities



Graph 6: number of children per 100 dwellings in Study Areas 3 playing supervised and unsupervised relative to all study areas

Hobsonville Point Development Study Area No.4

Area: 4.3 ha.

Number of dwellings: 118

Terraced houses: 44

Single-detached houses: 48

Semi-detached houses: 26

Gross residential density: 27.3 units/ha

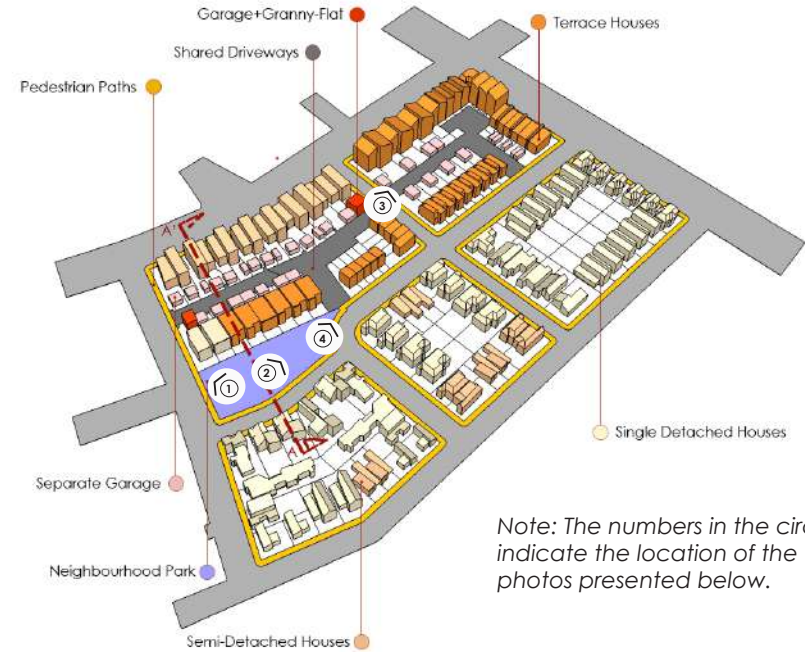


1 The neighbourhood park is designed in a way that caters to both families and children by combining the play area with a space for barbecue and family gatherings.

Study Area No.4

The fourth study area is located south of Hobsonville Point Road and south-east of Buckley-A Precinct. The De Havilland Road to the east, Ponga Street to the west and Clark Street to the south also encloses this area. Across De Havilland Road to the east, the study area faces Hobsonville Point Primary School entrance. The area includes a neighborhood park that is approximately 1 600 sq.m, slightly bigger than the one in Study Area no. 2. The park also includes a barbeque place, a gazebo and a minimal playground for children [figure 4]. Despite having the Hobsonville Point Road as an edge and being central to the whole development, the study area is solely designed as residential without any other uses or activities.

- Green space: 0 sq.m. (approx)
- Shared driveways: 2629 sq.m.
- Neighbourhood park: 1598 sq.m



Note: The numbers in the circles indicate the location of the photos presented below.



2 This neighbourhood park provides both play areas for children and a barbieque area for families, yet the play area is limited to a swing and a hopscotch space, and the area is cut off by roads from three sides.



3 This study area similar to others has several internal shared driveways, which could be facilitated and designed as a safe and lively space for children to play. However, as can be seen in the image, the car dominates these areas.



Cross-Section A-A






Street-entrance relationship

 Dwellings facing each other across a street



Networks

-  Green is a safe, car-free route - can be a pavement, green or a hard space
-  Orange is shared surface driveway, where pedestrians and cars share the route
-  Red is a crossing over a road



Similar to the third study area, this study area is located in the centre of the development and it is adjoining the primary school. Yet, because Hobsonville Point Road and De Havilland Road cut the study area off from the retail and educational uses, the direct and safe accessibility to these facilities for unsupervised children needs to be considered critically. From the furthest point of the study area (216, Clark Rd.) to the Secondary School of the area is a 10-minutes' walk.

Street-entrance relationship:

There is a high proportion of dwellings that face each other. Hence, residents have opportunities for social interaction within the area.

Networks:

Sidewalks around the blocks and within the neighborhood park (Kotuku Park) in the southwest of the area are the only pathways, which enable safe and car-free pedestrian activities. There are two shared surface driveways which could be shared by cars and pedestrians within the area, but which are dominated by vehicle movement.

Open Space Accessibility:

This area has relatively good design of its neighborhood park and high rate of front-facing dwellings which may increase the level of social interactions. This neighborhood consists of five street blocks, out of which only two, located on the northern side of the study area, enclose level open spaces. Those external spaces are overlooked from some of the surrounding dwellings, but tend to be car dominated.

However, there is a neighborhood park, which is considered as a safe outdoor open space within this study area. This neighborhood park which is equipped with a few playing facilities on one side of it, is also overlooked and safely accessible from the dwellings located on the northern side of it.



4 The small playground within the Neighborhood park

Open Spaces Accessibility Map

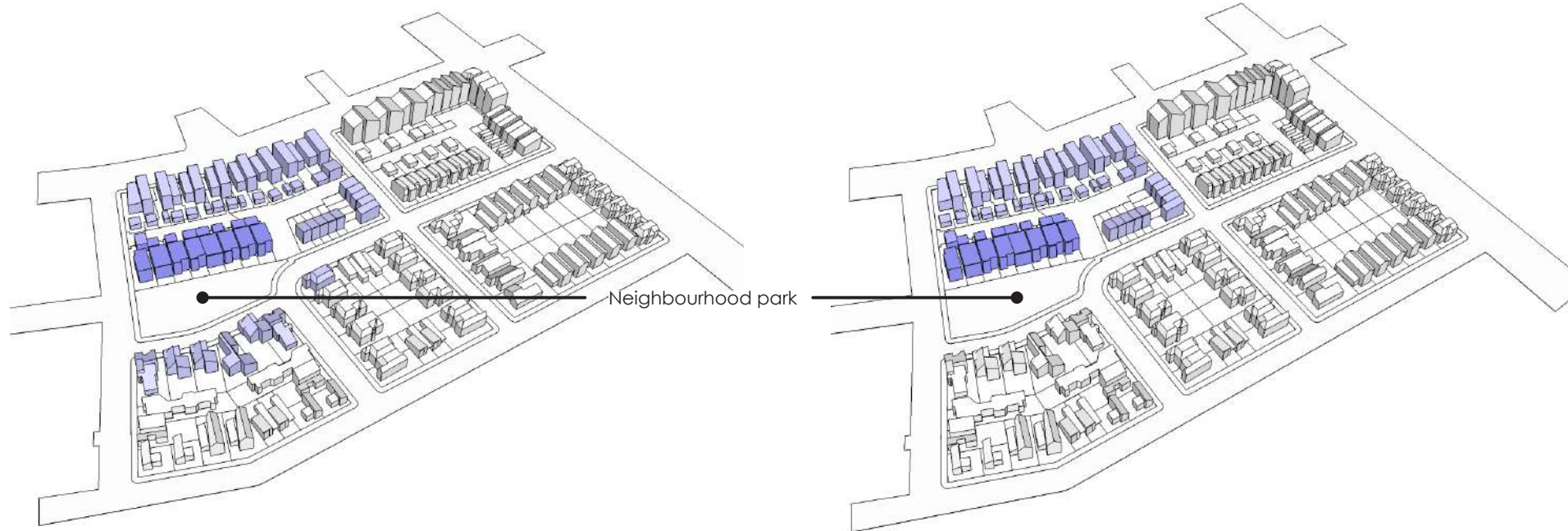


Visual Access Opportunities from Dwellings:

Some dwellings have direct physical access along safe car-free routes to Kotuku Park. The road between the park and the dwellings is a quiet local road, internal to the residential block. With adult supervision children may be allowed to cross it. In addition, a number of these dwellings have good visual access to the park.

Direct Physical Access from the Dwellings:

Only one row of terraced housing has a safe and direct physical access to the park. The rest of the dwellings within that same block have indirect access to the park, along car-dominated shared driveways. The road to the south of the park is a physical barrier, particularly for unsupervised younger children.



- Dwellings with both direct physical and visual access to the park
- Dwellings with either safe physical access or visual access to the park

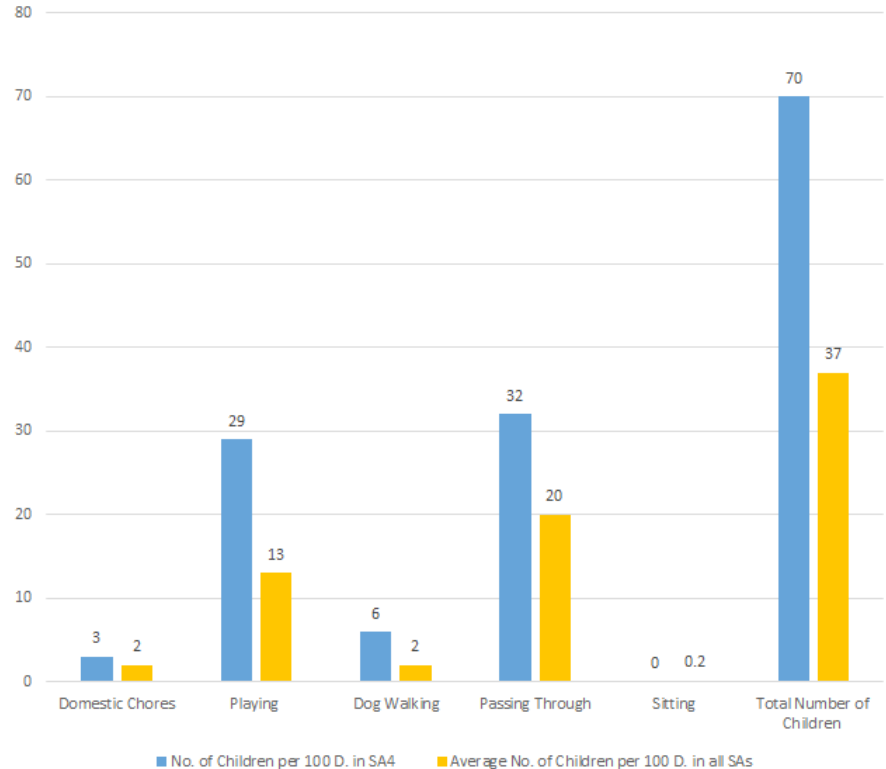
Observational Analysis of the Neighbourhood Park:

Current activities:

The neighbourhood park contains a playground used by many families living in the surrounding homes. In addition, during weekends this space is popular among skateboarders, as they use the long sitting areas as obstacles for their skateboard tricks. Thus, there is a good chance of having social and optional activities in this space.

Function & location:

This neighbourhood park is defined by residential buildings from all four sides. It is used frequently due to the playground for small children and a seating area for carers.



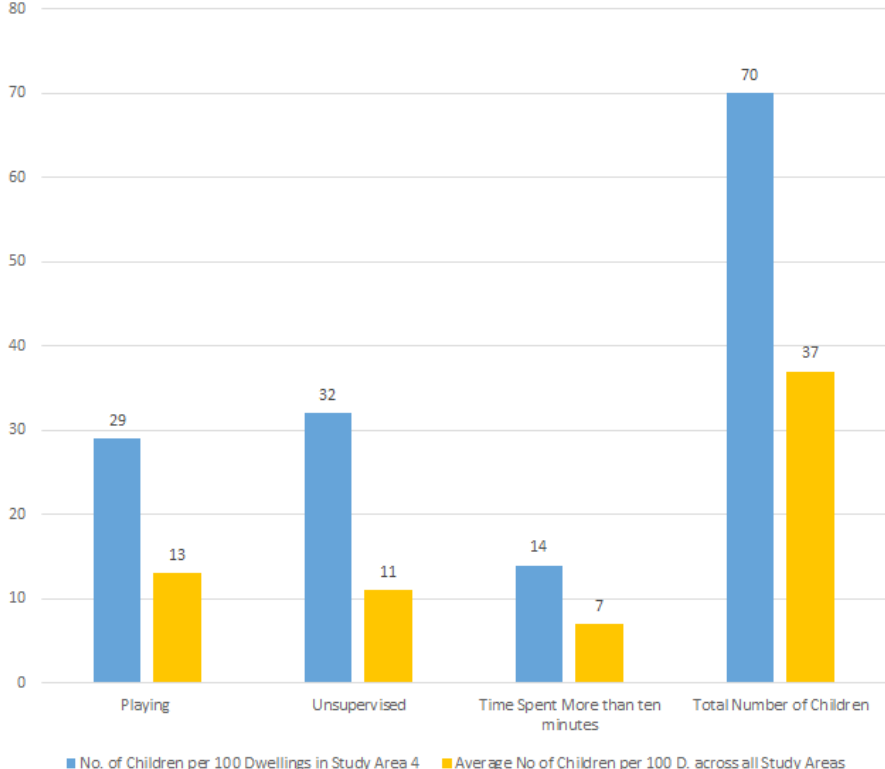
Graph 7: the number of children per 100 dwellings in Study Areas 4 relative to all Study Areas participating in different activities

Usage time by users:

In the case of rain, this space is still used due to the existence of a shelter in the space. This space is also equipped with a BBQ facility. During school holidays and during weekends, the maximum time users spend here is between 15 to 20 minutes when children are using the playground or teenagers skateboarding.

Future prospects:

Despite some tension which happens frequently between residents and teenagers on using the space as skateboarding track, the space is fully utilised. Most likely the space will continue to be utilised as it is now.



Graph 8: the number of children per 100 dwellings in Study Areas 4 playing supervised and unsupervised relative to all Study Areas

Hobsonville Point Development Study Area No.5

Area: 7.4 ha.

Number of dwellings: 224

Terraced houses: 166

Single-detached houses: 46

Semi-detached houses: 12

Gross residential density: 30.2 units/ha



① The neighbourhood park is well connected along one side and has different amenities including a water-game feature and a barbecue area.

Study Area No.5

The fifth study area is in a different part of Hobsonville Point Development and has been selected to ensure the diversity of study areas. The area is in the centre of Catalina Precinct and occupies the eastern side of Hobsonville Point. To the south, a linear coastal stream and a park, to the east Te Onekiritea Park and to the west the Hobsonville Primary School enclose the precinct. The northern part of the study area is not developed (as of 2019 when the research fieldwork was undertaken) and is under ongoing construction. The area is solely zoned as a residential neighbourhood and does not include any other uses or functions. However, it has the biggest neighborhood park, a small playground and some water features for children to play.

- Green space: 0 sq.m. (approx)
- Shared driveways: 3023 sq.m.
- Neighbourhood park: 2911 sq.m



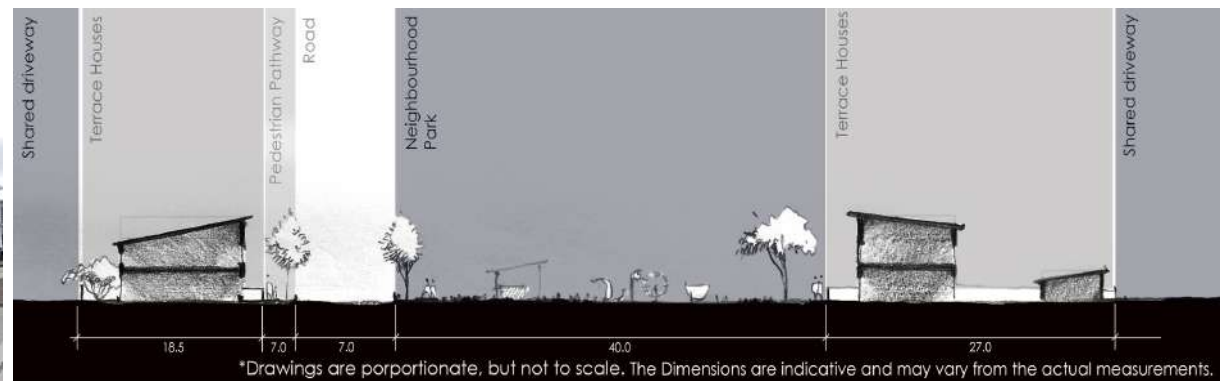
Note: The numbers in the circles indicate the location of the photos presented below.



2 Water features in the central neighbourhood park within the study area are designed for easy and safe play of children

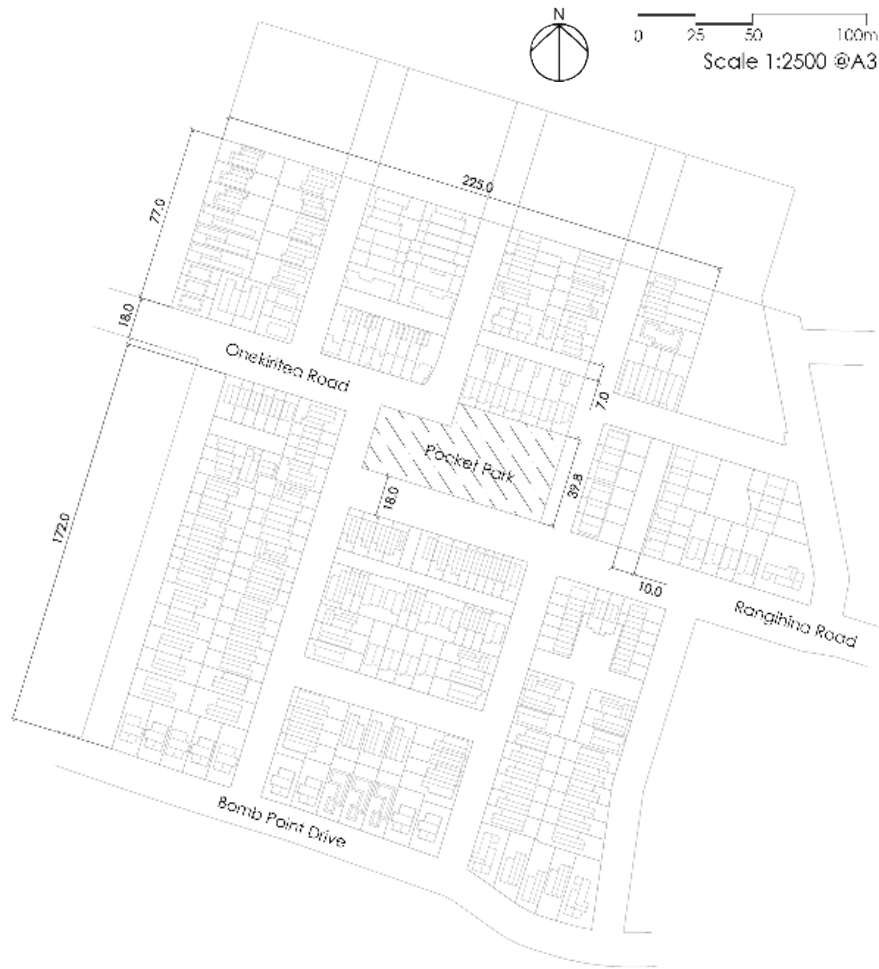


3 Rows of terraced housing provide visual access and eyes on the street, yet the pedestrian movement is often disturbed by access points to garages.



Cross-Section A-A

*Drawings are porportionate, but not to scale. The Dimensions are indicative and may vary from the actual measurements.



Street-entrance relationship:

Some of the dwellings in the northern blocks and southern blocks as well as some of the terraced houses around the neighbourhood park in the middle of the study area face each other. However, there is an inconsistency in the orientation of the buildings.



Street-entrance relationship

dwellings facing each other across a street



Networks

- Green is a safe, car-free route - can be a pavement, green or a hard space
- Orange is shared surface driveway, where pedestrians and cars share the route
- Red is a crossing over a road

Networks:

The pedestrian network is made up of: the park; footpaths along each street; and through shared driveways. The latter are dominated by cars and are designed for vehicle access to parking areas and garages.

Open Space Accessibility:

There is a sizeable neighbourhood park in the middle of this area which is equipped with several landscape features including a playground and some water play equipment. This neighbourhood park is overlooked from the surrounding dwellings to some extent.

There are also several pathways within the blocks which are considered as outdoor open spaces, yet they are primarily designed as driveways and car dominated. Some of these driveways are overlooked from the dwellings and some are not.



4 Car-dominated shared driveways

Open Spaces Accessibility Map

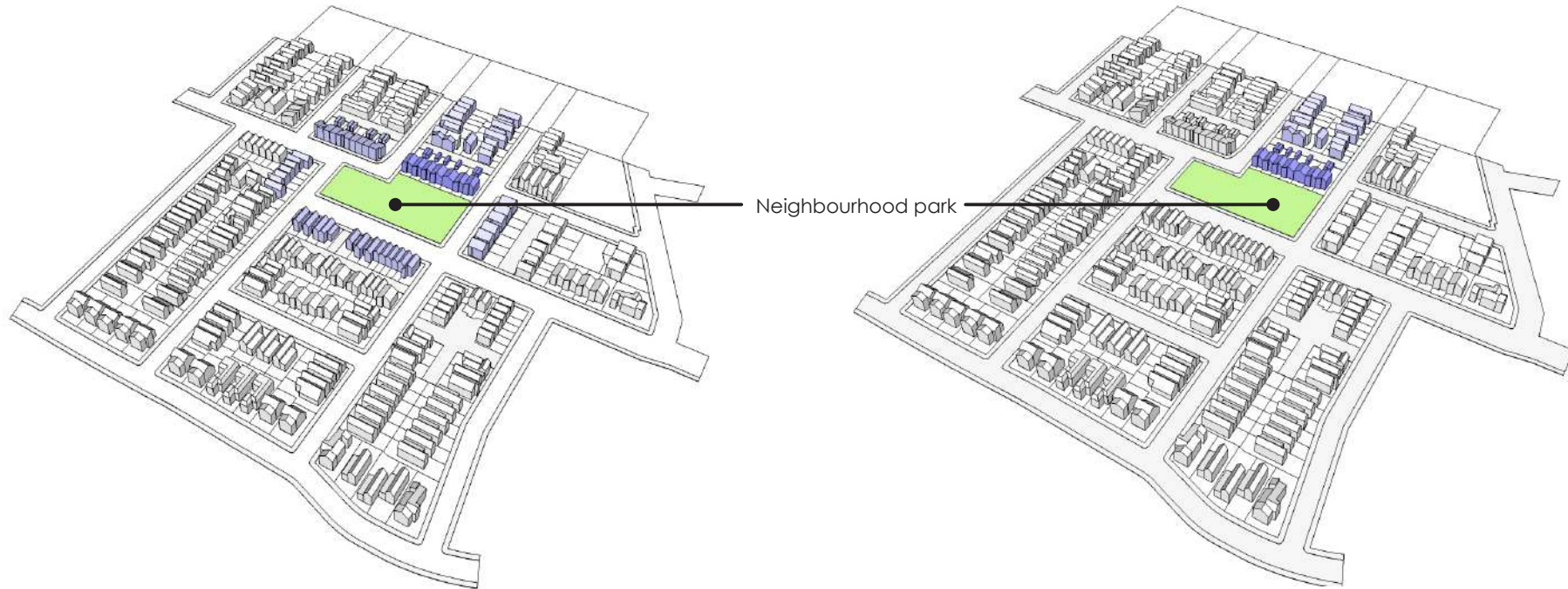


Visual Access Opportunities from Dwellings:

Some dwellings have direct physical access to the neighbourhood park. Other dwellings face on to the park (clear visual access) but are physical separated by a neighbourhood road. This is a quiet local road, internal to the residential block. With adult supervision children may be allowed to cross it.

Direct Physical Access from the Dwellings:

Only one row of terraced housing has safe and direct access to the park. The rest of the dwellings within that same block (to the North of the park) have indirect access to the park, along car-dominated shared driveways. The neighbourhood road to the south, east and west of the park is a physical barrier, particularly for unsupervised young children.



- Dwellings with both direct physical and visual access to the park
- Dwellings with either safe physical access or visual access to the park

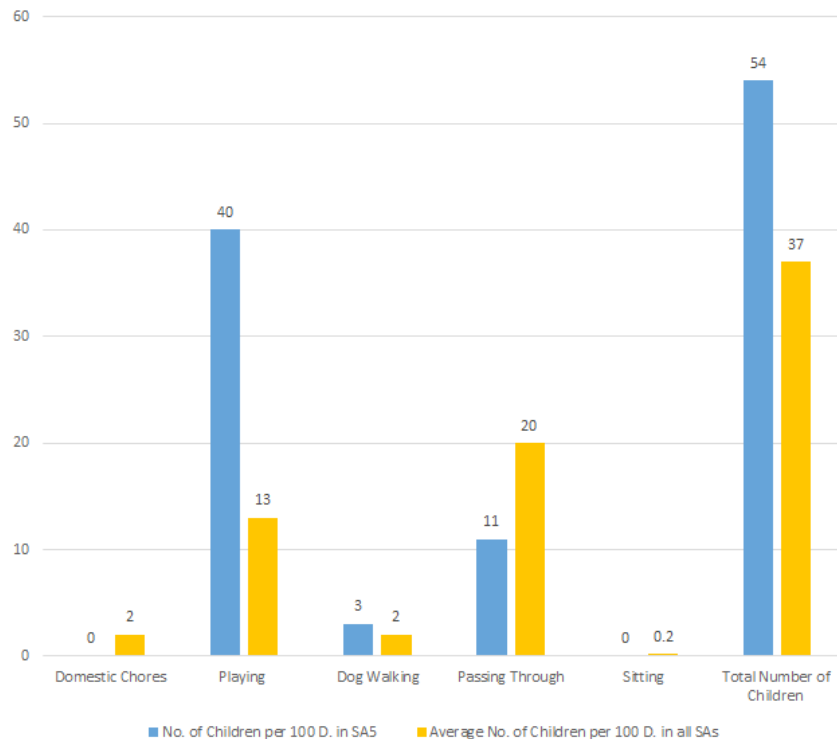
Observational Analysis of the Neighbourhood Park:

Current activities:

The playground and the water features attract children and residents from other parts of Hobsonville to this space. This make the space very popular with the users and a meeting point for residents while they are supervising their children using the playground. There is a high level of social activities within this area.

Function & location:

Due to the location of this park in the middle of the newly developed precincts, this place is one of the most used spaces.



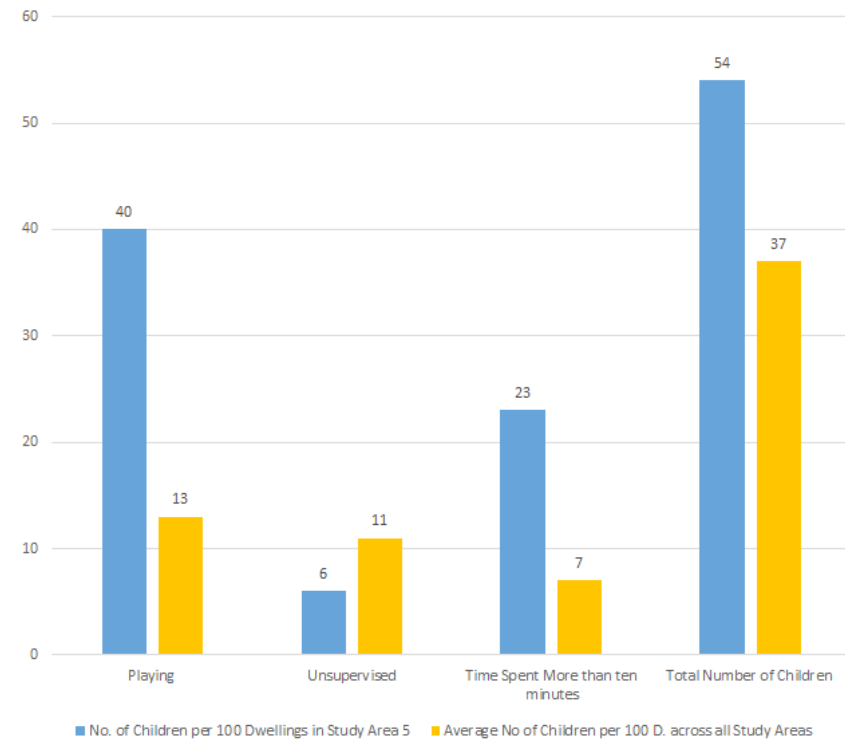
Graph 9: the number of children per 100 dwellings in Study Areas 5 relative to all study areas participating in different activities

Usage time by users:

In the case of rain, this space is still used due to the existence of a shelter. The neighbourhood park is also equipped with a BBQ facility which might be used by families for outdoor recreation activities. During school holidays and during weekends, the users spend approximately between 30 to 40 minutes in the space. The users usually come by car, bicycle or on foot to use this space.

Future prospects:

The space is expected to still be heavily used in the future, due to the existence of the water features, playground, and its central location between precincts in Hobsonville Point.



Graph 10: the number of children per 100 dwellings playing supervised and unsupervised in Study Areas 5 relative to all study area



Hobsonville Point Development Study Area No.6

Area: 4.3 ha.

Number of dwellings: 92

Terraced houses: 66

Single-detached houses: 26

Semi-detached houses: 0

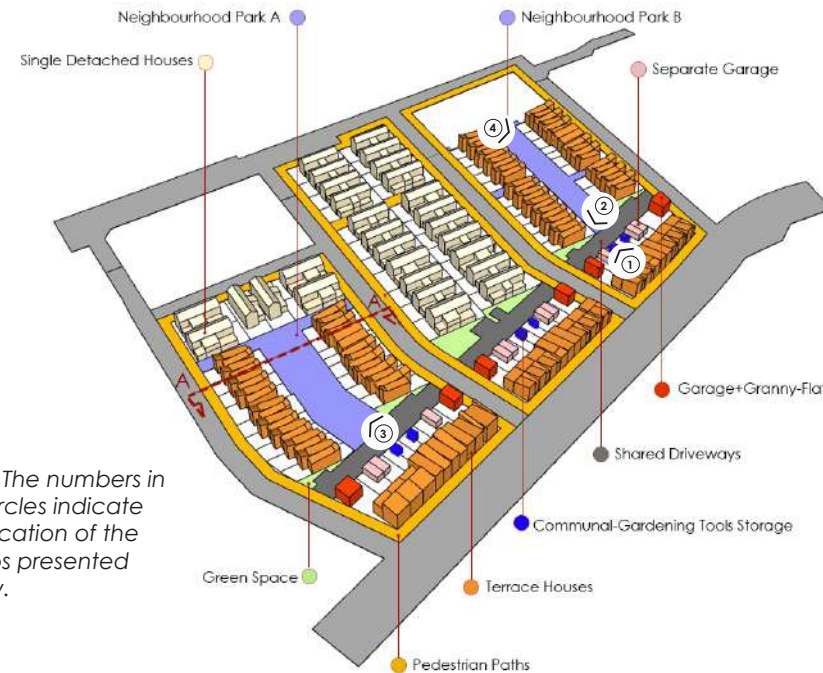
Gross residential density: 21.3 units/ha

① The semi-communal neighbourhood park is located to the rear of the terraced houses and is accessible through their back yards and from a shared driveway.

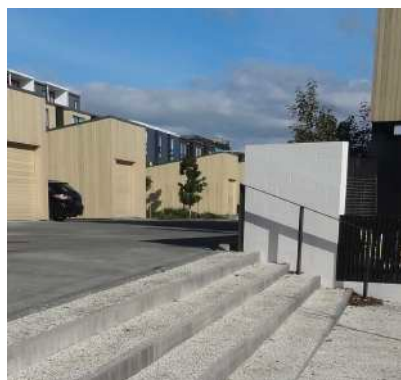
Study Area No.6

The sixth case study has been selected to ensure the diversity of suburban design and open spaces in this study. The area is in the Sunderland Precinct and is located towards the northern side of Hobsonville Point area. To the south, it is bordered by Hobsonville Point Road, to the north-east Cochrane Road, to the south-west Isitt Road, Hugh Road and Hastings Road, while Buckley Avenue borders the area to the north. As of 2019, both the eastern and western sides of the study area are under ongoing construction. The area is solely zoned as a residential neighbourhood and does not include any other uses. This area is distinct in three senses; firstly, there are two semi-communal neighbourhood parks surrounded by the terraced houses. Secondly, there is no clear public front and private back along the row of terraced houses which are situated around two blocks within the study area. From the close observation, it could be concluded that some of the terraced houses have two public fronts having pedestrian and car access from either side of the unit. Thirdly, some of the houses have their garages in the street facing side, creating a safer pedestrian path to the neighbourhood parks.

- Green space: 542.5 sq.m. (approx)
- Shared driveways: 154.6 sq.m.



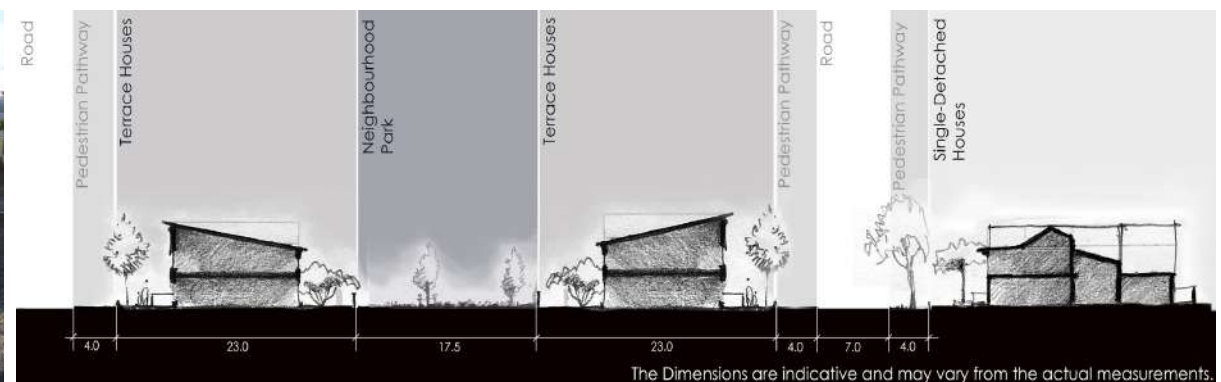
Note: The numbers in the circles indicate the location of the photos presented below.



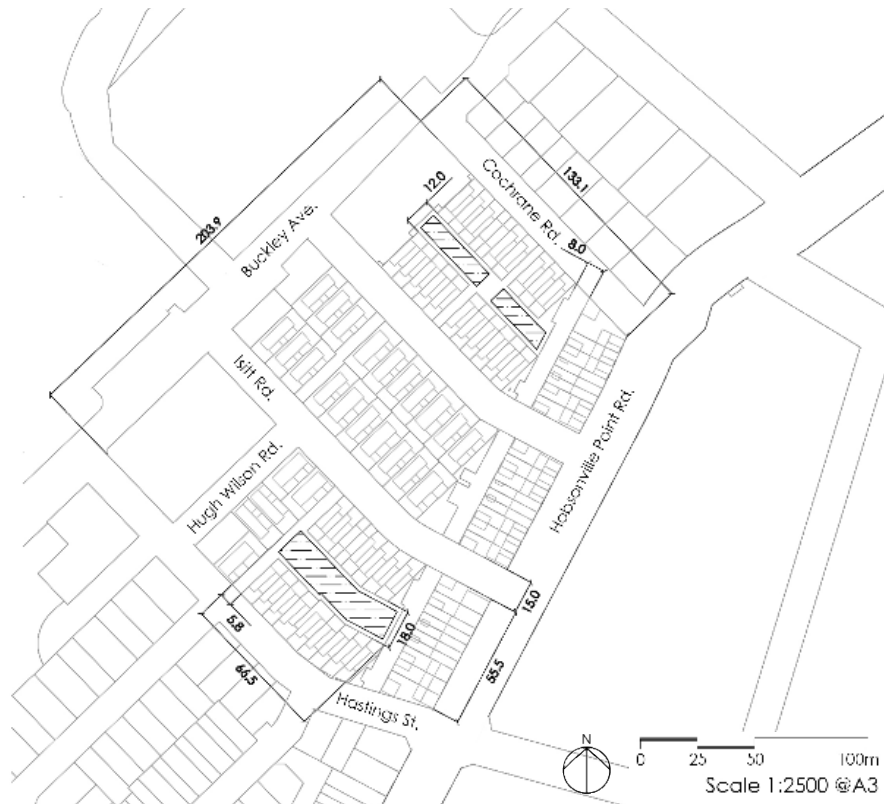
2 Despite the provision of communal neighbourhood parks, universal access to these spaces is not considered as is evident in the above image.



3 The gravel paths and dangerous bollards can cause serious risk for people with disabilities and who are visually impaired.



Cross-Section A-A



In this area most of the dwellings surrounding the central semi-communal neighbourhood parks have direct and safe access to them. Visual access provides opportunities for passive surveillance in the parks. Also, large number of dwellings have their public fronts facing each other. This enhances the potential for social interactions between the residents.

Street-entrance relationship:

More than two third of dwellings in this study area face each other, as either their front door or back door, or both are overlooking the street or semi-communal neighbourhood parks. This is a significant advantage for this study area.






Street-entrance relationship

 dwellings facing each other across a street



Networks

-  Green is a safe, car-free route - can be a pavement, green or a hard space
-  Orange is shared surface driveway, where pedestrians and cars share the route
-  Red is a crossing over a road

Networks:

Within this study area, the pedestrian networks in the blocks around the neighbourhood parks, are well connected. However, as it is presented in the images, some of the internal pathways are paved with gravel which cause difficulties for people with disabilities, and some are totally disconnected with sets of steps and other obstacles.

Open Space Accessibility:

In contrast to other study areas, two out of three blocks in this area have semi-communal parks that are over-looked by dwellings. This is a great advantage for children to be able to play independently and safely. However, the three adjacent driveways and the difference in the levels, requiring steps, can pose risks for all the vulnerable groups, including children, old people, and people with disabilities. In addition, it can be argued that the neighbourhood parks are in an uncertain situation. They are not legible and permeable enough to be clearly visible and accessible from the public spaces. Yet, from the physical arrangement, they are not conceived to be fully communal, which can pose safety issues for kids without supervision. The parks belong to the owners of the surrounding dwellings, but are not gated, and have no physical restriction on access.



4 The gravel pathways can pose a serious risk for old people and for people with disabilities.

Open Spaces Accessibility Map



Visual Access Opportunities from Dwellings:

All dwellings that run parallel with the two community parks have direct physical access to the park. Other dwellings have some level of visual access and physical access along a shared driveway, designed for car usage. With adult supervision, younger children may access the park by crossing this shared driveway.

Direct Physical Access from the Dwellings:

All dwellings that run parallel with the two community parks have direct physical access to the park. Other dwellings have some level of visual access and physical access along a shared driveway, designed for car usage. The shared driveway is a physical barrier, particularly for unsupervised younger children.



- Dwellings with both direct physical and visual access to the park
- Dwellings with either safe physical access or visual access to the park

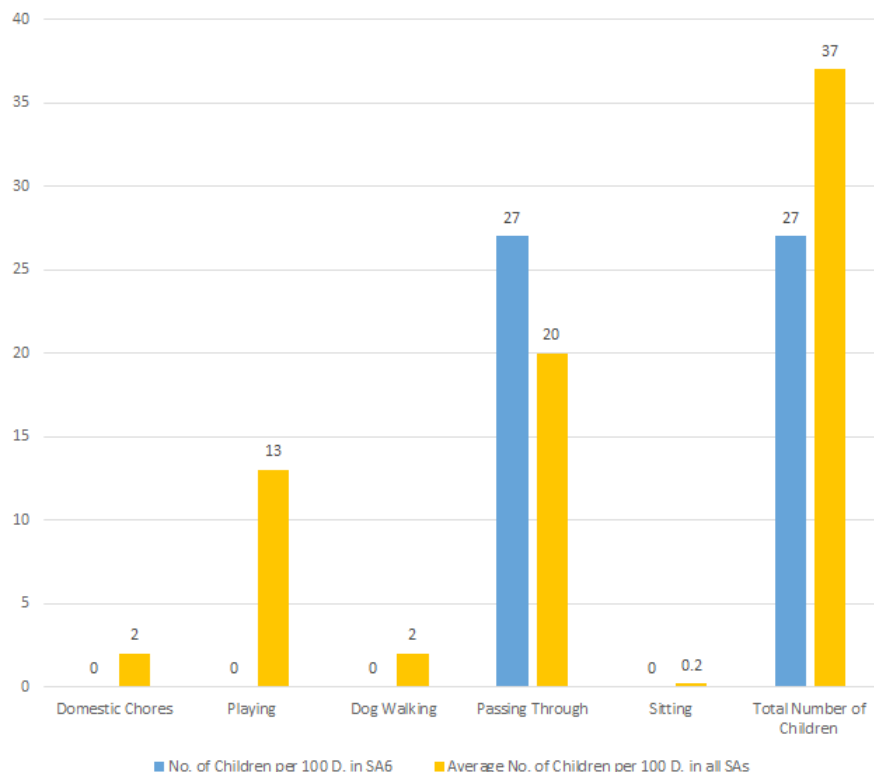
Observational Analysis of the Neighbourhood Park:

Current activities:

These neighbourhood parks lack any facilities except two benches and a storage shed. There are a few recently planted trees in the space which cannot be used as shelters from the sun as yet. Storage and gardening tools are commonly used by the residents of the surrounding dwellings.

Function & location:

These neighbourhood parks are located within a developing precinct in Hobsonville Point, which, at the time of the observations, lacks any particular activity happening in the place except for passing through.



Graph 11: the number of children per 100 dwellings in Study Areas 6 relative to all study areas participating in different activities

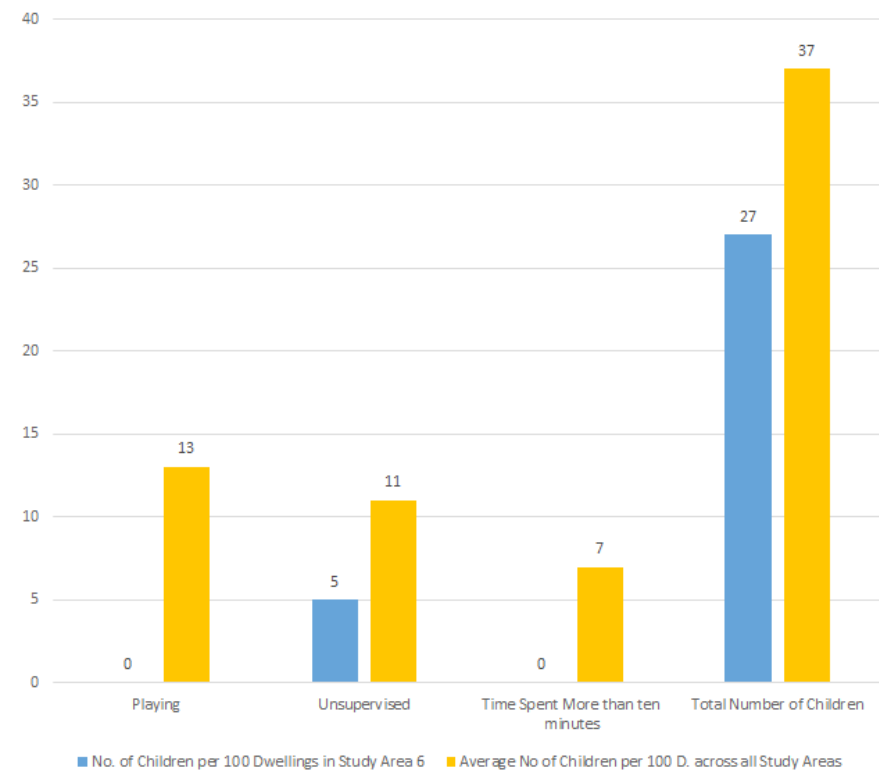
Usage time by users:

In the case of rain, these spaces are rarely used due to the absence of any kind of shelter. The lack of any shelter in these parks is actually a negative design aspect even in sunny days.

During the weekends, the users spend approximately less than 10 minutes in these spaces, most of whom were passing through.

Future prospects:

These spaces are expected to be used more by children in the future due to the visual and physical accessibility of the park from the surrounding dwellings which creates safe environment for the unsupervised activities.



Graph 12: the number of children per 100 dwellings in Study Areas 5 relative to all study areas participating in different activities

Scoring System

Scoring each of the case study area assessment from zero to five provides a simple ranking. This can be used to compare study areas on one criteria for example street entrance relationships.

Study Area No. 1

Despite neighbouring the linear park and being established before other areas, this case study area does not score highly on the mapping analysis for any of the criteria being considered.

Mapping Ranking	
Street-entrance relationship	2
Networks	2
Open spaces accessibility	1
Access from dwellings	0

Study Area No. 2

This study area scores well for open space accessibility with direct access to a neighbourhood park for some of the dwellings.

Mapping Ranking	
Street-entrance relationship	0
Networks	2
Open spaces accessibility	3.5
Access from dwellings	1.5

Study Area No. 3

This study areas scores well for having safe car-free pedestrian networks. However it does not score so well in terms of suitability for children to play independently as De Havilland Road divides the residential area from the green open space.

Mapping Ranking	
Street-entrance relationship	2
Networks	3
Open spaces accessibility	1
Access from dwellings	0

Study Area No. 4

This study area scores well on the basis of the good design of its neighbourhood park and the high level of front-facing dwellings potentially fostering social interaction. In addition external spaces, including the park, are overlooked from some of the surrounding dwellings.

Mapping Ranking	
Street-entrance relationship	3.5
Networks	2
Open spaces accessibility	1.5
Access from dwellings	1

Study Area No. 5

This study area provides direct and safe access from some of the dwellings to the central neighbourhood park and playground. Many other dwellings are front-facing each other fostering the possibilities for social interactions between residents.

Mapping Ranking	
Street-entrance relationship	2
Networks	2.5
Open spaces accessibility	3
Access from dwellings	1

Study Area No. 6

This study area performs well against all three criteria, having direct and safe access from most of the dwellings to the central semi-communal parks, and a high proportion of dwellings facing each other.

Mapping Ranking	
Street-entrance relationship	3
Networks	2.5
Open spaces accessibility	3.5
Access from dwellings	3

Comparative Summary

Study Area 4 scores the highest for Street-entrance relationship. A very high proportion of dwellings in this study area face each other, giving residents opportunities for informal social interactions.

Study Area 3 scores highest for Networks. Pedestrian footpaths alongside driving routes provide a safer pedestrian network.

Study Areas 1 and 6 score the highest for Open Spaces Accessibility. For Study Area 1 access to open spaces is excellent for older children but may require supervision by caregivers for younger children, as the majority of green open space lies across a road.

Study Area 6 scores the highest for Access from the dwellings. Direct physical access and visual access to the two community parks provides safe and convenient access even for younger children.

Chapter 4: Data Analysis

The analysis presented in this chapter is the result of the field observations and the spatial mapping within study areas in Hobsonville Point.

This chapter discusses the findings of this study in two sections. The first section focuses on the observations, conducted and recorded during the course of study. The second section refers to mapping analysis presented in the previous chapter. Bringing the analysis from these two sections together enables a deeper understanding of how well the different study areas perform and why. Our Findings are summarised at the end of this Chapter.

Key Trends in the Data

Who are the users?

- Adults are the major users of open spaces in most study areas.
- Children, by a small margin, are the main users of open spaces in two Study Areas 4 and 5.
- Elderly people hardly use the open spaces. This may be a reflection of the demographics of a relatively new residential development. Or it may reflect the lack of desirable infrastructure, from accessible seating through to the provision of shelter or shade.

Open spaces as the place of social interactions

Except in Study Area 6, all the neighbourhood open spaces and green spaces are used for social interaction, as we observed more people in groups rather than

individually. This increases the desirability and safety of open spaces. Study Area 6, in contrast to others, has its neighbourhood parks as communally-owned spaces, surrounded by dwellings. This may lead to less social interactions between the residents and the wider public, while providing a semi-private semi-communal open space for the residents.

What do people do in open spaces?

Passing through is the primary activity taking place in the open spaces of all study areas, except Study Area 5. Study Area 5 is highly accessible, centrally located, and well-equipped with a shelter, a barbecue and water features, making it an ideal place for social activities. It indicates that an under-utilised open space may end up being used only to pass through, while provision of amenities for different groups, specially for children, can

increase the desirability of the place for longer stay.

Who does spend more time in open spaces?

Although adults are the main users of the open spaces, they tend to spend less time in such spaces compared to children. Children tend to engage with open spaces in all the study areas for an average of almost 9 minutes. This shows that open space designs should consider the needs of children and how to enhance their experience. Study Areas 4 and 6 are used for longer periods of time by adults and the elderly compared to children. Study Area 6 does not have any playground or amenity for children, which explains why children do not spend much time there. However, Study Area 4 has a playground, which is not well-equipped. That may be the reason for the space being underused by children, while adults enjoy the neighbourhood park, the shelter and the barbecue facility.

Where and how do children play?

Three of the study areas have a playground in their open spaces. Study Area 3 has a large outdoor green space that can be used by the wider population in and out of Hobsonville Point area. Excluding the observations during the weekend, the green space is not used by children during the weekdays. On the other hand, Study Areas 4 and 5 have small open spaces with playgrounds, and performed well

in both observations of children playing and mapping analysis.

It appears that each of these open spaces serve different groups of children for playing, passing through as well as doing other optional activities. The type of amenities also attracts different age groups of users. The proximity and accessibility to the dwellings can increase the chance of unsupervised safe activities (playing) for children.

Does size, location and the wider network affect the performance of open spaces?

The location and size of open spaces within the study areas are influential in attracting more users to the place. The safe accessibility of the surrounding dwellings as well as other surrounding blocks to the open space, also, plays an important role in attracting more users, particularly children of different age groups, to the place. This adds to the desirability of the place increasing the chances of social interactions within different neighbourhoods.

These factors, however, could all be limited by the design and consideration of the amenities and playing facilities in the open spaces. In this regard, the neighbourhood parks in the Study Areas 4 and 5 perform relatively better than open spaces in other study areas due to the inclusion of amenities and playing facilities which attract a wider range of users to the place.

Observations Analysis

Activities

Except for 'passing through' which was observed as one of the most popular activities in the open spaces, other activities happen as a result of people pausing and spending some time in the space. To record and analyse the type of activities in the open space, Gehl's (2001) categorisation of social and optional activities in the open space is applied in this study.

The focus of this analysis is on children within each study area. Playing, as described in the literature review, provides the situation of interaction between children talking to each other and exchanging ideas. This study considers 'playing' as a social activity. Other main activities which are observed by the researcher, include dog walking and domestic chores. According to the essence of these activities and the time spent by children in the area, these activities are considered as optional activities.

The following graph illustrates the proportion of three types of activities: Social, Optional Activity, and Passing Through. The Study Areas 5 and 4 show the highest rank of social activities by children in their neighbourhood parks. The neighbourhood parks in both Study Areas 5 and 4 are equipped with different choices of playing facilities. In Study Area 5, 40 children out of 54 were observed to be involved in a social activity which is mainly playing

in the study area. Likewise, the neighbourhood park in the Study Area 4 contains one of the main children playgrounds and the only water games/features in the area. These amenities possibly attract children from other areas to this park. The safety of this area, as it is observed from the surrounding dwellings, has played an important role in the development of the capacity of the park to have high level of social activities (playing) by children. In addition, Study Area 4 has the highest level of dwellings facing each other, providing opportunities for informal social interaction, thought to contribute to community safety.

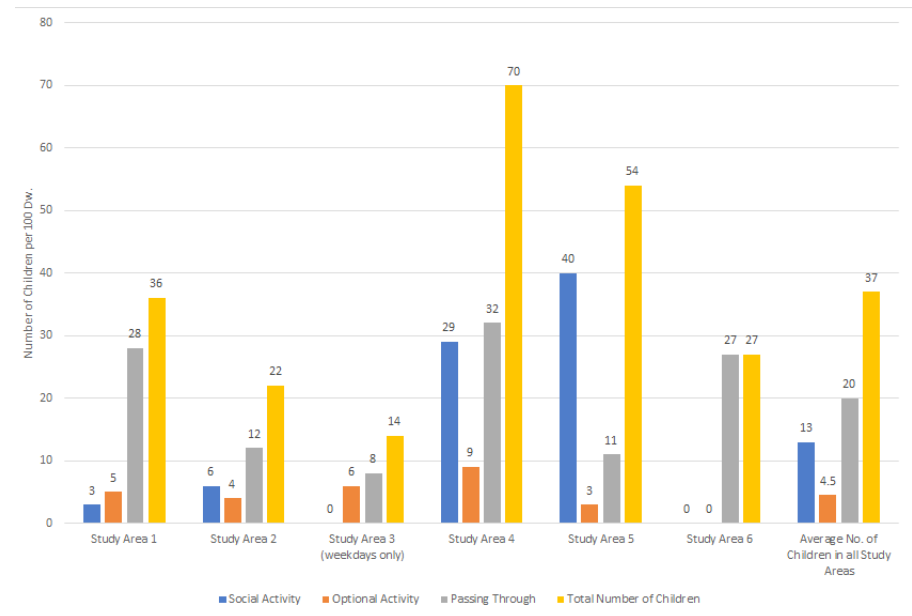
On the other hand, Study Areas 3 and 6 show the least level of social activities in their open spaces which reflect the lack of the quality design and any facilities for children to play in the open spaces. Study Area 6 and its communal parks does not seem attractive for children to play. This may be because this study area has only been recently developed and partly still under development.

In terms of the optional activities within all the open spaces, low numbers of children use their local open spaces to do dog walking or domestic chores. Nevertheless, the children, who live within the Study Area 6 do not use the central semi-communal neighbourhood parks to do their optional activities. This may be due to the only recent completion of

construction. The activity of children passing through, however, has been observed in all the study areas.

The activity pattern of children who pass through their local open spaces corresponds more or less with their activity pattern of playing in the area. Accordingly, the highest number of children who passed through the open space were observed in the Study Area 4, while the least were observed in the Study Area 3. The residential area of Study Area 3 is divided from the green open space by a road.

To conclude this section, it is noticeable that there is a clear correspondence between the layout of the various study areas, the provision of facilities within the open space, and the overall amount of observed activities of children, particularly playing (social activities) in the open spaces.



Graph 13: different activities across the study areas by numbers of children per 100 dwellings

Age in relation to Actives in all Study Areas:

The chart on the right depicts the approximate proportion of different age groups in different study areas, carrying out different activities. NB: These are not the actual number of people observed, but are the normalised values to take into account the different number of dwellings in each study area. The ratio of Adults to Children is almost one to one in Study Areas 1, 4, and 5. Those study areas have some form of access to play equipment or other attractions for children in their green spaces or neighbourhood parks. Whereas, for the other study areas (2, 3 and 6), the ratio of adults to children is higher, reflecting the lack of play equipment.

Study Area 6, in the chart, shows older people (elderly) being the highest proportion of users of the open space. More elders are dog walking or passing through the space. Most of the children observed in this study area, also, are observed passing through or dog walking.

Study Areas 4 and 5, respectively, seem to have the highest numbers and ratio of users, and, therefore, different activities. This may be due to their well-located and well-connected neighbourhood parks that are equipped with playing facilities, water games and BBQ amenities.

There are no observation of playing activities in Study Areas 3 and 6. This reflects the lack of any playing facilities in other open spaces.

Most of the activities observed are people in groups. Study Area 6 is the only area where activities were observed being undertaken by individuals, rather than by groups of people. This may be due to the enclosed (communal) neighbourhood parks, overlooked from the residential dwellings, contributing to enhanced perceptions of safety in the area.



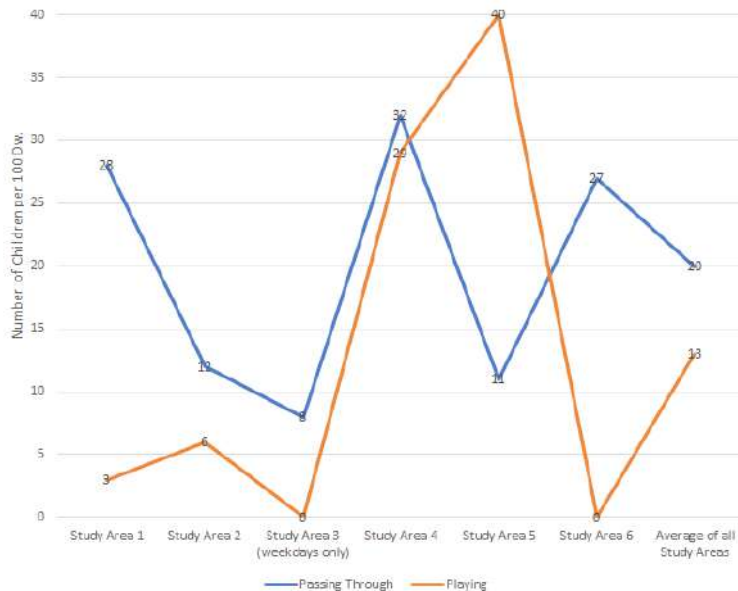
Children (orange), Adults (yellow), Elders (green), In Group (grey), Alone (blue)

Passing Through vs. Playing:

The graph below compares the number of all users passing through the neighbourhood parks and green spaces versus those users who are spending time playing. The graph represents the average numbers of children per 100 dwellings.

the sociability and robustness of the place, as a space of play for children. It needs to be taken into account that Study Area 5 is also not fully developed, so its neighbourhood park will possibly increase its popularity when the area is fully developed.

In most study areas, more people use the space as a short-cut or path to or from their dwelling. Study Area 5 is an exception in this regard, as its neighbourhood park appears as a successful and active place for children and adults to play and spend longer time to utilise its facilities. There are almost twice the number of people playing than passing through, indicating



Graph 14: the number of users passing through green spaces/neighbourhood parks vs number of users who stay and spend time in those areas.



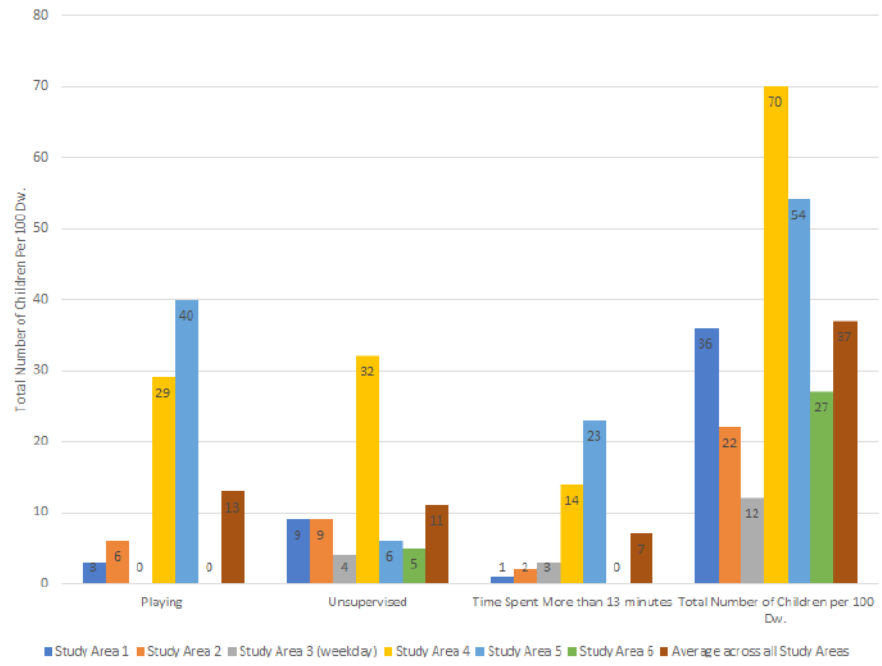
The Water Game in the Study Area 5 neighbourhood park may be one of the key factors in its popularity as observed during the research.

Comparison of the activity and time spent by total numbers of children per 100 dwellings in all Study Areas:

The following graph compares the numbers of children playing and doing other unsupervised activities as well as those who spent more than the average time (13 minutes) in all the study areas. As the study areas are all of a different size and contain different numbers of dwellings, the analysis below is based on number of children observed per 100 dwellings. This ensures that if, for example, more children are observed in one study

area than another, the data provided below has taken into account the varying numbers of dwellings in the study areas being compared.

As shown in the graph, more children were observed in Study Areas 4 and 5 playing and spending more than 13 minutes (average time spent in all study areas) doing other unsupervised activities in the open spaces. Both the neighbourhood parks in the Study Areas 4 and 5 are equipped with playing facilities which may be used by the wider population of children living in Hobsonville Point.



Graph 15: the number of children per 100 dwellings engaging in different forms of activity in each of the study areas.

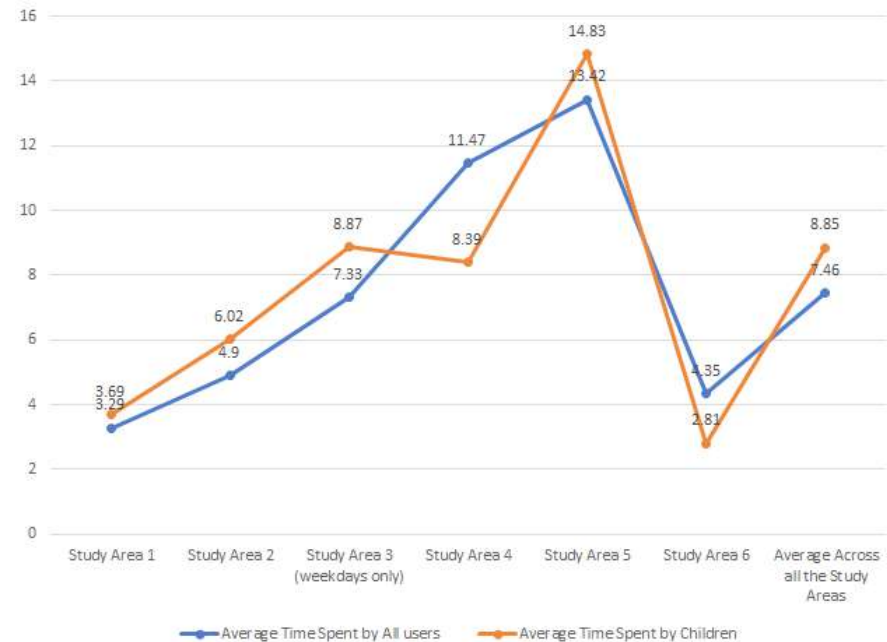
Average Time Spent:

The graph below represents the average time spent by children against all the users (including children, adults and elderly) in the open spaces of the study areas. The pattern of use of the space is consistent between all the users for each study area.

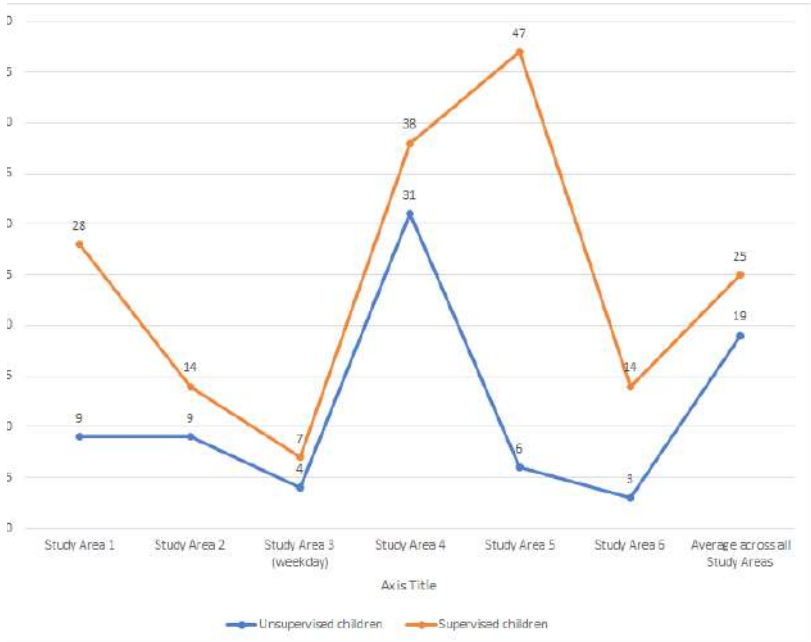
However, the observed data for the neighbourhood park in Study Area 4 shows a slightly different pattern for different groups of users in the space. Other users (not children) spend more time on average in the

neighbourhood park (more than 10 minutes). Possibly the types of facilities within this neighbourhood park make it attractive to adults, resulting in them staying for longer periods of time, whilst children spend on average a little over 8 minutes in this open space.

Another finding is that all users spend more time in Study Area 5, than in the open spaces in the other study areas. This may be due to the location of this Study Area and the facilities provided in the park.



Graph 16: the average duration of time spent by all users (combined) and children in each of the study areas.



Graph 17: comparison between supervised and unsupervised children per 100 dwellings.

Supervised vs. Unsupervised Activities:

The graph above illustrates the number of children per 100 dwellings observed undertaking supervised or unsupervised activities in the open spaces of the study areas. On average, more children (25 children) were observed undertaking supervised activities than unsupervised activities (19 children). This could be related to the age of the child and/or parental perceptions of safety.

However, there are some variances: For instance, Study Area 4 has comparable numbers of children

being supervised as unsupervised whereas in Study Area 5, the ratio between the number of children doing supervised and unsupervised activities is 47 to 6. This may be related to the design and facilities in the neighbourhood park of Study Area 5 which also attracts many adult residents. However, Study Area 4 and Study Area 5 score highly on the various mapping assessments with Study Area 4 exhibiting a strong street entrance relationship indicating the opportunities for social interaction may be significant.

Mapping Analysis

This section compares the spatial characteristics of the Study Areas and the four factors that were analysed in Chapter 3. Here, the Study Areas are ranked from best to worst, based on each factor, and further analysed through the following tables.

Street-entrance relationship	
Study Area 4	3.5
Study Area 6	3
Study Area 1	2
Study Area 3	2
Study Area 5	2
Study Area 2	0

Networks	
Study Area 3	3
Study Area 5	2.5
Study Area 6	2.5
Study Area 1	2
Study Area 2	2
Study Area 4	2

Open Space Accessibility	
Study Area 2	3.5
Study Area 6	3.5
Study Area 5	3
Study Area 4	1.5
Study Area 1	1
Study Area 3	1

Access from Dwellings	
Study Area 4	4
Study Area 5	3
Study Area 6	3
Study Area 2	1.5
Study Area 1	0
Study Area 3	0

Using a simple scoring process for the four mapping assessments, suggests some areas for further investigation. The data presented in the ranking tables show that Study Area 6 scores highly across all four criteria and scores consistently in the top 3 for all six Study

Areas. This indicates that, Study Area 6 has the highest quality of design-aspects in terms of opportunities for children to be independently mobile and to play. Study Area 1 has low scores against three of the four criteria, consistently ranking in the bottom

three, with the exception of Networks. This suggests that the quality of design for supporting children to independently play is the lowest of the six study areas.

Proportion of dwellings with direct and safe access to outdoor open spaces:

The following table shows the proportion of dwellings in each study area that have direct physical access to the neighbourhood park or green space without having to cross a road. Having direct, safe and car-free access to open spaces near their dwellings supports mobility opportunities for children to independently play.

Study Areas 2 and 6 have the highest level of safety for children to play due to the safe and car-free access from their dwellings to the neighbourhood parks and other shared car-free routes

within the study areas.

The Study Areas 1 and 3, according the table below, have the lowest (zero) direct and car-free access to the outdoor green space. This is due to the layout of the study areas, which are lacking car-free pedestrian network access between the dwellings and the parks and open spaces.

Looking across all of the study areas, less than 20% of the dwellings have direct, car-free, and safe access to the outdoor open spaces. It seems that the design of Hobsonville Point provides limited safe physical access for younger children to play unsupervised in the outdoor open spaces. Unfortunately this decreases the level of children's independent mobility and social activities within their home neighbourhoods.

Table 2: Proportion of dwellings which have direct and safe access to neighbourhood parks or green spaces

	S.A.1	S.A.2	S.A.3	S.A.4	S.A.5	S.A.6	Total
With Direct and Safe Access	0	68	0	34	22	38	162
Total No. of Dwellings	105	162	123	118	224	92	824
Percentage	0	41.9	0	28.8	9.8	41.3	19.6

Proportion of dwellings with direct visual access to outdoor open spaces:

The following table shows the proportion of dwelling which have direct visual access to the open space, either a neighbourhood park or a green space, in each Study Area as well as in total. Direct visual access from the dwellings to the neighbourhood open spaces provides parents and caregivers with a degree of supervision while their children are playing outside.

Study Area 6 is in the best situation in terms of the level of visual access that is provided for the parents to have supervision over their children playing in the (communal) neighbourhood parks, with 67% of the dwellings having

opportunities for direct visual access.

Study Area 1 has the lowest proportion of dwellings with direct visual access to the outdoor open spaces, with the residents of less than 22% of the dwellings having opportunities for informally keeping an eye on the children's activities.

Generally, 35 percent of the dwellings of the whole study areas have direct visual access to the outdoor open spaces. Put another way, 65 percent of the dwellings do not. This could create serious concerns for the parents whose children want to play outside their houses and potentially decreases the level of social activities that could take place within the neighbourhood.

Table 3: Proportion of dwellings which have direct (visual) access to neighbourhood parks or green spaces

	S.A.1	S.A.2	S.A.3	S.A.4	S.A.5	S.A.6	Total
With Direct Visual Access	23	87	48	41	56	62	317
Total No. of Dwellings	105	162	123	118	224	92	824
Percentage	21.9	53.7	39	34.7	25	67	35

Dwellings facing each other across a street:

The table below shows the proportion of dwelling which face each other in each Study Area. As discussed earlier in the analysis of the street-entrance relationship map for each study area, Study Area 4 has the highest proportion of dwellings facing each other (65%). It means that in addition to the design and facilitation of its neighbourhood park, which itself encourage social activities for children to play, Study Area 4 also is planned and designed to promote

social interactions through facing public fronts of the dwellings. This design is thought to contribute to increased levels of connectivity and parental perceptions of safety, enabling more independent mobility and unsupervised play.

Study Area 5, which was assessed to have one of the best neighbourhood parks among other study areas, has the lowest proportion of dwellings facing each other. In this study area, the play area exhibits very high levels of supervised play.

Table 4: The proportion of dwellings facing each other in each Study Area

S.A.1	S.A.2	S.A.3	S.A.4	S.A.5	S.A.6
62%	60%	57%	65%	51%	58%

Ratio of shared driveways to the green, safe, car-free routes:

The analysis of the six Study Areas in this study shows that shared driveways occupy a notable proportion of the outdoor open spaces in the recently developed suburb of Hobsonville Point.

The collected data in the following table shows that the ratio between the “shared” driveways providing access to parking areas and garages, and green, safe, carfree routes is approximately 36 percent in the total six study areas.

Study Area 2 has the highest ratio of driveways to green safe car-free

routes at 61%. This is due to the long driveways to the rear of the dwellings within this area, and only one car-free pedestrian route.

Study Area 6 seems to have a better situation compared to other Study Areas. According to the following table, the proportion of shared driveways to the safe, green, and car-free routes is only 0.2%. This is indicative of the proportionate size of the neighbourhood parks along with the pedestrian routes within the Study Area.

Table 5: Ratio of the shared driveways to the green safe car-free routes in each Study Area and in total.

S.A.1	S.A.2	S.A.3	S.A.4	S.A.5	S.A.6	Total
≈ 48%	≈ 61%	≈ 38%	≈ 47%	≈ 25%	≈ 0.2%	≈ 36%

Chapter 5: Conclusion

This chapter discusses how this report contributes to the understanding and design of neighbourhood outdoor open spaces in New Zealand.

Quality outdoor open spaces have an important role in facilitating social interactions and creating healthy, inclusive neighbourhoods. Accessible and healthy outdoor open spaces within a neighbourhood are likely to be the best and first learning environments for children outside their family-homes.

This report has described that for the outdoor spaces to perform well, specifically as safe places for children to play, urban designers and planners need to carefully consider the accessibility, the safety and the network of the wider context, while learning from observations of people's behaviours in such places.

The findings of this research mirror those of previous studies (Bornat, 2016):

Findings:

Children's independent mobility is more likely to be granted where there is a strong sense of community, and where risks of accidents from moving vehicles are minimised.

Community can be fostered with physical design elements that encourage social interaction. Keeping parked cars from blocking footpaths and ensuring safe routes in areas otherwise dominated by reversing vehicles are critical factors.

1. Children tend to use outdoor open spaces within neighbourhoods more and for a greater duration if the spaces are safely accessible, well-connected and well-equipped.
2. Connected and safe neighbourhood open spaces (including the journey to / from the park) can be places of social interaction.
3. Amenities in open spaces can enhance and diversify the types of activities undertaken by both children and adults.
4. A comprehensive approach to ensuring safe accessibility for walking children - the location, size and amenities of neighbourhood parks can significantly increase their desirability.

In considering these findings for the 6 areas at Hobsonville Point, we look at how the different study areas perform drawing on the mapping criteria and the observations on site.

Study Area 6 is ranked the highest in the mapping analysis, however there is no observational evidence of social or optional activities in the semi-communal open spaces of the area. The rankings of Study Areas 4 and 5 are aligned in both observations and mapping analysis. Putting both analysis components together, it appears the neighbourhood park in Study Area 5 is performing the best in terms of providing children with a safe, accessible, and healthy place for playing. However, over time as residents make Study Area 6 their home, behavioural changes in this area are likely to occur.

As some of the study areas are only recently developed, the observational data may provide only a limited picture of how they will operate in the future. This has led to issues obtaining fully reliable data from the observation of the open spaces within the study areas. Additional research would be needed to provide a fuller picture of how the open spaces are used at Hobsonville Point, now that the areas are fully developed.

However this research does indicate that the needs of children for independent play are not being catered for in the initial designs of some of the study areas. Some of the open spaces are merely small

green spaces, with low amenity, and constrained between multiple roads. Some of these spaces are not visible to the wider neighbourhood and may be deemed unsafe for unsupervised play. The largest green space of the area, the linear green space of Hobsonville Point, is only extensively used during the weekend and possibly by the wider community.

This shows a great potential for the provision of green spaces in the Hobsonville Point area. However, the attractiveness and usage of these spaces as places for child play is influenced by their size, location, and connectivity to the surrounding community. The mapping analysis has visualised the effect of some of these factors in the usability and desirability of the green spaces within the Study Areas.

The findings of this report are tentative conclusions about how people use open spaces in residential areas. The location of the Hobsonville Point Area relative to the centre of Auckland, a distance of 25 kilometres, promotes a car-oriented environment for the resident. Many residents may drive their children to local or regional parks and facilities. All these factors influence the results. However, this report concludes that those open spaces which are designed with the consideration of children's needs, perform well, through attracting and building community networks and promoting a healthy and intergenerational living environment.

Recommendations:

We initiated this study with the hope of setting out a framework to rethink the way outdoor spaces are understood and designed with careful consideration to children's needs. This report has the following recommendations:

1. The design aspects should be considered with respect to: all open spaces and shared spaces; the area between the street and the front foot; entrances; and circulation. Children need safe car-free access to play areas to encourage independent mobility and opportunities for play.
2. In addition, the design aspects of the outdoor open spaces within a neighbourhood, the location of the open spaces in terms of its accessibility, permeability, and legibility are of high importance. The location of the outdoor open space should be considered in relation to the role of the place and scale of users within the wider neighbourhood. It is necessary to have a comprehensive approach toward designing a neighbourhood area in order to design connected and interdependent neighbourhood blocks within a suburb like Hobsonville Point. The consideration of these issues throughout the design process of a neighbourhood can promote social interaction and communication within and between neighbourhoods.
3. Designing outdoor play spaces for children needs to also consider how others will access and use those spaces. The use of universal design principles should be encouraged, so as to not exclude people with disabilities. Safer design principles can be used to support informal surveillance and enhance opportunities for positive social interactions. Seating areas for caregivers, shade from the sun and shelter from the rain can contribute to longer and more enjoyable visits.
4. Research on this topic should continue in order to build on existing evidence and to allow reliable and rigorous conclusions to be made. It would be advantageous for this research to look at older age groups. Older people are more likely to live alone, and may have a greater reliance on support networks. Well designed open spaces, green spaces and neighbourhood parks can provide well-being benefits to older people through strengthening their social networks, providing them with contact with nature, intergenerational interaction, social learning, and exercise.

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