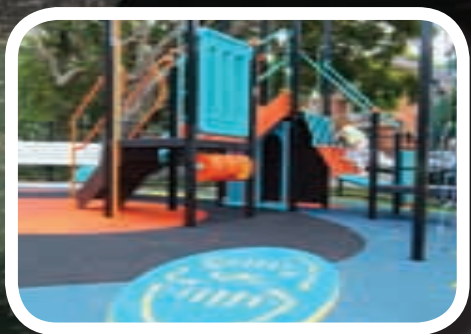


WARRINGAH COUNCIL



PLAYGROUND STRATEGY



Warringah
Council

November 2007

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Introduction

1.1 Background

Playgrounds are important in supporting the physical, social and intellectual development of children. They also play a key role in providing great outdoor spaces ensuring a diverse range of recreational and social opportunities for young children and their caregivers.

The Playground Strategy was prepared in conjunction with the Neighbourhood Parks Review. The Playground Strategy will inform the Draft Generic Parks Plan of Management and other open space Plans of Management.

The Playground Strategy aligns with Living Spaces - Goal 1 of Council's Strategic Plan 'Living Warringah' to provide a diverse range of high quality open space and recreation facilities to meet the needs of the community.

The consultancy firm GHD Ltd commenced development of the Playground Strategy. The Strategy was finalised by Council.

1.2 Purpose and scope of strategy

What is the purpose of the strategy?

The main purpose of the Playground Strategy is to develop a framework for the future planning and management of playgrounds in Warringah. It identifies:

- ▶ existing playgrounds and management practices
- ▶ the needs/demands of children and carers
- ▶ a playground hierarchy
- ▶ actions and priorities to meet identified needs.

Why does Council need a new Playground Strategy?

A Playground Strategy was prepared in 1999 and included an analysis of playground provision by suburb. It provided priorities for upgrading some playgrounds to meet district level standards and the provision of playgrounds in suburbs that were undersupplied. This work has been completed, hence the need for a new Playground Strategy.

1.3 The study area

The Warringah Local Government Area (LGA) is located on Sydney's northern beaches. The Warringah LGA is bounded by Cowan Creek in the north, Narrabeen Lagoon and Pittwater LGA in the north-east, the Tasman Sea in the east, Manly LGA and Middle Harbour in the south and Ku-ring-gai LGA in the west.

Warringah LGA covers 153 km² and includes parts of Ku-ring-gai Chase and Garigal National Parks. Excluding the national parks, open space within

Warringah covers 15.9 km² or 1,590 ha and includes bushland, beach and lagoon reserves, sportsfields and parklands.

The population of Warringah is estimated at 139,626 (2005, ABS), a 9.4% increase since the 2001 census, with the coastal suburbs being the most densely populated residential areas (e.g. Dee Why).

1.4 Playgrounds

Playgrounds form part of Warringah's open space system, which contributes positively to the community in which we live. Playgrounds have a key role in providing young children, their parents and carers with recreation and leisure opportunities.

A three-tiered hierarchy has been adopted for Warringah's playgrounds. While this Strategy focuses on neighbourhood playgrounds, the supply/demand analysis was undertaken in the context of, and with due consideration for, existing district and regional playgrounds. Neighbourhood playgrounds cater for a highly localised catchment within a 10-minute walk of residences. A list of playgrounds is included in *Appendix A*.

The analysis also considers playgrounds in adjoining local government areas (LGAs) located close to Warringah's boundaries.

1.5 Definitions

Children

For the purposes of this Strategy, children are defined as people aged 0-12 years, with further segmentation for analysis purposes as follows:

- ▶ Pre-school children: 0-5 years
- ▶ Primary school children: 5-12 years

Play

Published material from the Playgrounds and Recreation Association of Victoria (PRAV) defines play as a "spontaneous – creative – desired activity – carried out for its own sake and is entirely natural". Play is vital for the development of children and an essential ingredient to develop skills needed for adult life. It is the most complete educational process of the mind and body ensuring that each individual achieves knowledge and wisdom (Matheson, 2001).

Playgrounds

An area intended for children's play including the site, natural features, built landscape and any manufactured equipment (Standards Australia 2004). A playground is a facility/area that is designed to provide creative individual and group activities at a basic level (Matheson, 2001).

2. Methodology

2.1 Overview

A number of approaches can be used to assess playground supply and demand. These include reference to standards, establishing benchmarks, management information and community consultation. Standards are prescribed levels of provision set down, for example, by a state planning authority. Unfortunately standards cannot take into account the particular demographic or physical characteristics of a particular locality and provision in other local government areas close to Warringah's boundaries (UTS 1998). Benchmarking involves comparing provision with other similar local government areas, while playground managers can supply information about playground usage, wear and tear on facilities/equipment, management practices and information relating to resident requests and complaints. Consultation with playground users and potential users assists in providing information on gaps in provision. A combination of approaches was used to gain an understanding of playground supply in Warringah. These included:

- ▶ the establishment of an Advisory Committee to oversee the preparation of the Playground Strategy and the Neighbourhood Parks Review (including individual community members, representatives of relevant organisations and relevant Council officers)
- ▶ a review of park and playground provision in other local government areas
- ▶ a review of relevant studies, research, state and national planning documents
- ▶ GIS analysis and mapping based on criteria (or standards) developed for Warringah and adjusted to take account of topography
- ▶ a review of demographic data and population projections
- ▶ a survey of park and playground users
- ▶ consultation with special interest groups.

2.2 GIS analysis and mapping

Analysis of playground supply and demand

Data contained in Council's Geographic Information System (GIS) was used to analyse existing playground supply and plan for future playground development. The analysis and subsequent distribution mapping was based on criteria relating to:

- ▶ playground catchment areas
- ▶ population density and target user groups
- ▶ access
- ▶ physical/topographical features

- ▶ playground 'attractors.'

Further information relating to the criteria for the GIS analysis is included in *Appendix B*.

A series of demographic maps were generated to indicate the distribution of key playground user groups (0-6 years, 7-12 years). This was based on 2001 Australian Bureau of Statistics data according to suburb and collector districts. (Collector districts are geographical areas that on average contain about 225 dwellings each)

2.3 Literature review

A review was undertaken of relevant information on play theory, playground design and provision. (Refer to Section 3.2 and 3.3)

2.4 Assessment of community needs/demands

Community and stakeholder consultation

An understanding of the demand for playgrounds was gained through consultation with the community and key stakeholder groups.

The aim of the consultation plan was to seek input on:

- ▶ recreation needs, demands and usage patterns
- ▶ barriers to community access and participation
- ▶ users and non-users of the neighbourhood parks and playgrounds
- ▶ community preferences, popularity of spaces and facilities, and adequacy of parks and playgrounds.

Consultation activities for the Playground Strategy and the Neighbourhood Parks Review were undertaken concurrently and included:

- ▶ a media release/public notice in the Manly Daily on 16 and 18 June, 2005 inviting residents to attend a public forum and/or complete a survey
- ▶ the inclusion of the survey on Council's website
- ▶ the distribution of posters and surveys to stakeholder groups (child care centres, pre-schools, primary schools, playgroups, early childhood centres, primary schools and other relevant community groups)
- ▶ a community forum held on 29 June 2005 at the Dee Why RSL;
- ▶ an infield survey of park and playground users during June and July 2005;
- ▶ a workshop with the Forest High Student Representative Council on 8 August 2005 (in relation to parks)
- ▶ consultation with Warringah's Youth Advisory Committee on 4 August 2005 (in relation to parks)

- ▶ meetings of the Neighbourhood Parks and Playground Strategic Advisory Committee.

Community Forum

The participants were asked a series of questions:

- ▶ Which parks or playgrounds do you visit and why?
- ▶ Do you think there are too many parks and playgrounds, or not enough?
- ▶ Are they in the right places?
- ▶ What playground/park facilities are good?
- ▶ What playground/park facilities could be improved?

Surveys

A total of 505 surveys were completed, 95 infield surveys and 410 self-completed surveys.

The survey canvassed patterns of visitation, visitor profile, methods of travel, views on park and playground features/facilities, park and playground supply and examples of good park/playground design.

The infield surveys were conducted in ten parks (nine with playgrounds). Survey days included weekdays, weekends and school holiday periods.

Refer to *Appendix C* for a summary of the community survey data.

Neighbourhood Parks and Playgrounds Strategic Advisory Committee

The Committee provided direction and input to the Playground Strategy and the Neighbourhood Parks Review. The Committee comprised representatives from:

- ▶ Early Life Program, Northern Sydney Health Promotions
- ▶ Playgroup NSW Inc.
- ▶ Playground Advisory Unit, Kidsafe NSW Inc.
- ▶ Three individual community representatives with an interest/expertise in child development, recreation provision and/or child safety
- ▶ Council officers with responsibility for reserves and sportsfields, assets, sustainability planning and community services

3. Strategic context

3.1 Planning context for the strategy

3.1.1 Relevant legislation and planning framework

Environmental Planning & Assessment Act 1979 (EP&A Act)

The EP&A Act and accompanying Regulation (2000) provide the basis for the preparation of statutory land use planning instruments such as Local Environmental Plans (LEPs) as well as the assessment of development proposals.

Crown Lands Act 1989

Council also manages a number of Crown reserves within Warringah, under 'care, control and management' or trust arrangements.

Under the Crown Lands Act, Crown land must be managed and used in accordance with:

- ▶ the principles of Crown land management
- ▶ the reservation
- ▶ any conditions and provisions within the specific zoning in the Council's LEP.

Local Government Act 1993

The management of land owned by Council ('public land') is guided by the Local Government Act, in particular the *Local Government Amendment (Community Land Management) Act 1998*.

Public land is defined as any land vested in, or under the control of Council (excluding Crown land). Land management requirements under the Act include:

- ▶ land identification – Councils are required to identify and maintain a register of all land under their control
- ▶ land classification – Councils are required to classify all public land as 'operational' or 'community' land
- ▶ land categorisation – Councils are required to categorise community land as 'park', 'sportsground', 'natural area' or 'general community use'
- ▶ plans of management – Councils are required to produce plans of management for all community land.

Other Acts and Regulations relevant to the planning and management of Council facilities and open space reserves include those relating to environmental management (e.g. Threatened Species Conservation Act, Heritage Act, Noxious Weeds Act etc) and management/development of facilities (e.g. Australian Standards).

3.1.2 Local planning context

Warringah Section 94A Development Contributions Plan (Effective from July 2006)

Council's Section 94A *Development Contributions Plan* commenced in July 2006 and applies throughout Warringah. The current plan removes previous restrictions on the geographical location of its expenditure and thus allows Council to provide a more equitable and effective level of community facilities to service future incoming populations. The levy applies to all of Warringah and is calculated as follows:

- ▶ approvals under \$100,000 are exempt from any payment of contribution
- ▶ approvals between \$100,000 and \$200,000 incur a levy of 0.5%
- ▶ approvals over \$200,000 incur a levy of 1.0% of the total cost of development
- ▶ anyone "suitably qualified" (i.e. planners, architects, builders or similar) may sign off on cost estimates.

The Schedule of Works contained with the *S94A Plan* is based on Council's existing strategies and plans of management for community land. The Schedule of Works is progressively updated to reflect the completion of the listed works and to add new projects as the Schedule nears completion.

The current program for open space is summarised below:

- ▶ Playground Improvements Program including allocation of \$250,000 to complete the annual playground upgrade works – locations to be determined
- ▶ Brookvale Park embellishment including path linkage, landscaping and fencing
- ▶ Manly Dam including the provision of additional public amenities such as barbeque facilities, shelters, disabled access facilities and picnic tables
- ▶ Allenby Park including walking track and trail upgrades.

Warringah Local Environmental Plan 2000 (WLEP 2000 as amended)

Provisions relating to public open space as set out in the *WLEP2000* are summarised below:

- ▶ Public open space can be developed for any purpose that is consistent with a plan of management applying to that open space.
- ▶ In the absence of a plan of management, only exempt development and development for the purpose of recreation facilities can be carried out on public open space.
- ▶ Development on public open space, other than exempt development, is to be regarded as Category Two* development.
- ▶ If public open space contains bushland, any development, which will disturb that bushland should be carried out only if a plan of management has been prepared which specifically assesses the need to preserve and protect that bushland.

- ▶ Upon acquisition by the Council of any land shown on the LEP maps as reserved for public open space, and on vesting in the Council of land dedicated to the Council for the purposes of public open space, the land shall be deemed to be public open space.

*Category One development is development that is generally consistent with the desired future character of the locality, while Category Two development may be consistent with the desired future character.

In accordance with section 54 of the *EP&A Act, 1979*, Council is currently preparing a Draft Local Environment Plan incorporating the NSW Government's objectives in relation to its standard instrument and the Metropolitan Strategy for Sydney. This may have an effect on the current provisions contained within the *WLEP2000*.

Warringah Plans and Strategies

Other plans and strategies relevant to open space and recreation planning include:

<i>Living Warringah 2005</i>	This Strategic Plan provides the planning direction for Warringah over the next decade. The aim for “outdoor living” is to provide safe and well-maintained public spaces that reflect community needs.
<i>Recreation Strategy (1999)</i>	The Strategy provides a strategic direction for the future provision and management of recreation facilities and services within Warringah. This Strategy is currently under review.
<i>Warringah’s Environmental Strategy (2001)</i>	The Strategy includes actions relevant to the planning and management of parks and reserves. These include the use of locally indigenous plants to improve biodiversity and habitat, minimising water, energy, pesticide and herbicide requirements, encouraging walking and cycling, rationalising signage, conserving natural and cultural heritage features/sites, use of Australian grown plantation or recycled timber and low toxic, reusable and durable building materials, integration with other strategies (e.g. Creeks Strategy), public art/educational art and, interpretation of indigenous history. This Strategy is currently under review.
<i>Cultural and Heritage Strategy (2000)</i>	This document provides strategies for the implementation of Council’s social, cultural and heritage policies and plans. It notes the role of community land plans of management in the protection of Aboriginal sites, facilitation of public art programs and opportunities for cultural interpretation. The Strategy makes reference to the needs of people with disabilities, youth, older people, Warringah’s Aboriginal and Torres Strait Islander community and other people from culturally and linguistically diverse backgrounds. This Strategy is currently under review.
<i>Warringah Design Guidelines Public Spaces (2003)</i>	This document provides guidance on the application of Council policies to streetscapes and other public spaces. It includes guidelines for signage, furniture and access. The document emphasises the need for park and reserve design to take account of unique and distinctive local characteristics.

3.1.3 Australian Standards for Playgrounds

The standards relating to playground design and equipment have become increasingly rigorous since the 1980s. These standards, whilst not mandatory, assist Council to meet its duty of care with regard to playground safety. Australian Standards are referenced in litigation matters and are used as benchmarks.

Councils are required to demonstrate a rigorous risk management process to minimise injury to playground users. The selection, arrangement and siting of all play equipment and playground undersurfacing should comply with the Australian Standards. These include:

AS 1924.1 - (1981): Playground Equipment for Parks, Schools and Domestic Use

AS 1924.2 - (1981): Playground Design and Construction, Safety aspects

AS 4685 - (2004): Playground Equipment (Parts 1-6)

AS/NZS 4422 - (1996): Playground Surfacing: Specifications, requirements & test methods

AS/NZS 4486.1 - (1997) Playgrounds and Playground Equipment - Development, installation, inspection, maintenance and operation

AS 1428.1-4 - (1997) Design for Access and Mobility Parts (1-4)

AS/NZS 4360 - (2004) Risk Management.

3.2 Play theories

Play is critically important for the physical, social, cognitive, creative and emotional development of children (PRAV, 1999). The provision of outdoor play areas create opportunities for children to explore, interact, experiment, imagine, understand and discover the world they live in (Matheson, 2001).

Categories of play activity are summarised as:

<i>Active/motor play</i>	activities that support the development of gross motor skills requiring use of the whole body. Behaviour is random and noisy and requires large open areas for running or play structures for specific activities such as climbing, swinging, jumping, balancing.
<i>Creative/cognitive play</i>	supports development of fine motor skills and mental skills which require concentrated activity; use of fine or small muscles; involves individual projects in secluded spots that need protection from aspects of physical and social play; involves painting, craft, building blocks, playing in sand, in the natural environment or in water.
<i>Social/dramatic play</i>	supports social/emotional and some physical skills; also involves use of whole body in "acting out" of life situations or of fantasies, e.g. playing "house", "shops" or "space invaders".
<i>Quiet play</i>	supports emotional development; retreating individually or with a friend to observe others at play, to read, or simply rest; the area for quiet play needs to be separated from vigorous physical activity, such as a shady spot under a tree with some seating, cushions or a hammock.

Source: Playspace: Handbook for planning outdoor play environments (1987).

PRAV (1999) document similar categories of play behaviour: cognitive play; creative play; social play; and physical play.

Before starting to plan outdoor play environments, it is necessary to understand how children grow, develop and learn. Recognising how children advance through the various growth and learning stages can help in planning a play environment, which minimises possible injuries while still allowing children challenges and opportunities to explore and extend themselves.

Some common play experiences include, but are not limited to:

- ▶ Rocking - a horizontal movement that can be backwards, forwards, sideways
- ▶ Swinging - a rhythmic movement training one's sense of balance at high speed
- ▶ Spinning - a rapid turning movement
- ▶ Climbing - or crawling, is where the child uses both arms and legs, creating a cross movement
- ▶ Sliding - a rapid descent, generally as a vertical movement that utilizes the force of gravity
- ▶ Balancing - the act of trying to keep the body's centre of gravity directly over the base
- ▶ Training - the process of consciously practicing a skill or particular movement
- ▶ Pretending - the act of stimulating the imagination and allowing the child to 'be what they want to be'
- ▶ Gathering - the act of meeting socially. It can be a place for observing, telling, talking etc.
- ▶ Experimenting - a processes of constructing, discovering and manipulating different materials or objects (Walding, 2005).

The child's age will influence how they engage in the 'experience'. For example, a toddler will carefully crawl or climb up a stairway or climbing net, whereas a school age child will be able to climb a more complicated net or structure (Walding, 2005).

The *US National Program for Playground Safety (2005)* adopts the following age categories relating to play experiences:

- 2-5 years** Children within this age group are smaller, weaker, less coordinated and have a higher centre of gravity than 5-12 year olds. Thus, they need smaller steps and crawl spaces, smaller grips and railings, and play equipment closer to the ground. They generally stay quite close to their carer.
- 5-12 years** Children within this age group are larger, stronger, more coordinated and more able to do and learn play activities. They need more challenging play environments that challenge their physical, mental and social development (NPPS, 2005).

3.3 Best practice playground design and provision

3.3.1 Playground design

Playgrounds provide a range of forms, structures, spaces and safety levels for formal and informal play activities. Playgrounds should primarily be designed to support children's play however the needs of caregivers should also be addressed.

The design of playgrounds should take account of the local setting and natural environment. The distribution of playgrounds should also consider linkages (i.e. footpaths and bicycle paths) to encourage physical activity and community connectedness (PRAV, 2001).

Playground design should consider:

<i>Formal play</i>	Predominantly play equipment and other elements for specific activities that develop physical capabilities as well as providing opportunities for social interaction. Activities could include swinging, sliding, climbing, spinning, rocking and balancing.
<i>Informal play</i>	Areas that support activities such as ball games, crawling, running, made-up games, and role playing. These areas appeal to youth.
<i>Exploration</i>	Spaces that encourage adventure, inquiry, creativity and engagement with natural or built elements such as landscaping, sand and water.
<i>Supervision</i>	Adults and care-givers accompanying children to play areas require a comfortable space which allow for easy visual supervision, as well as a degree of comfort and amenity for the carer. Such areas in playgrounds provide opportunities for caregivers to relax, socialise and build new friendships.
<i>Access</i>	Integration of opportunities and amenities for children with disabilities that encourage their development.

(City of Casey, 2003 and Palmerston Council, 2005)

Play equipment suggested by the *US National Program for Playground Safety, (2005)* for pre-school and primary school-aged children is listed below:

2-5 year olds	Areas to crawl; low platforms with multiple access such as ramps and ladders; ramps with pieces attached for grasping; low tables for sand, water and manipulation of materials; tricycle paths with various textures; flexible spring rockers; sand areas with covers; and shorter slides.
5-12 year olds	Areas including rope or chain climbers on angles; climbing pieces; horizontal bars; cooperative pieces such as tyre swings, merry-go-rounds, see saws; slides and sliding poles; open spaces to run and play ball; and semi-enclosed structures to promote fantasy play and socialisation.

For age-appropriate design guidelines refer to the Playground Design Checklist included as *Appendix D*.

3.3.2 Classification of playgrounds

Playground hierarchies can be based on catchments, (the area the playground services) travel times, the level of facilities and variety of play experiences provided.

Table 3.1 summarises criteria relating to playground categories adopted by other Councils in Australia and PRAV.

Table 3.1 Playground design criteria

Council Organisation	Category	Criteria
Shoalhaven City Council (NSW) (2004)	Local	Basic play equipment; provided for the local community with a population of c.250 or above and within walking distance; value of play equipment maximum \$10,000 (including undersurfacing).
	District	Offers multiple play experiences with consideration to the surrounding 'natural area' recreation attractions i.e. beaches, bushland; central to populations of c.3000 or above; ideally not cited within 1.5km of another playground; graded challenges with wide appeal; provision of appropriate facilities including picnic tables, BBQ's, toilets and parking; value of play equipment approximately \$25,000-\$60,000.
	Icon	Designed as a one-off park and play environment; a high level of landscaping, supporting amenities, public art; most facilities within the park will be fully accessible; value of play equipment approximately \$70,000-\$150,000.
Palmerston (NT)	Local	Shelter/shade for caregivers; formal play areas and equipment for at least one age group; informal play areas at least 1000m ² to allow young children to play ball games; natural landscape features; access for people with disabilities; and landscaping.
	Major	Car parking for 5 cars; shelter; drinking water, picnic tables and BBQs (at least 1); security lighting; formal play areas; equipment for toddlers, junior primary school and senior primary school; informal play areas at least 1,500m ² ; sports practice facilities; cycling areas; natural landscape features; disabled access; and other landscaping.

Council Organisation	Category	Criteria
	Regional	Car parking for 80 cars; toilets; shelter/shade; drinking water, picnic tables, seats and BBQs (multiple); seating overlooking play equipment, security lighting, disabled access; formal play areas for all ages; informal play/kick about area at least 2,500m ² ; sports practice facilities; skate and cycling facilities; and natural landscaping.
Stirling (WA)	Local	1-5 pieces of play equipment.
	Major	5-10 pieces of play equipment with limited support facilities such as shade, seating and rubbish bins.
	Regional	10 or more pieces of play equipment, seating, shade, drinking fountains, rubbish bins and lighting.
PRAV (Vic)	Local	Provides for everyday play and recreation needs of children, and complements other local parks in a neighbourhood.
	Neighbourhood	Caters for the needs of more than one user group, and for more than one type of activity.
	Regional	Provides experiences not available in local or neighbourhood parks. Includes a range of amenities such as toilets, picnic tables, BBQs, parking.

3.3.3 Playground provision

Most Councils surveyed for this project categorise parks and playgrounds together (to assist in works prioritisation and auditing) and have adopted a three-tiered hierarchy consisting of local, neighbourhood/major/central, and regional/icon playgrounds.

Of the Councils that have adopted a benchmark for playground provision, most are based on catchment areas. Generally, playground catchment areas relate to walking and driving times, e.g. 300-500m for local playgrounds and a catchment greater than 1km for district and regional playgrounds. Exceptions to this are Canberra and Shoalhaven where playground provision relates to the number of people in the catchment and Stirling (WA) where local playgrounds are based on community demand.

The catchment areas adopted by Councils that have a documented playground hierarchy system are summarised in **Table 3.2**.

Table 3.2 Playground hierarchy

Council	Category	Catchment radius etc
Shoalhaven (NSW)	Local	1 playground/250 people (approx.)
	District	1 playground/3000 people (approx.)
	Icon	Not stated
Dandenong (Vic)	Local	400-500m (5-10 min walk)
	Neighbourhood	600-800m (10 min walk/bike/car)
	District	2-3km (driving distance)
Casey (Vic)	Local	500m radius
	Neighbourhood	1km radius
	Regional	Accessible by car or public transport
Stirling (WA)	Local	Based on community demand
	Major	1km
	Regional	3km
Canberra (ACT)	Local	1 playground/1000 people
	Central	400m or 1 playground/1000 people
	District	in district parks
Darebin (Vic)	Local	ideally 300m, maximum 500m
	District	2km

4. Warringah's playgrounds

4.1 Overview of Council's playgrounds

Warringah is well supplied with playgrounds across its LGA. Warringah Council currently manages 178 playgrounds. There are currently 144 neighbourhood playgrounds, 16 district playgrounds and 8 regional playgrounds in Warringah that have been reviewed as part of this Strategy. There are an additional 10 playgrounds, which are located within the grounds of childcare centres, community centres and a playground at the Warringah Aquatic Centre. At these locations access is restricted, therefore these playgrounds have not been included in the strategic analysis.

Most playgrounds are located in neighbourhood parks with the remaining in district or regional parks (such as Brookvale Oval, Manly Warringah War Memorial Park and coastal reserves).

Figure 4.1 illustrates the distribution of playgrounds in Warringah according to playground category. The hierarchy of playgrounds has been reviewed and is discussed in *Section 7*. Examples of playgrounds for each category are shown in **Figures 4.2 to 4.4**.

The following observations are made in relation to the existing quality of Warringah's playground facilities:

- ▶ Contemporary equipment is provided in most regional and district playgrounds (e.g. Brookvale Oval Playground and Michaela Howie Playground) with older equipment in neighbourhood playgrounds.
- ▶ Much of Council's play equipment is around 30 years old, and of the galvanised steel style (e.g. Walter Gors Playground, Dee Why). While this is still serviceable, much of the equipment does not meet current Australian Safety Standards and some equipment has been removed due to assessed hazards and potential risk. Unsafe equipment is removed in accordance with AS4465 1-6.
- ▶ Changes in the design of play equipment (driven largely by changes in playground standards) and a reduced life cycle of play equipment have increased playground renewal and upgrade costs.
- ▶ Increased demand, use and provision of larger regional playgrounds has resulted in the need to allocate funding more regularly to these sites as a priority over other playgrounds. The first generation of upgrades to these larger playgrounds are already requiring significant maintenance and possible upgrading.
- ▶ The open space provided in new residential areas is predominantly bushland or often unsuitable for playgrounds e.g. (under high voltage power lines).
- ▶ Most requests/complaints on playgrounds relate to:

- the upgrade of playgrounds and antiquated play equipment;
 - installation of fencing and shade structures; and
 - provision of play equipment in various locations.
- ▶ Requests for playground fencing have increased, partly as fencing is a common feature of new, larger playgrounds.
 - ▶ Some playgrounds have integrated art works and cultural features e.g. Bruce Bartlett Playground (**Figure 4.4**). A wheelchair accessible swing-set has also been installed in this playground.
 - ▶ The approximate capital cost and lifecycle of Council's playgrounds are shown in **Table 4.1**. Along the coast, costs are higher (associated with the use of more resilient materials) and the life of play equipment shorter (about 10 years), due to the harsher environment.

Table 4.1 Playground category, capital cost and life cycle

Playground Category	Approximate Capital Cost	Approximate Life Cycle
Neighbourhood	\$35,000*	15 years
District	\$100,000	10 years
Regional	\$200,000	10 years

* A playground upgrade replaces all playground equipment and undersurfacing to comply with current Australian Standards. It costs approximately \$25K to upgrade a neighbourhood playground. To upgrade a neighbourhood playground to district level, the cost is approximately \$100K. The cost of upgrading a district and regional playground depends on the playground equipment that needs to be replaced/ repaired and the condition of the undersurfacing.

4.1.2 Playground Planning and Design

This Strategy covers play equipment and associated features such as fencing, shade, undersurfacing, and landscaping. When upgrading and installing new playgrounds, Council assesses the need to install associated features. This is done in accordance with Council's Risk Management procedures, Australian Standards and Council's playground hierarchy. Design guidelines for playgrounds and associated features are identified in the Playground Design Checklist included as *Appendix D*.

Fencing

Council does not fence all playgrounds. Fencing is appropriate in areas where there is potential conflict between children using the playground and other activities associated with the playground location. Where a playground is located in close proximity to a busy road (ie Bruce Bartlett Playground at Collaroy Beach Reserve), a car park or an off leash dog exercise area, fencing is appropriate. Fencing also

allows for easy visual supervision for the caregiver. While fencing provides a degree of safety and amenity, consideration should be given to the location of the playground and the playground hierarchy (i.e. fencing a neighbourhood playground located on a quiet street would not be appropriate).

Shade

Increased sun protection is an issue for children playing on equipment, caregivers supervising from picnic benches or people picnicking close by. Playground designers should utilize existing trees wherever possible, as an alternative to synthetic shade structures or when the structure is at the end of its life. Consideration should be given to advanced trees for those playgrounds that lack appropriate shade and/or additional planting to provide future shade.

Undersurfacing

The major cause of playground injuries is children falling from play equipment onto a hard surface. Reducing the height of equipment and providing undersurfacing should help reduce the severity of injuries (Kidsafe 1998). Certified undersurfacing under and around playground equipment should be installed in accordance with Australian Standard AS/NZS 4422.1996 Playground Surfacing. The standard relates to impact attenuation and fall zones and requires that undersurfacing is placed under and around play equipment in order to reduce the risk of falls and their impact. Pine bark, mulch and synthetic surfacing have all tested satisfactory.

Environmental Amenity

Landscaping playgrounds is not limited to using trees for shade. Other landscape elements including plantings, topographical variations and views can be used to add a new dimension or challenge to the play space and enhance the amenity of playgrounds.

Public art can also provide play opportunities for playground users and offer visual amenity. Public art can include (but is not limited to) sculpture, painting, installation and performance.

Public art can:

- ▶ interpret, define and enhance the character and cultural identity of the LGA
- ▶ acknowledge and celebrate cultural heritage and traditions (particularly local heritage)
- ▶ encourage a sense of pride and ownership of art and public spaces
- ▶ provide positive practical interaction between people and public spaces
- ▶ challenge perceptions and prejudices
- ▶ reflect contemporary ideas and approaches to public art
- ▶ promote a sense of well-being by enhancing enjoyment of public spaces.

Council is currently developing its Draft Cultural Plan to address art and cultural development. Once the plan is complete public art projects should be delivered in accordance with this Plan.

Seating, Picnic Benches, BBQ's, Drinking Water, and Rubbish Bins

Seating and picnic benches can be incorporated into the landscape and some seating should be located close to where children play, so that caregivers can socialise and children can be observed and supervised. BBQ facilities should also be provided where appropriate.

Provision should be made for drinking water. Drinking fountain design should consider the possibility of vandalism.

Provision should be made for rubbish bins but again consideration should be given to the possibility of vandalism. Where appropriate bins for recycled products should be installed.

Bicycle Racks

Some children and adults visit playgrounds by bicycle. Provision should be made for racks adjacent to the play space.

4.1.3 Children with Disabilities

Designing playgrounds for children with disabilities requires special consideration of physical spaces, activity areas, equipment and materials. However, these considerations should not prohibit opportunities for personal interaction, various levels of independence and developmental challenges.

Consideration should be given to vehicle access and drop off points. There should be access for people with mobility disabilities around the area and between the equipment. Gates should have an opening width of at least 900mm and have sufficient space around the gate to manoeuvre mobility aids. Equipment selection and layout should be made in accordance with the Australian Standard AS 1428 (Parts 1-4) (Playground Safety for Local Government, Kidsafe and NSW Health).



Figure 4.1 Distribution of playgrounds in Warringah



Figure 4.2 Example of a neighbourhood playground (Griffith Park, Collaroy)



Figure 4.3 Example of a district playground (Manly Dam, Manly Vale)



Figure 4.4 Example of a regional playground (Bruce Bartlett Playground, Collaroy Beach Reserve)

Table 4.2 Warringah's playgrounds per suburb

Suburb	Number of playgrounds	Neighbourhood playground	District playground	Regional playground
Allambie/Allambie Heights	9	9	0	0
Beacon Hill	12	12	0	0
Belrose	20	18	2	0
Brookvale	1	0	0	1
Collaroy/Wheeler Heights	7	5	1	1
Cromer	10	10	0	0
Curl Curl	1	1	0	0
Davidson	7	7	0	0
Dee Why	10	8	1	1
Duffys Forest	1	1	0	0
Forestville	12	10	1	1
Frenchs Forest	27	23	3	1
Harbord	7	5	2	0
Killarney Heights	11	11	0	0
Manly Vale	5	2	2	1
Narrabeen	4	0	3	1
Narraweena	8	7	1	0
North Balgowlah	3	3	0	0
North Curl Curl	2	2	0	0
North Manly	4	4	0	0
Oxford Falls	0	0	0	0
Queenscliff	2	2	0	0
Terrey Hills	6	5	0	1
TOTAL	169*	145	16	8

* Council manages 179 playgrounds in total. Ten of these playgrounds are located in community buildings where access is restricted. These playgrounds have not been included in this table.

4.2 Management of Warringah's playgrounds

The Playground Strategy (1999) identified priorities for upgrading playgrounds and the provision of additional playgrounds in Warringah. Since completion of these works, priorities for Council's annual Playground Improvement Program have been based on:

- ▶ Safety/risk management (replacement of equipment not meeting Australian Standards and removal of treated timber play equipment).
- ▶ Resident requests/complaints.
- ▶ Equal provision across the LGA.
- ▶ Budget – Council's annual budget for its Playground Improvement Program is \$250,000. Playground maintenance is a separate allocation funded from general revenue.

Council staff and a contractor maintain Council's park and recreational assets. Council also receives maintenance requests from the community. Regional playgrounds are inspected and cleaned of litter seven days a week by Council staff. A hazard maintenance record sheet is completed during each site visit. The remaining playgrounds are checked as part of Grass Maintenance Services, which is conducted by a contractor. Visitation ranges from eight to twelve times a year for these playgrounds. Council's Project Services Unit collates all actions from the reserves maintenance record sheets monthly.

An independent third party auditor undertakes quarterly inspections of regional playgrounds. District playgrounds and neighbourhood playgrounds are audited annually. From this audit process a prioritised list of repairs is generated. All play equipment repairs are completed dependent on risk and the availability of funding.

Table 4.3 provides an example of playground 'risks' and the associated response times for regional (i.e. high usage play equipment) district and neighbourhood playgrounds (low use play equipment).

Table 4.3 Project Services Generic Risk Assessment (source Project Services Safety Manual 2006) – a detailed intervention example

EXPOSURE	Risk	Playground Hierarchy		
		Regional	District	Neighbourhood
Foreign Object - Broken glass located in soft fall mulch or playground area needs disposal.	Very High	4 hours	12 hours	1 day
Corrosion – Play equipment deck components are lifting due to corrosion of metal beneath	High	1 day	1 week	1 fortnight

Dilapidation – Play equipment components are worn and need replacement	Medium	1 week	1 month	3 months
Misplaced – parts on play equipment are missing or damaged and need replacement as components are loose	Medium	1 week	1 month	3 months
Patching – wet-pour rubber surface has deteriorated and exposed soft fall material underneath needs repair	Low	1 months	3 months	6 months
Compliance – Playground manufacturer ID plate is missing or needs replacement on individual item of play equipment	Very Low	3 months	6 months	12 months

5. Existing and potential demand

5.1 Demographic influences

The following discussion is based on 2001 Census data, unless otherwise noted.

Population

In 2005, the estimated population of Warringah was 139,626 people*. The growth rate of the Warringah population was lower than Sydney as a whole between 1991 and 2001 (8% compared to 13%).

According to population projections based on births, deaths and migration patterns, Warringah's population is estimated to increase to 139,530 by 2011 and then decrease to 135,850 in 2021 (DIPNR, 2004).

The suburbs with the highest number of people are Dee Why (16,606), Collaroy (13,030), Frenchs Forest (12,436), Harbord (10,988) and Belrose (7,630). Suburbs with the highest densities are Dee Why (5,356 people/km²), Harbord (4,578 people/km²), Narraweena (3,307 people/km²) and Manly Vale (3,110 people/km²).

It should be noted that density estimates are based on total suburb area, not just residential areas within suburbs. Accordingly, a suburb with a large proportion of bushland may have a lower density overall but a high density of people in residential areas. This was considered in the analysis carried out for the Strategy.

*Official ABS estimate

5.1.1 Age structure

Census data indicates a gradual increase in the median age of people in Warringah, from 34 years in 1991 to 37 years in 2001. While this is consistent with overall population trends, Warringah has an older population than Sydney (median 34 years) and is ageing faster than Sydney overall.

The age structure of Warringah compared to the entire Northern Beaches area and Sydney is indicated in **Table 5.1**.

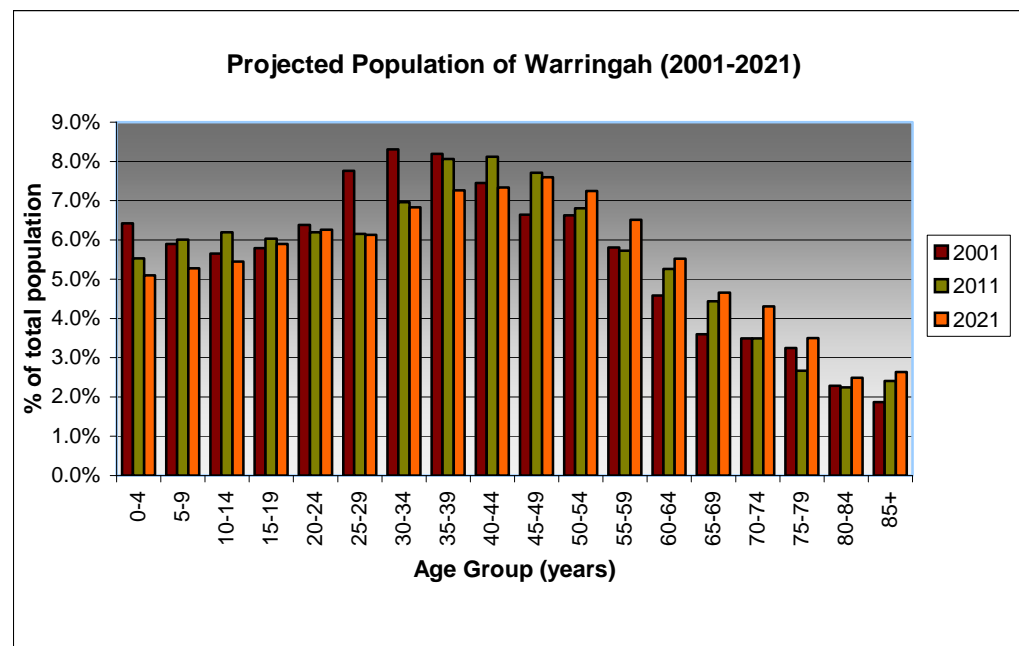
Table 5.1 Age structure

Age Group	Proportion of total population (%)		
	Warringah LGA	Northern Beaches	Sydney
0-6	9.0	9.0	9.5
7-12	7.2	7.3	8.1
13-19	8.3	8.1	9.5
20-29	13.7	13.4	15.0
30-39	16.3	16.3	16.1

Age Group	Proportion of total population (%)		
40-49	14.2	14.7	14.6
50-59	12.3	12.5	11.4
60-69	8.0	7.8	7.1
70-79	6.7	6.6	5.6
85+	4.3	4.3	3.1
Median Age	37	37	34

Source: ABS, 2001

The percentage of people aged 50 years or over is projected to be 36.8% of the total population of Warringah in 2021. The projected age structure of Warringah is illustrated in Figure 5.1.



Source: DIPNR, 2004

Figure 5.1 Projected population of Warringah 2001-2021

Warringah's population has the following characteristics:

- There are 20,757 children aged 0-12 years in Warringah, a 9% increase since 1991. However, the proportion of children in Warringah (16.2%) remains lower than Sydney (17.6%).
- Despite recent trends, the proportion of children aged 0-12 is projected to decline by 2021 to approximately 17,800 (DIPNR, 2004). However, a slight increase of children aged 5-9 and 10-14 is projected by 2011.
- By 2016 the largest increases in the number of children aged 0-4 year olds are expected in Dee Why, Brookvale and Belrose - Oxford Falls while most other

areas are expected to experience an overall decrease based on the limited amount of residential development expected over the forecast period (Warringah Community Profile, Warringah Council and ID Pty Ltd, 2006).

- ▶ By 2016 the largest increases in the number of 5-11 year olds are expected in Dee Why, Oxford Falls and Brookvale while Frenchs Forest and Beacon Hill are expected to experience the largest decrease over the forecast period (Warringah Community Profile, Warringah Council and ID Pty Ltd, 2006).
- ▶ The proportion of people aged 10-19 is lower than the Sydney average (12.5% compared to 14.4%). This age group has declined by approximately 2,500 people since 1991 but is projected to increase by 2011, before decreasing again by 2021.
- ▶ The proportion of people in the 20-29 year age group is less than the Sydney average (13.7% compared to 15.0%). This may indicate that young people are moving away from the area for education, affordable housing etc.
- ▶ The proportion of people in the 30-49 year age group (the 'family years') is close to the Sydney average (30.5% compared to 30.7%).
- ▶ A high proportion of people in Warringah are aged 50 years and over (31.3% compared to the Sydney average of 27.2%). There is also a high proportion of people aged 75 years and over (7.5% compared to the Sydney average of 5.6%).
- ▶ Population projections indicate that, for the first time, the proportion of those aged above 55 years (29%) will exceed those aged under 24 years (28%) by 2021.

5.1.2 Distribution of age groups

Figures 5.2 and **5.3** illustrate the distribution and relative density per km² of children aged 0-6 years and 7-12 years. The number and proportion of children per suburb are listed in *Appendix E*.

The mapping units shown in **Figures 5.2** and **5.3** are generated from the Australian Bureau of Statistics Census Collector Districts (2001). These are geographical areas that contain approximately 225 dwellings each.

Unpopulated areas within the LGA include national parks (Ku-ring-gai and Garigal), other bushland areas (such as Allenby Park), large open space areas (e.g. Griffith Park at Long Reef), and commercial/industrial areas (such as in Brookvale and Cromer).

Population data indicate that:

- ▶ Frenchs Forest has the highest proportion of children (2,365 children representing 11.2% of Warringah's children). Of these, 54.9% are 0-6 years old and 45.1% are aged 7-12 years.

- ▶ Other suburbs with a high proportion of children are Dee Why (2,188 children representing 10.4% of children in Warringah), Collaroy (2,149 children representing 10.2%), and Belrose (1,665 children representing 7.9%).
- ▶ The suburbs with the highest density of children are Dee Why (705 children/km²), Harbord (503 children/km²) and Beacon Hill (455 children/km²).
- ▶ The suburbs with the lowest density of children are Terrey Hills (119 children/km²), Forestville (139 children/km²) and Belrose (142 children/km²).

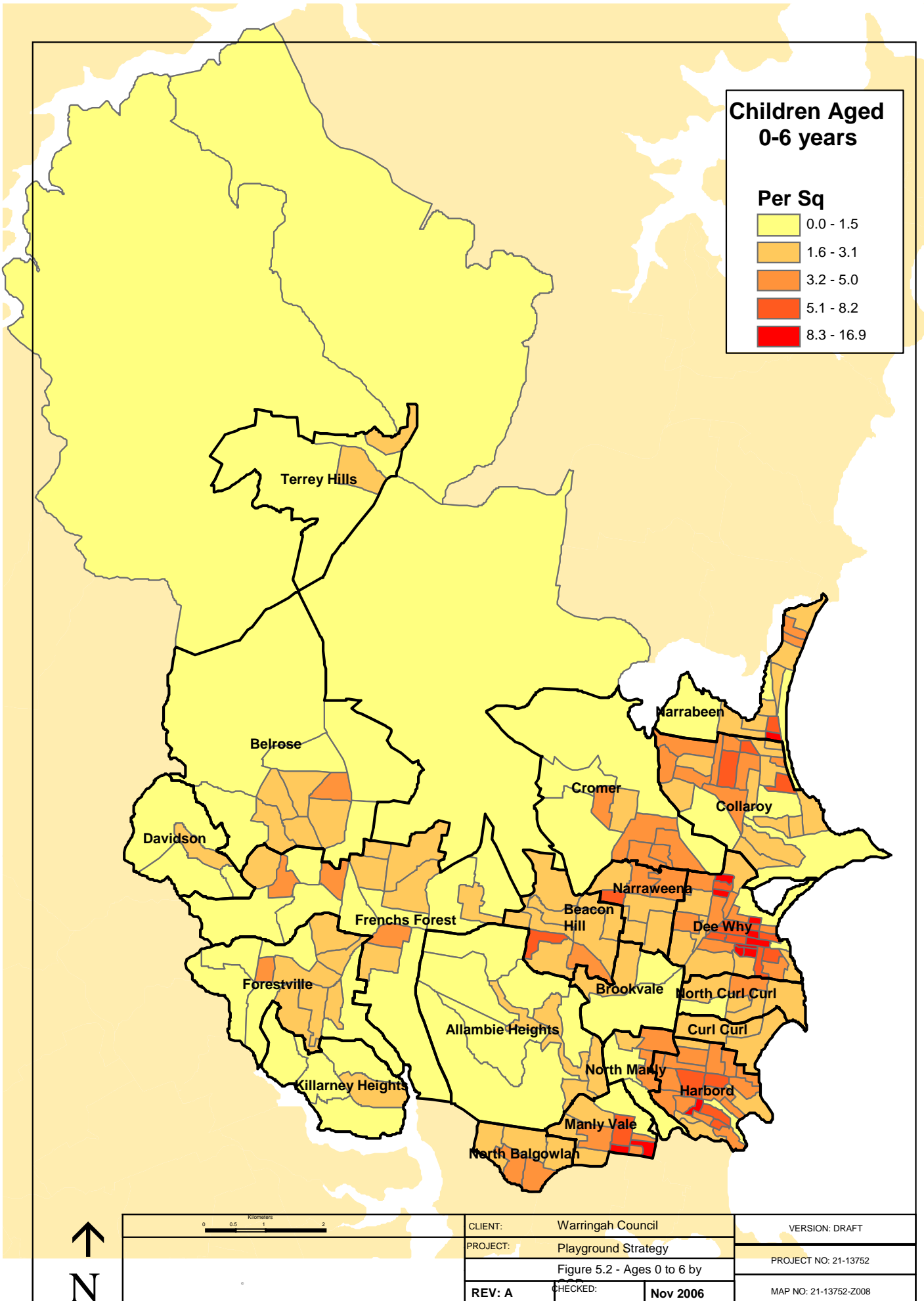


Figure 5.2 Number of children aged 0-6 per sq km in Warringah.

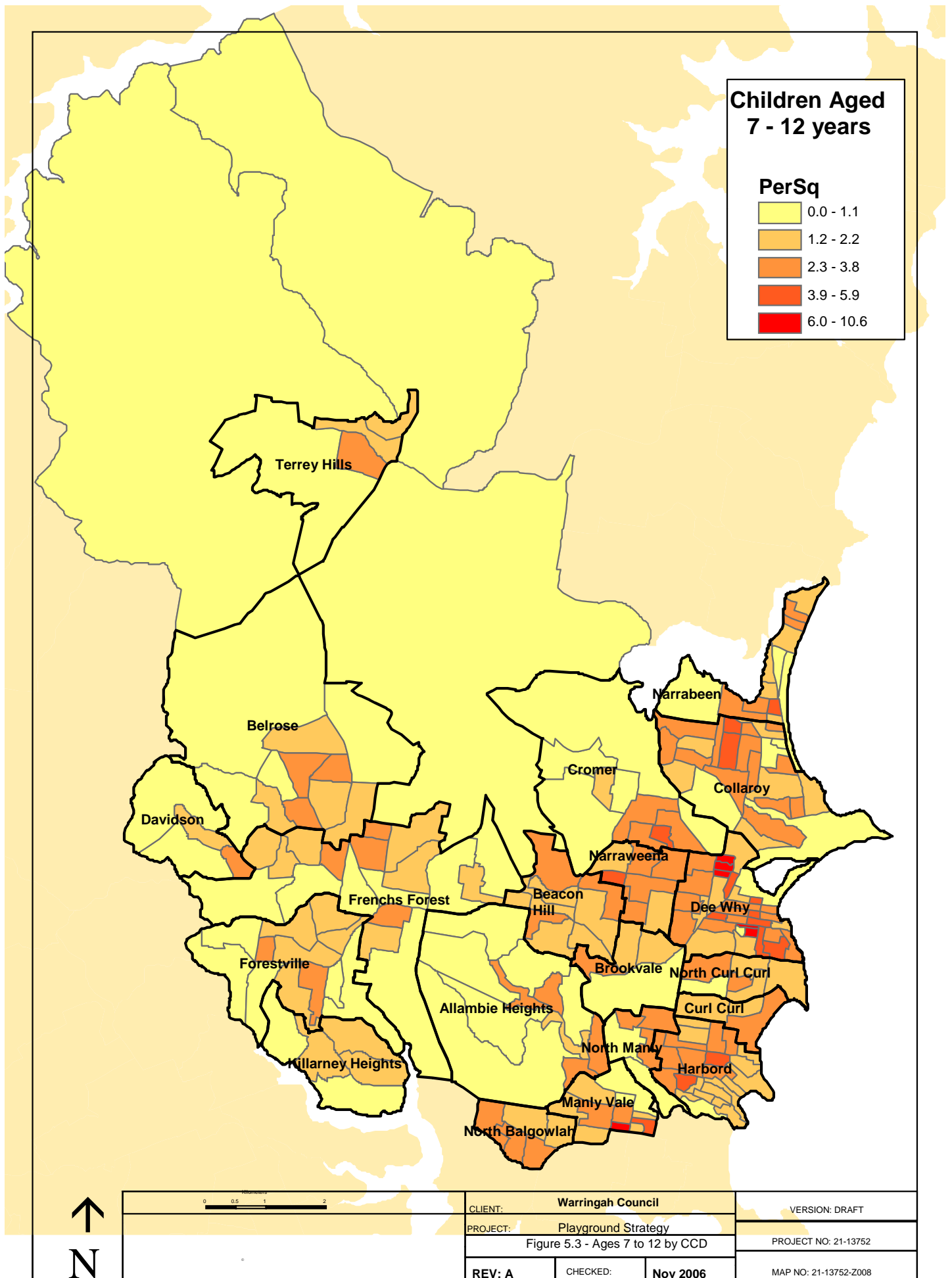


Figure 5.3 Number of children aged 7-12 per sq km in Warringah.

5.1.3 Ethnicity

Within Warringah, 87,800 people (68.8% of the population) were Australian born in 2001, representing a lower level of ethnic diversity than the Sydney average of 62.2%.

Of the population born overseas, the United Kingdom was the main country of birth (7.5%) followed by New Zealand (2.9%) and Italy (1.6%). The main language spoken at home is English (81.2%). The most common spoken languages other than English are Italian (2.5%) and Chinese languages (2.3%).

The indigenous population of Warringah is only 0.3%, which is lower than the Sydney average of 0.9%.

5.1.4 Children with disabilities

The ABS defines disability as 'any limitation, restriction or impairment, which lasted, or is likely to last, for at least 6 months and restricts everyday activities, including self-care, mobility and communication. The 2003 ABS Survey of Disability, Ageing and Carers Summary reported on disability among Australian children aged up to 14 years. In 2003, approximately one in twelve children had a disability (8.3% of all children, 317,900 children). This indicates that approximately 2,060 children in Warringah have a disability. Boys are more likely than girls to have a disability. Almost all (97%) children aged 5-14 years with a disability were attending school – 89% of them in 'regular' schools and 9% in special schools. Around 63% of children with disabilities experienced difficulty at school – intellectual/learning difficulties, fitting in socially and communication difficulties were the most common.

5.1.5 Employment and income

Warringah has a significantly lower unemployment rate (3.5%) than Sydney (6.1%). Sixty-four percent of people over 15 years of age were employed, compared to 58% for Sydney. The proportion of Warringah's working population in full-time employment is similar to Sydney as a whole (63.3% compared to 63.5%), while those in part-time employment is slightly higher (30.7% compared to 27.5%).

Warringah's median weekly household income of \$1,000-\$1,199 is notably higher than the Sydney median (\$800-\$999). The proportion of low-income households in Warringah (8%) is slightly lower than the Sydney average of 10%. Couple families with children make up the greatest proportion of higher income families.

5.1.6 Household structure and housing

There are 51,218 dwellings in Warringah (with detached houses making up 63.5% of all dwellings). This is an increase of 5% on the number of dwellings recorded in 1996 (48,772). Of these, 67.2% were either fully owned or being purchased by the occupants.

The mean household size is 2.6 persons compared to the Sydney mean of 2.7 persons per household. The percentage of one family households is 83.7%, consistent with 83.8% for Sydney as a whole. Couple families with children are the most common household type (53%) but declined slightly (by 4%) between 1991 and 2001.

The increase in couple families without children (17.7% in 1991, to 20.1% in 2001) and lone person households (8.0% in 1991, to 9.3% in 2001) is indicative of an ageing population and society wide trends of young couples without children.

Fifty-two percent of Warringah's population were at the same address in 2001 as they were in 1996.

5.2 Community needs and priorities

5.2.1 Relevant findings of previous Council studies

2005 Warringah Community Survey

(based on a telephone survey of 600 residents, 18 years and over)

Satisfaction with the location of park and recreation facilities was 4.12 out of a maximum of 5 and satisfaction with facilities at parks and recreation centres was 3.71. This represented an increase in satisfaction with the location of park and recreation areas from the 1999 survey (3.9) but a decrease in the satisfaction with facilities at parks and recreation areas (3.9) (Woolcott Research 2006).

Warringah Strategic Plan – Open space and Recreation Issues Paper (2004)

Key issues included:

- ▶ lack of robust needs assessment and concerns over allocation of resources for planning, development and ongoing maintenance of recreational facilities and open space
- ▶ lack of regional facilities
- ▶ quality of existing facilities and maintenance and replacement of facilities and impact on resources
- ▶ lack of innovation in design and provision of recreational facilities
- ▶ less than optimal use of existing open space and recreational facilities
- ▶ need for a review of the Playground Strategy (1999).

Warringah Recreation Strategy Plan (1999)

Key findings:

- ▶ The community is relatively satisfied with the level of facility provision, with the exception of youth facilities and the need for more unstructured, non-sporting facilities such as walking tracks and parks.
- ▶ Community facilities and recreational areas increasingly need to be accessible.

- ▶ Emphasis should be placed on upgrading facilities and improving management of these resources.
- ▶ The natural landscape is highly valued by the community as it provides relief from the urban environment, supports a diversity of flora and fauna, and broadens the opportunities for recreation.
- ▶ A diverse range of recreational opportunities is required to support Warringah's mix of ages, cultural backgrounds, education and family types.

Specific community needs identified included:

- For youth, a multi-purpose skateboard/ roller blading facility, basketball/ half courts, places to meet and activities.
- Review, upgrade and rationalisation of playgrounds
- Physical access for people with disabilities, prams and older adults
- Safety, including lighting and safe transport, particularly for young and older people
- Cycleways/walkways which create linkages between various types of open space.

Harbord, Dee Why, Narrabeena, Cromer and Collaroy Plateau were identified as suburbs with relatively less open space than elsewhere in Warringah.

High priorities for parks and reserves included:

- ▶ guidelines for appropriate development of open space
- ▶ program for upgrading and rationalising local playgrounds
- ▶ development of policy for the use of reserves and beaches.

Recreation needs assessment (1998)

(based on a telephone survey of 553 residents over 14 years of age)

In relation to parks and playgrounds key findings were:

- ▶ 17% of respondents use playgrounds at least once a week
- ▶ 13.8% visit playgrounds between once a fortnight to once a month
- ▶ If these figures are used to estimate total use, there are 25,200 visits per annum to playgrounds by residents 14 years and over. As the majority of playground visitors accompany a child under the age of 12 years, total visitation could be in the vicinity of 55,000 visits per annum.
- ▶ 44.9% of respondents visited neighbourhood parks at least once a week
- ▶ 23.9% of respondents visited neighbourhood parks between once a fortnight and once a month
- ▶ 59.3% visited beaches and coastal areas at least weekly
- ▶ 22.4% visited beaches and coastal areas between once a fortnight and once a month
- ▶ 31.1% visited sportsgrounds and large parks at least weekly
- ▶ 21.1% visited sportsgrounds and large parks between once a fortnight and once a month

- ▶ 78% of respondents considered Council expenditure on parks and playgrounds to be very important;
- ▶ The major concern of the public is with the quality of existing open space facilities, in particular they are seeking:
 - upgrading of amenity blocks
 - improved parking
 - improved lighting, and
 - improved maintenance.

5.2.2 Summary of community issues identified during this project

Most playgrounds (but not all) are located on neighbourhood parks. The Playground Strategy was prepared in conjunction with the Neighbourhood Parks Both documents will inform the Draft Generic Parks Plan of Management and other open space Plans of Management.

The community consultation for the Playground Strategy and the Neighbourhood Parks Review activities were undertaken concurrently. A total of 505 surveys were completed, 95 infield surveys and 410 self-completed surveys. Refer to *Appendix C* for the survey data.

Profile of park and playground survey respondents

- ▶ 89% were born in Australia, followed by the United Kingdom, then New Zealand.
- ▶ 21% spoke a language other than English at home, with a total of 22 languages represented for 53 people.
- ▶ 51% were aged between 30 and 39 years and 28% between 40 and 49 years.
- ▶ 24% were employed full-time, 34% were part-time or casual workers, 30% were engaged in home duties and 6% were retired.
- ▶ Most respondents took less than 10 minutes to travel to a park/playground, and of these, 59% had lived at their current address for more than 5 years and 30% between 2 and 5 years. Most people found out about local park(s)/playground(s) as they were passing by.

Home suburb of self-completed survey respondents

- ▶ Nearly one third of respondents were from Killarney Heights/Forestville, followed by approximately 14% from the Cromer/Dee Why/Narraweena/North Curl Curl area.
- ▶ Approximately 10% were from Collaroy/Collaroy Plateau and the 2093 post-code area which covers the Warringah suburbs of Manly Vale and North Balgowlah as well as Balgowlah, Balgowlah Heights and Clontarf within the Manly LGA.
- ▶ Approximately 6% of respondents were from the following three areas: Frenchs Forest; Curl Curl/Harbord/Queenscliff; Oxford Falls/Beacon

Hill/Allambie Heights/North Manly/Brookvale; and the 2101 post-code which covers Narrabeen and residential areas in the Pittwater LGA, i.e. North Narrabeen/Elanora Heights and Ingleside).

Usage patterns

- ▶ 67% visited parks at least once a week (36% several times a week and 25% about once a week);
- ▶ most visited on weekdays (46%), while 37% visit on weekends
- ▶ 34% spent between half an hour and an hour at the park/playground and 29% spent between an hour and 1 ½ hours
- ▶ 37% visited a park to use the playground, 16% to participate in a sporting activity and 13% for walking
- ▶ 51% travelled to the park/playground by car and 41% walked
- ▶ most (57%) visited the park/playground with friends, 24% with their partner and 13% with children.

Community values and issues

- ▶ 69% thought there was an adequate supply of parks in Warringah.
- ▶ 59% thought there was an adequate supply of playgrounds in Warringah.
- ▶ 23% thought the park(s)/playground(s) they visit were overcrowded and 10% thought they were under-utilised.
- ▶ 87% of respondents considered park cleanliness and maintenance to be very important. Other very important features were shelter and shade (75%), safety and security (72%), trees/natural areas/bushland (70%), playgrounds (67%), toilets (66%) and car parking (62%).
- ▶ The least important park features were considered to be art and cultural features (55%) and proximity to shops (49%), proximity to public transport (41%) and signage (30%).
- ▶ For the infield survey, respondents rated the park they were visiting (Bruce Bartlett Reserve, Lionel Watts Oval, Hews Reserve, Hinkler Park, Jacka Park, Birdwood Park, Frank Beckman Reserve, May Road Reserve, Kurara Close Reserve and The Crescent Reserve). Overall, proximity to home was considered very good (63% of responses), then proximity to cycle paths (57%), car parking (53%) and trees/natural areas/bushland (51%).
- ▶ Park facilities considered very poor were toilets (56%), art works/cultural features (54%), barbeque facilities (35%) and shelter/shade (30%).
- ▶ 89% of respondents considered safe play equipment very important, followed by playground maintenance (86%), safety/security of the playground area (86%), shade (82%), setting suitable for supervision (81%) and distinctive and interesting play equipment (76%).

- ▶ For the infield survey, respondents rated the playground they were visiting (Bruce Bartlett Reserve, Lionel Watts Oval, Hews Reserve, Jacka Park, Birdwood Park, Frank Beckman Reserve, May Road Reserve, Kurara Close Reserve and The Crescent Reserve). Overall security/safety of the playground area was rated very good by 59% of respondents, followed by safe play equipment (58%) and setting suitable for supervision (54.4%).
- ▶ Parks or playgrounds visited most frequently by self-completed survey respondents were: Michaela Howie playground (Dee Why Beach), Poppy Park (Forestville Playing Fields), Bruce Bartlett playground (Collaroy Beach), Passmore Reserve (part of District Park, Manly Vale), Lionel Watts Park/Frenchs Forest Showground and James Meehan Reserve (Dee Why Lagoon). It is important to note that these are all regional or district level playgrounds.
- ▶ Passmore Reserve was overwhelmingly nominated, by both infield and self-completed survey respondents, as a good example of a park in Warringah.
- ▶ Bruce Bartlett Reserve, Michaela Howie Park and Passmore Reserve were nominated as good examples of playgrounds by a relatively high number of respondents.
- ▶ Winnereremy Bay (Mona Vale) and Lagoon Park (Manly) were nominated as good examples of playgrounds in other LGAs (Pittwater and Manly LGAs respectively).

The community survey data is included in *Appendix C*. This includes a number of individual comments on a range of topics relating to playgrounds, park facilities and landscaping, the value of open space, toilets and maintenance etc.

General community responses

A community forum was held on 29 June 2005 at the Dee Why RSL, forty community members attended.

In summary, the key issues or priorities identified during the community forum were to:

- ▶ update the existing limited and antiquated playground facilities
- ▶ restrict filling parks with equipment and facilities, allowing for informal play
- ▶ control vandalism
- ▶ maintain parks and playgrounds to keep them clean and safe
- ▶ provide more play equipment for children over 6 years of age
- ▶ consider access for older persons and people with disabilities
- ▶ restrict homogenisation of parks and playgrounds and limit regionalisation
- ▶ require improved access to parks and playgrounds, better footpaths and bicycle paths, creating better linkages with other community facilities

- ▶ provide unleashed areas for dogs in parks
- ▶ incorporate the natural environment into play space
- ▶ preserve open space, trees and planting.

5.2.3 Summary of identified management requirements

The following is a summary of existing playground management needs for Warringah Council as identified through community consultation, consultation with key stakeholders and Council during the course of the project:

- ▶ Exercise best-practice to ensure playgrounds are planned, developed and managed effectively and efficiently.
- ▶ Plan playground provision to meet the changing demographic profile and provide sufficient variation in playground provision.
- ▶ Link playgrounds with larger areas of open space in order to maximise opportunities for play such as unstructured games.
- ▶ Investigate the provision of youth spaces that encourage unstructured outdoor activity.
- ▶ Involve community participation in the design and planning of playgrounds and associated amenities.
- ▶ Ensure all new playground designs and proposed equipment minimise maintenance through sound design principles and materials selection.
- ▶ Ensure all playground planning and design measures minimise graffiti and vandalism.
- ▶ Actively promote the network of playgrounds in Warringah LGA to maximise community awareness, access and use.
- ▶ Rationalise playground allocation, relative to existing utilisation, usability and future urban growth.
- ▶ Prioritise playground provision and playground improvements to meet recreational needs of the community, within the context of identified budgetary constraints.

6. Supply-demand analysis

6.1 Implications of supply and demand

6.1.1 Supply implications for playgrounds

Based on the supply analysis, the following can be concluded:

- ▶ Warringah is well supplied with playgrounds in terms of distribution. However there is scope to rationalise or redistribute play equipment to better meet demand.
- ▶ Most issues identified relate to the age and condition of equipment, rather than a lack of playgrounds.
- ▶ Risk Management requirements and increasing community expectations and associated costs constrain Council's capacity to modernise the overall playground network.
- ▶ Provision of open space for developed parks needs more consideration at the subdivision stage to ensure suitable and useable areas are set aside for playgrounds.

6.1.2 Demand implications for playgrounds

Based on a comparison of demographic characteristics and consultation activities, the key considerations for playground provision in Warringah Council are as follows:

- ▶ The population of Warringah is projected to be relatively stable over the next 20 years (DIPNR, 2004). As a result meeting community needs for playground provision will largely focus on addressing equity in supply, and provision of playgrounds in suburbs subject to higher density residential development and in new subdivisions.
- ▶ The suburbs with the highest number of children (and therefore demand for playgrounds) are Frenchs Forest, Dee Why, Collaroy and Belrose. The suburbs with the highest density of children per km² are Dee Why, Harbord and Beacon Hill.
- ▶ As for Sydney overall, families are the dominant household type in the Warringah LGA. This generally implies playgrounds should provide:
 - for informal as well as formal recreation and play opportunities for children;
 - supervision areas for parents and carers in parks containing playgrounds; and
 - associated amenities that support family/group activities such as picnic areas/BBQs in larger parks.

- ▶ The high proportion of people with disabilities indicates accessibility as an important consideration in playground design.
- ▶ The promotion of Warringah's playgrounds could help address issues of overcrowding and under utilisation.

6.2 Analysis of supply versus demand (gap analysis)

6.2.1 Results of GIS analysis

A GIS analysis was undertaken to identify Council's existing playground supply. The criteria for the GIS analysis are outlined in *Appendix B*.

Figure 6.1 is a visual representation of existing playground supply. The figure identifies areas well supplied with playgrounds (a playground within 10 minute walking distance) areas adequately supplied (taking into account topography, attractors, barriers i.e. roads and natural features and other open space) and areas of undersupply (no playground within 10 minutes walking distance). **Table 6.1** presents the outcomes of the playground supply-demand analysis by suburb.

The most notable areas of playground undersupply are recent subdivisions, at the extremities of some urban areas, and areas of steep topography (such as parts of Collaroy).

The western part of the LGA is generally well supplied with playgrounds and the coastal area enjoys access to other open space areas (beaches and lagoons) which provide other play opportunities.

Areas have been identified where there is potential for rationalisation. Consideration was given to population densities, target user groups, access (i.e. major roads), and other barriers (i.e. landscape elements), proximity of other attractors (i.e. village centres, beaches etc.) and to other playgrounds. Risk assessment was used as a qualifier in recommending the rationalisation of some playgrounds.

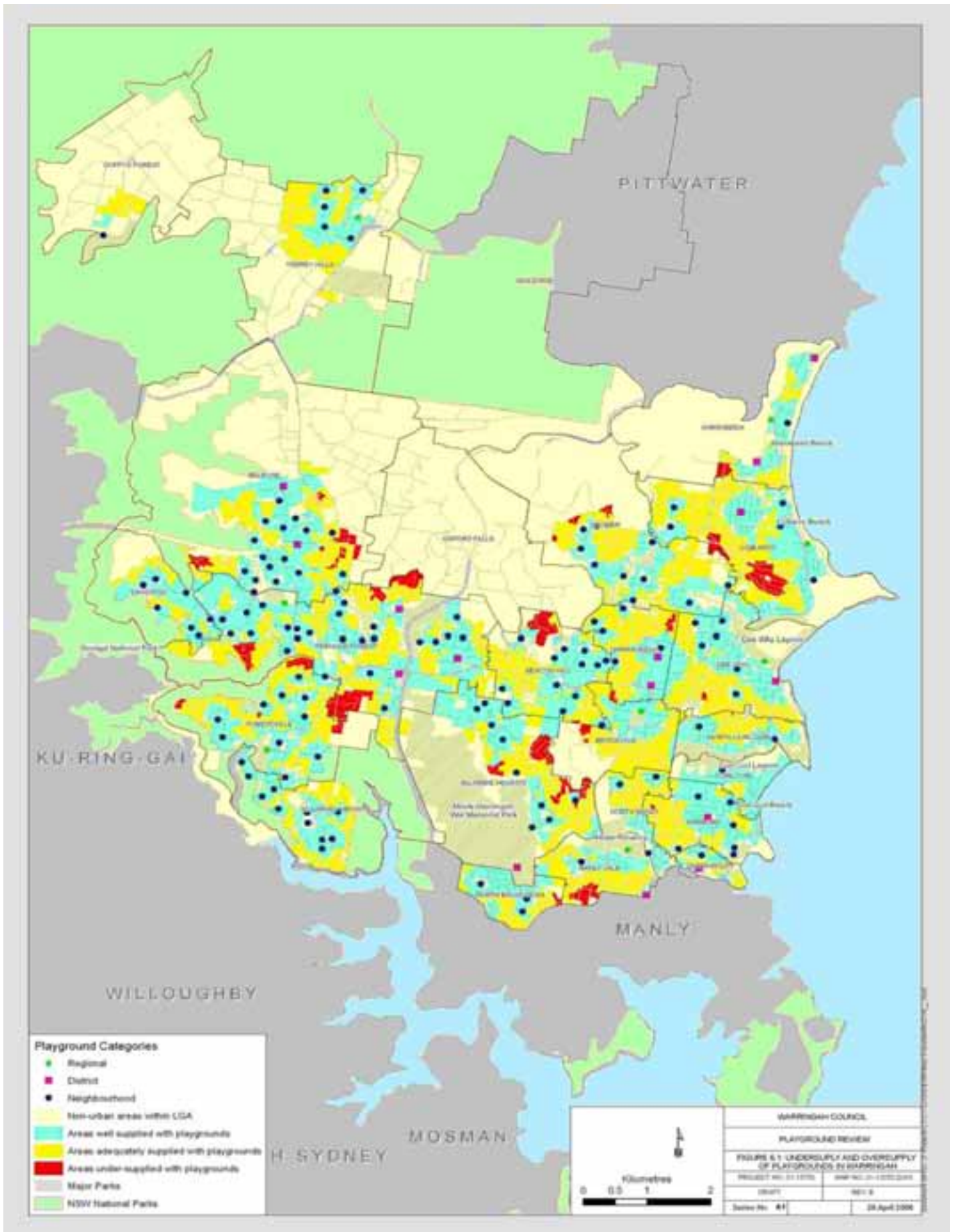


Figure 6.1 Areas well supplied, adequately supplied and undersupplied with playgrounds

6.2.2 Supply-demand analysis by suburb

A supply-demand analysis of playgrounds according to suburb is provided in **Table 6.1**. The definitions for low, medium and high proportion of children per suburb; and low, medium and high potential for medium density development are shown in *Appendix B*, Table 5.

Table 6.1 Playground supply-demand analysis by suburb

Suburb	Supply-demand analysis
<i>Allambie/ Allambie Heights</i>	<p>Allambie is in close proximity to Manly-Warringah War Memorial Park (Manly Dam) and Allenby Park. Allambie has a medium percentage of Warringah's children but low density of children.</p> <p>The northern portion of the suburb is well supplied with playgrounds and there is potential for rationalisation of neighbourhood playgrounds in this area.</p> <p>Areas of undersupply include Libya Cres, Corkery St and Lyly Rd, Churchill Cr and to the north west of Allambie Park.</p>
<i>Beacon Hill</i>	<p>Red Hill Reserve, Golden Grove Reserve and South Creek are located towards the north of the suburb. The suburb has a medium percentage of Warringah's children and a high density.</p> <p>The eastern area of Beacon Hill, particularly around the Willandra Road area north of Beacon Hill Public School is well supplied with playgrounds. There is therefore potential for rationalisation in this area.</p> <p>The Red Hill subdivision in the north of the suburb is undersupplied.</p>
<i>Belrose</i>	<p>Garigal National Park is located to the west. Belrose has a high percentage of Warringah's children but low density of children. The central part of Belrose is very well supplied with neighbourhood playgrounds and there is scope to consider rationalisation of at least three playgrounds. However, areas to the far west and east (around Ashworth Ave and Perentie Rd) are undersupplied.</p> <p>Since the analysis was undertaken a new playground in Childs Circuit, has come under Council management.</p>
<i>Brookvale</i>	<p>Warringah Mall is located in Brookvale acting as a key commercial hub for the LGA. The suburb has a low proportion and density of children. Most residential areas of Brookvale are well or adequately serviced by Brookvale's regional playground. However, given the very high potential for further medium density development in Brookvale, there is justification for the provision of a neighbourhood playground in the southern area of the suburb. It is noted that Council has recently acquired land in Old Pittwater Road for open space purposes.</p> <p>In addition, the area around Ryan Place is undersupplied with playgrounds.</p>
<i>Collaroy</i>	<p>Collaroy is characterised by Collaroy Beach and Griffith Park to the south. Jamieson Park is located to the north. It has a very high percentage of Warringah's children and a high density. In 2001, 55% of children were aged 0-6 years. There is medium to very high potential for further medium density development in Collaroy.</p> <p>Much of Collaroy Plateau is well serviced by its regional and district playground. The area around Lincoln Ave/Hendy Ave is undersupplied, primarily due to the steep topography of the area.</p>
<i>Cromer</i>	<p>Cromer consists of Cromer Golf Course to the west and incorporates a large industrial area centred on Middleton Road. The suburb has a high proportion of children and a medium density of children in the residential areas.</p> <p>The western and central areas of the suburb are well supplied with playgrounds, indicating potential for rationalisation. However, to the far western reaches there are small pockets of undersupplied areas (e.g. around Cromer Rd).</p>
<i>Curl Curl</i>	<p>Curl Curl is adjacent to Curl Curl Beach as well as Curl Curl Lagoon and associated reserves. The suburb also includes the large open space area of John Fisher Park. Curl Curl has a low number of children but a comparatively high density (and demand per km²). Although there are relatively few playgrounds in North Curl Curl, they adequately cater for the needs of the community. There is potential to enhance provision in the vicinity of</p>

Suburb	Supply-demand analysis
	Headland Road and Playfair Road e.g. Quirk St end of Wingala Reserve.
<i>Davidson</i>	Garigal National Park borders Davidson. The suburb has a low number and density of children. Residential areas in Davidson are well or adequately supplied with playgrounds. Given the relatively low demand in the suburb, there is potential for rationalisation of 1-2 playgrounds.
<i>Dee Why</i>	<p>Dee Why is characterised by Dee Why Beach and Dee Why Lagoon. It has a very high number and density of children compared to other suburbs in Warringah. In 2001, 60% of children were aged 0-6 years old.</p> <p>Almost all of Dee Why is either well or adequately supplied with playgrounds. However, being a medium-high density area, there may be advantages in providing additional playgrounds in order to reduce the number of users per playgrounds. This is emphasised further, considering the medium to high potential for increased medium density development in the suburb. The embellishments planned for Mooramba Park and Walter Gors Park will address the increased demand for playgrounds.</p> <p>The south-western area of Dee Why, particularly around Delmar Pde is not as adequately supplied.</p>
<i>Duffys Forest</i>	The number of children in Duffys Forest is very low due to the small population overall and the predominant low-density, rural-residential development in the area. Duffys Forest currently has one neighbourhood playground. Given the low demand coupled with plentiful open space provided by large rural residential blocks in the suburb, one neighbourhood playground is considered adequate.
<i>Forestville</i>	<p>Forestville lies east and west of Warringah Road with the perimeter of the suburb adjoining Garigal National Park. Forestville War Memorial Playing Fields are centrally located in Forestville. Forestville has a high proportion of Warringah's children but the density of children in this suburb is low.</p> <p>The area between Arthur St and Duke St are very well supplied with playgrounds and are in close proximity to neighbourhood, district and regional parks. Key areas of undersupply are the western reaches around Milham Cr/Arthur St, to the north around Salerno St/Lady Davidson CCT, and the western side of Warringah Road.</p>
<i>Frenchs Forest</i>	<p>Frenchs Forest is one of the largest suburbs in the LGA extending from Oxford Falls Road in the East to Davidson High School in the west. The suburb incorporates the industrial area fronting Warringah Road, the Warringah Aquatic Centre in the east, and in the west adjoins Garigal</p> <p>Frenchs Forest has the highest proportion and density of children in Warringah. There are a significant number of areas that are very well supplied with playgrounds. These areas include the residential area north of Wearden Rd and south around Kurrajong Rd, south-west of Warringah Road, and around Townsend Ave.</p> <p>However, there are a number of areas that are not adequately supplied with playgrounds. These include residential areas around Iris St, Pringle Ave, Naree Rd and Sturt St.</p>
<i>Harbord</i>	<p>Harbord is bounded by Queenscliff and North Manly and adjoins Freshwater Beach. The suburb has a village atmosphere stemming from the small commercial centre and "self contained" nature of the area.</p> <p>Harbord has a high proportion and density of children. In 2001, there were a significant number of children aged 0-6 years.</p> <p>Although Harbord contains only a few playgrounds the suburb is generally well catered for in this regard. However, the western part of Harbord around Coles Rd/Marlborough Avenue is at the limit of the 10-minute travel time. The playground at Evans Reserve is also a small facility on a busy street and is not well integrated with the surrounding suburb.</p>
<i>Killarney Heights</i>	<p>Killarney Heights is bordered by Garigal National Park to the east, west and south. Killarney Heights has a medium proportion and a relatively high density of children. The slight majority of children in the suburb were aged 0-6 years (53%).</p> <p>Most of the residential areas of Killarney Heights are very well supplied playgrounds. Of the eleven neighbourhood playgrounds a number are located in close proximity to each other. There is therefore scope to consider the removal/rationalisation of play equipment in</p>

Suburb	Supply-demand analysis
	Donegal Rd/Roscommon Cr area, Cachel Cr/Kinsdale Cl area and Waterford Pl/Finian Ave area.
<i>Manly Vale</i>	<p>Manly Vale borders Manly LGA and Manly Golf Course to the south. Manly Warringah War Memorial Park is to the west and District Park (including Nolan Reserve) is to the north. The suburb has a medium proportion and density of children. In 2001, there was a significant proportion of children aged 0-6 years in Manly Vale (60%).</p> <p>The northern residential areas of Manly Vale are well to adequately supplied with playgrounds. However, to the south-western area around Kenneth Road is poorly supplied with playgrounds.</p>
<i>Narrabeen</i>	<p>Narrabeen is characterised by Narrabeen Beach and Narrabeen Lakes and a range of parks associated with these natural features. Narrabeen has a medium population and density of children. The majority in 2001 were 0-6 year olds (56% compared to 44% 7-12 year olds).</p> <p>Most of Narrabeen is well to adequately supplied by playgrounds having two district playgrounds, a regional playground and a neighbourhood playground. In addition Pittwater Council is investigating the provision of a regional playground facility on the northern shores of Narrabeen lake at Billarong Reserve.</p> <p>However, the area towards the north of Fuller St and Veterans Pde is undersupplied with playgrounds. There may be opportunities to provide play equipment at Jamison Reserve to address this undersupply.</p>
<i>Narraweena</i>	<p>Narraweena lies west of Pittwater Road and Dee Why. Beverley Job Park is the major open space area in this suburb. Narraweena has medium proportion and density of children compared to other suburbs.</p> <p>Narraweena has two district playgrounds that service most of the eastern portion of the suburb. Other areas are either adequately or well supplied with neighbourhood playgrounds with the exception of Lascelles Road and Victor Road that are undersupplied. There is also the opportunity to improve Alamein Reserve by removing its play equipment (and improving landscape amenity of the park) and transferring to areas of undersupply.</p>
<i>North Balgowlah</i>	<p>North Balgowlah borders Manly LGA to the south and Manly-Warringah War Memorial Park/Wakehurst Golf Course to the north. The suburb has a medium proportion of Warringah's children and a medium-high density. In 2001 there were more 0-6 year olds (57%) than 7-12 year olds (43%).</p> <p>Most of North Balgowlah is either well or adequately supplied by playgrounds, particularly the northern area near the district playground on Bardoo Avenue. However, the area near Condover Street, Serpentine Crescent, Eileen Street and Worrobil Streets is undersupplied with playgrounds. However, because many of the local residents have access to playgrounds in Manly LGA, this is not a high priority area.</p>
<i>North Curl Curl</i>	<p>North Curl Curl has two neighbourhood playgrounds and is in close proximity to Curl Curl Lagoon and Curl Curl Beach. All residential areas are either well or adequately supplied with playgrounds. Although the proportion of children is relatively low, the relative density of children in the suburb is medium. The existing supply of playgrounds is therefore considered reasonable.</p>
<i>North Manly</i>	<p>The residential areas of North Manly are well provided for by four neighbourhood playgrounds. These playgrounds are well located to service all areas of the suburb. North Manly has a relatively low proportion of Warringah's children but a low-medium density of children. The existing supply of playgrounds is therefore considered reasonable.</p>
<i>Oxford Falls</i>	<p>The number of children in Oxford Falls is very low due to the small population overall and the predominant low-density, rural-residential development in the area. Oxford Falls currently has no playgrounds. However, the low demand coupled with plentiful open space provided by large rural residential blocks in the suburb indicates limited need for the provision of a playground in this suburb.</p>
<i>Queenscliff</i>	<p>Queenscliff has two neighbourhood playgrounds and is in close proximity to two neighbourhood playgrounds in Harbord and the foreshores of Manly Beach and Manly Lagoon. Queenscliff has a medium-high proportion and density of Warringah's children. The existing supply of playgrounds is therefore considered reasonable.</p>

Suburb**Supply-demand analysis**

Terrey Hills

Terrey Hills is bound by Ku-ring-gai National Park and Mona Vale Rd. The eastern area of the suburb contains residential areas while the western area contains large rural residential blocks.

Terrey Hills has a low proportion of Warringah's children, of which half are aged 0-6 years and half aged 7-12 years. The residential areas of Terrey Hills are well supplied with playgrounds. There is also a regional playground at Frank Beckman Reserve.

Given much of the residential areas in Terry Hills are well supplied with playgrounds, there are opportunities to rationalise existing neighbourhood playgrounds or to relocate some play equipment.

7. Recommendations for future management

7.1 General recommendations

General management strategies and corresponding actions and performance indicators for Warringah's playgrounds are outlined in **Table 7.1**.

Table 7.1 Management strategies, actions and performance indicators

Management Strategy	Actions	Performance indicators	Priority	Responsibility
1. Upgrade playground equipment and associated features to meet Australian Standards.	<ul style="list-style-type: none"> ▶ Upgrade playground equipment and associated built structures in accordance with the Playground Strategy, Council's Risk Management procedures, Australian Standards and community need. ▶ There are 107 playgrounds requiring upgrade to Australian Standards. The complete list of the playground requiring upgrade to Australian Standards is included as Appendix F. In consultation with the Neighbourhood Park and Playground Strategic Advisory Committee, Council will develop a set of criteria for upgrading all playgrounds to Australian Standards. Each playground upgrade will be measured against the criteria and ranked producing a priority (high, medium or low) and a time frame for each playground upgrade to be completed. Playground upgrades listed in the suburb specific recommendations have been prioritised. ▶ Refer to the Playground Design Checklist (Appendix D) in this Strategy when upgrading playground equipment and associated features. ▶ Prior to upgrading playground equipment consideration should be given to the suburb specific recommendations included in the Playground Strategy. 	<ul style="list-style-type: none"> ▶ Provision of playground equipment that complies with Australian Standards. ▶ Provision of playground equipment that meets the needs of playground users. ▶ Equitable provision of playgrounds. 	High	Assets

Management Strategy	Actions	Performance indicators	Priority	Responsibility
1. Upgrade playground equipment and associated features to meet Australian Standards.	<ul style="list-style-type: none"> <li data-bbox="517 336 1144 499">▶ The suburb specific recommendations recommend the removal of a number of playgrounds. Prior to a playground being removed an assessment of the neighbouring playground/s must be completed to ensure that it meets the needs of playground users and that it complies with Australian Standards. Where Council proposes play equipment to be removed, upgraded or relocated, it is Council's procedure to prominently display an A3 sign in the reserve for a notification period of 2 weeks. <li data-bbox="517 647 1099 727">▶ Continue regular inspections and external audits of playground equipment and associated features to assess and manage risks and eliminate hazards. <li data-bbox="517 746 1137 799">▶ Ensure Council officers responsible for the maintaining playground equipment are suitably qualified. <li data-bbox="517 818 1032 842">▶ Implement Council's Capital Works Program. 			Assets Project Services

Management Strategy	Actions	Performance indicators	Priority	Responsibility
2. Exercise best-practice to ensure that playgrounds are well planned, designed and managed and meet Australian Standards.	<ul style="list-style-type: none"> ▶ Prepare a clear administrative structure for defining individuals/departments with primary responsibility for planning, design, management, maintenance and funding of playgrounds. Make this available to key internal and external stakeholders. ▶ Establish a Playground Management Committee to guide the implementation of the Strategy. ▶ Keep abreast of trends in play theory and playground design through assessment of existing popular playgrounds, research, professional associations and use of design specialists. ▶ Refer to the Playground Design Checklist in this Strategy when planning and designing playgrounds. ▶ Playground design to consider linkages to other open space and attractors. ▶ Playground design to minimise maintenance through sound design principles. Refer to Playground Design Checklist. ▶ Council is currently developing its Draft Local Habitat Plan to protect and improve habitat within mapped habitat corridors. Playgrounds, which are located within habitat corridors should be provided in accordance with the principles in the Local Habitat Plan. ▶ Ensure playgrounds comply with Australian Standards. ▶ Continue regular inspections and quarterly external audits of playground equipment and associated features to assess and manage risks and eliminate hazards. ▶ Design playgrounds that support inclusive access. 	<ul style="list-style-type: none"> ▶ Playground Strategy adopted by Council and actions included in future management plans and Capex programs based on priorities. ▶ High quality playgrounds provided in Warringah. Provision of playgrounds which address inequities in provision, meet community needs with regard to design, equipment and associated features, minimise maintenance requirements and comply with current Australian Standards. ▶ Playground/play equipment design guidelines/concepts incorporated in Plans of Management. ▶ Playground maintenance undertaken within timeframe set out in risk management process in Council's Asset Management Plan and in accordance with AS/NZS 4486.1 1997. ▶ Playground repairs undertaken in accordance with priorities identified in the reports produced by the independent third party auditor. ▶ Provision of playgrounds in accordance with the following: Safer by Design principles; Warringah's Design Guidelines for Public Spaces; and Council's Art in Public Places Policy. ▶ Provision of accessible play spaces. 	High	Assets

Management Strategy	Actions	Performance indicators	Priority	Responsibility
3. Plan playground provision to meet the changing demographic profile and provide sufficient variation in playground design/play equipment to hold interest.	<ul style="list-style-type: none"> ▶ Review demographic information (current and forecasts) and suburb specific recommendations when 2006 census data becomes available and/or after approximately five years. ▶ Keep abreast of trends in play theory and playground design through assessment of existing popular playgrounds, research, professional associations and use of design specialists. ▶ Playground design and the surrounding play space to be creative and stimulating to invite children's spontaneous play, and allowing for each type of play: active/motor; creative/cognitive, social/dramatic; and quiet play. ▶ Playground design to consider children's growth and learning stages (pre-school and school-aged). ▶ Natural and cultural features of the site to be incorporated. ▶ Provide associated features to enhance the play experience. ▶ Council is currently developing its Draft Cultural Plan to address art and cultural development. Once the plan is complete public art projects should be delivered in accordance with this Plan. 	<ul style="list-style-type: none"> ▶ Length of time spent in play environment extended. ▶ Playgrounds/play equipment meeting current community needs and providing children with a variety of play opportunities. ▶ Priorities for playground upgrading/provision based on future needs. ▶ Reduction in requests/complaints regarding existing play equipment/playground provision. 	Medium	Assets
4. Where possible provide opportunities for unstructured as well as formal play.	<ul style="list-style-type: none"> ▶ When selecting playground sites provide opportunities for all types of play. Regional, district and where possible neighbourhood playgrounds to provide for unstructured activities (e.g. running, ball games, cycling for children) as well as play equipment. 	<ul style="list-style-type: none"> ▶ Playgrounds associated with other areas of open space. ▶ Playground provision linked to the Generic Parks Plan of Management. ▶ Playgrounds catering for a range of activities consistent with the category within Council's playground hierarchy. 	High	Assets

Management Strategy	Actions	Performance indicators	Priority	Responsibility
5. Provide associated features to meet the needs of playground users (children and their carers) e.g. fencing, shade, undersurfacing, landscaping and signage.	<ul style="list-style-type: none"> ▶ Inclusion of associated features in accordance with the Playground Design Checklist, Councils playground hierarchy and Australian Standards. ▶ Provide fencing and barriers where appropriate. Consideration should be given to areas where there is potential conflict between children using the playground and other activities associated with the playground location i.e. proximity to a busy road, a car park, dog exercise area. Natural features can be used as an alternative to fencing i.e. mounds, rocks and hedges. ▶ Playground design to take advantage of site topography and local features. Associated landscape design to add visual amenity and play opportunities to encourage social interaction, enhance local ecological values and facilitate passive surveillance. ▶ Where possible playground designers to utilize existing trees for shade. Consideration to be given to additional plantings to provide future shade. Where possible, select endemic species. Consult with CaLM for recommended species. ▶ Provide certified undersurfacing under and around playground equipment in accordance with Australian Standards AS/NZS4422:1996 Playground Surfacing. ▶ Provide BBQ's, seating, picnic benches, drinking water, rubbish bins, toilets and provisions for shade in accordance with Council's playground hierarchy. ▶ Playground signage to be consistent with Council's Communication and Visual Standards Manual. Playground signage to be placed at the defined entrance/s to the reserve. 	<ul style="list-style-type: none"> ▶ High quality playgrounds adding to local amenity and meeting carer needs as well as those of children. ▶ Length of time spent in play environment extended. ▶ Compliance with Australian Standards. ▶ High quality playgrounds adding to local amenity and meeting carer needs as well as those of children. 	Medium	Assets
6. Encourage community participation in the design and planning of playgrounds.	<ul style="list-style-type: none"> ▶ Continue to make concept and detailed playground designs available for community comment. ▶ Collate and review community requests/comments on play equipment/playground facilities. 	<ul style="list-style-type: none"> ▶ Provision of playgrounds/play equipment meeting user needs and demands. 	High	Assets

Management Strategy	Actions	Performance indicators	Priority	Responsibility
7. Playground planning and design to include measures to minimise graffiti and vandalism.	<ul style="list-style-type: none"> ▶ Refer to the Playground Design Checklist in this Strategy when planning and designing playgrounds. ▶ Playground location and design should consider passive surveillance. ▶ Equipment damage should be addressed and graffiti removed as soon as possible to discourage further incidents. 	<ul style="list-style-type: none"> ▶ Reduced incidence of vandalism and graffiti in playgrounds. 	Medium	Assets
8. Increase awareness of playground provision within Warringah.	<ul style="list-style-type: none"> ▶ Make playground inventory publicly available. ▶ Include information on playground location, equipment and associated facilities on Council's website. ▶ Playground signage to be consistent with Council's Communication and Visual Standards Manual. Playground signage to be placed at the defined entrance/s to the reserve. 	<ul style="list-style-type: none"> ▶ Reduction in phone inquiries regarding playgrounds. ▶ Improved utilisation of playgrounds and reduction in overcrowding at popular playgrounds. ▶ Number of website 'hits' relating to playgrounds. ▶ Playground inventory included in Playground Strategy. 	Low	Assets Communications
9. Rationalise playground allocation, including new installation relative to existing utilisation, usability and future urban growth.	<ul style="list-style-type: none"> ▶ Utilise playground supply/demand analysis to assess open space needs for future subdivisions. ▶ Set criteria for the provision of neighbourhood parks in new subdivisions to ensure the land is suitable for recreation/children's play. ▶ Rationalise playgrounds in accordance with suburb specific recommendations in the Playground Strategy. 	<ul style="list-style-type: none"> ▶ Priorities for rationalisation/provision of playgrounds in line with community needs. ▶ Equitable provision of playgrounds throughout Warringah. ▶ Undersupply in existing new subdivisions addressed with future development of adjacent lands. 	High	Assets Planning Policy Assets
10. Review budget requirements to assist in programming playground provision/upgrading.	<ul style="list-style-type: none"> ▶ Review condition of existing play equipment and include replacement date in playground inventory to assist in budget review. ▶ Investigate opportunities for external funding for playground improvements. 	<ul style="list-style-type: none"> ▶ Playground equipment replaced at the end of its serviceable life ▶ Innovative playground design and a variety of play equipment/play opportunities. ▶ Internal funding adjusted to better meet priorities for playground provision and play equipment upgrading needs. 	Medium	Assets

Management Strategy	Actions	Performance indicators	Priority	Responsibility
11. Ensure future acquisition of open space for the purpose of a playground is suitable for children's play.	<ul style="list-style-type: none"> ▶ Consideration of the playground location and site at the subdivision stage. 	<ul style="list-style-type: none"> ▶ Suitable and useable areas are set aside for playgrounds. 	High	PAS

7.2 Playground hierarchy

7.2.1 Criteria for playground provision in Warringah

Ideally all residential areas in Warringah should be within walking distance of a playground. In practice, this depends on the topography of the landscape, land supply, settlement patterns and access barriers such as roads. Other important considerations include proximity to natural (beaches, bushland) or social (shopping centres, cafes adjoining larger parks) features that serve to attract people to the location and result in increased use levels.

A three-tiered hierarchy had been adopted for Warringah's playgrounds as described in **Table 7.2**.

Table 7.2 Playground catchments

Playground Category	Catchment size
Neighbourhood	Caters for a highly localised catchment within walking distance/10 minute walking time from residences.
District	Serves a wider catchment for residents within the suburb and visitors from neighbouring suburbs.
Regional	Has a catchment that extends beyond Warringah's boundaries. Serves the local community, Warringah's residents and visitors predominantly from adjacent LGAs.

7.2.2 Criteria for playground design

Factors to be taken into consideration in playground design include:

- ▶ access for people with a disability;
- ▶ environmental amenity (features that increases attractiveness or value);
- ▶ security and personal safety;
- ▶ natural landscape and cultural features; and
- ▶ public art.

Table 7.3 outlines general design guidelines for each playground category.

Table 7.3 Typical playground facilities and recreational opportunities

Playground Category	Facilities and Recreational Opportunities
Neighbourhood	<ul style="list-style-type: none">▶ Play equipment for at least one age group▶ May provide for informal play activities such as ball games.▶ No or very few support facilities (e.g. only garbage bin, seat).

	<p>Utilize existing trees for shade.</p> <ul style="list-style-type: none"> ▶ Limited kerbside car parking.
District	<ul style="list-style-type: none"> ▶ Play equipment for a range of age groups ▶ Informal play opportunities, e.g. bike track, kick-about area. ▶ Support facilities may include one or more of the following: picnic tables, seats, BBQ's, bubblers/drinking fountain, garbage bins, fencing, toilet/s and provisions for shade. ▶ Kerbside or formal car parking. Where possible, formal car parking should include a disabled parking space.
Regional	<ul style="list-style-type: none"> ▶ Play equipment for all ages ▶ Areas for informal activities such as running, cycling and ball games. ▶ Has support facilities including picnic tables, seats, BBQ's, shelters, drinking fountain, garbage bins, fencing, toilet/s and provision for shade. ▶ Formal car parking. Formal car parking should include a disabled parking space.

7.3 Suburb specific recommendations

Table 7.4 lists priorities for playground installation, upgrading or removal to allow programming of works for the future provision, maintenance and management of Warringah's playgrounds.

Table 7.4 Recommendations for acquisition/rationalisation of playgrounds

Suburb	Action	Priority
<i>Allambie/ Allambie Heights</i>	Provide playground at Allambie Heights Oval. This is a good location for a playground, adjacent to the sportsground, Allambie Heights Primary School, tennis courts and the community centre. Consider a bicycle path as part of the playground design. Playground design to meet the specialised needs of people with disabilities.	High
	Provide fenced playground in Allambie Rd Reserve. The reserve is an aboriginal heritage site. Playground designers should consult with the aboriginal community to protect, enhance and incorporate cultural heritage values. The reserve requires additional tree planting to provide shade for park users. Consideration to be given to local traffic volume and improved pedestrian access to the reserve (i.e. pedestrian refuge).	
	Upgrade playground in Goroka Reserve. Good area of open space for ball games and picnics.	
	Request Dept. of Lands to formally transfer management of reserve between Orara and Lyly Roads to Council. Provide playground, name reserve, and install associated signage. Proposed location offers good access via pedestrian pathway through to Orara & Lyly Rds and shade trees. Allambie Shops within a 200m walk.	Medium

Suburb	Action	Priority
	<p>Once playground is provided between Orara and Lyly Roads remove playground equipment in Orara Reserve. This playground is located at the end of Orara Rd, a no through road. The reserve provides poor access through to Lyly Rd. Pedestrian access is much better at the alternate site. The alternative site is located within 150m.</p> <p>Once playground is upgraded in Goroka Reserve remove play equipment in Lae Reserve. The playground does not comply with current Australian Standards. Access to the site is poor. Part of the reserve is categorised as natural area, bushland and Goroka Reserve is located within 300m.</p>	
<i>Beacon Hill</i>	<p>Provide playground in Willandra Reserve. This is a good location for a playground, adjacent to the sportsground, a half court basketball court, and amenities and opposite Beacon Hill Primary School.</p> <p>Investigate opportunity to provide a playground in the Red Hill subdivision.</p> <p>Upgrade playground in Kerry Reserve. This is a good location for a playground adjacent to Beacon Hill Primary School and a sportsground.</p> <p>Once playground is provided in Willandra Reserve remove playground equipment in Earl Reserve. The playground does not comply with current Australian Standards. Access to the site is poor and playground users may experience traffic noise from Warringah Rd. Willandra Reserve is located within 400m and Kalianna Reserve is located within 530m.</p> <p>Once playground is provided in Wilandra Reserve remove playground equipment in Gilles Reserve. The playground does not comply with current Australian Standards. Council plans to restore vegetation back to bushland. Willandra Reserve is located within 450m and Princess Mary Street Reserve is located within 250m.</p> <p>Remove playground equipment in Eltham Reserve. The playground does not comply with current Australian Standards. Princess Mary Street Reserve is located within 300m. Carenden Reserve is located within 550m. Although there is not direct pedestrian access through to the playground in Lascelles Reserve, this playground is located within 700m and services the surrounding area.</p> <p>Once playground is upgraded in Kerry Reserve, remove playground equipment in Egan Reserve. The playground does not comply with current Australian Standards. Access to the site is poor. The dense vegetation surrounding the playground restricts visibility compromising the safety of playground users. Kerry Reserve is located within 380m.</p>	High
<i>Belrose</i>	<p>Investigate opportunity to provide a playground in the vicinity of Haigh Avenue (western end) or Ashworth Avenue.</p> <p>Upgrade playground at Ralston Reserve. This is a good location for a playground opposite Belrose Public School and adjacent to shops.</p> <p>Upgrade playground at Wingara Reserve. This is a good location for a playground, providing a large area of open space, located adjacent to tennis courts and Glenrose Shopping Centre. Improve access through to Lowanna & Opala Streets.</p> <p>Upgrade playground in Opala Reserve. The reserve provides a large area of open space for ball games, picnics etc. Playground design to utilize existing trees for shade. The reserve offers good access via</p>	High

Suburb	Action	Priority
	<p>pedestrian pathway through to surrounding streets.</p> <p>Once playground is upgraded in Ralston Reserve remove playground equipment in Boronia Reserve. The playground does not comply with current Australian Standards. Wyatt Reserve, which provides a large area of open space and a district level playground, is located within 330m. Ralston Ave is located within 500m.</p> <p>Remove playground equipment in Orana Reserve. The playground does not comply with current Australian Standards. There are two playgrounds located on Windrush Ave. Windrush Reserve is located within 350m. Windrush Reserve has a large area of open space for ball games, picnics etc. Orana Reserve is a smaller sloping site. Windrush Reserve requires additional tree planting to provide shade for park users. Ralston Reserve is located within 500m. The district playground in Hews Reserve is located within 500m.</p> <p>Remove playground equipment in Castle Reserve. The playground does not comply with current Australian Standards. Kapunda Reserve is located within 350m and provides access via a pedestrian pathway off Pringle Ave. Maple Pl Reserve is located within 330m. The regional playground at Lionel Watts is within a short drive.</p> <p>Once playground is provided in the vicinity of Haigh Avenue (western end) or Ashworth Ave remove playground equipment in Birrong Reserve. The playground does not comply with current Australian Standards. Wingara Reserve is located within 350m.</p>	
<i>Brookvale</i>	Provide playground in Old Pittwater Road. Playground category depends on provisions for parking.	Medium
<i>Collaroy</i>	Upgrade playground in Ramsay Reserve. The playground will service this high-density area.	High
<i>Collaroy Plateau</i>	Request Dept. of Lands to formally transfer management of reserve at the corner of Parks and Plateau Roads to Council. This is a good location for a playground on the flatter section of the reserve. The reserve offers good access via pedestrian pathway to surrounding streets.	Medium
<i>Cromer/Wheeler Heights</i>	<p>Provide playground in South Creek Reserve adjacent to James Wheeler Place. This is a good location for a playground, providing a large area of open space, shade trees and kerb-side parking. Council plans to improve the bicycle network through the reserve. It is recommended that BBQ and picnic facilities be included in the design of the playground.</p> <p>Upgrade playground in Belmore Reserve, adjacent to Cromer Heights shops.</p> <p>Remove playground equipment in Blighs Reserve. The playground does not comply with current Australian Standards. Truman Reserve is located within 300m providing a large area of open space and a playground.</p> <p>Once playground is upgraded in Belmore Reserve remove playground equipment in Wambiri Reserve. The playground does not comply with current Australian Standards. Access to the site is poor, perched on top of an incline. Belmore Reserve is located within 350m (flat section).</p>	Low
<i>Curl Curl</i>	Provide playground in Wingala Reserve off Quirk Street. CaLM to be involved in the playground design process at an early stage to	Low

Suburb	Action	Priority
	minimise impact on local native vegetation.	
<i>Davidson</i>	Upgrade playground in Maitland Reserve.	High
	Upgrade playground in Yindela Reserve. This is a good location for a playground, adjacent to the shops on Pound Ave. The reserve provides access through to Aranda Drive. CaLM to be involved in the playground design process at an early stage to minimise impact on local native vegetation.	Medium
	Once playground is upgraded in Maitland Reserve remove play equipment in Richter Reserve. The playground does not comply with current Australian Standards. Maitland Reserve is located within 250m.	
<i>Dee Why</i>	Upgrade playground in Walter Gors Park to district level when reserve is enlarged as per the Dee Why Town Centre Master Plan.	High
	Upgrade playground at Tulich Reserve.	Medium
<i>Duffys Forest</i>	Maintain status quo.	N/A
<i>Forestville</i>	Upgrade playground in Calca Reserve.	Medium
<i>Frenchs Forest</i>	Provide playground in Water Pipe Reserve.	High
	Provide playground in Forestville Park, off Currie Road. This is a good location for a playground, providing open space, shade trees and kerb-side parking.	
	If further subdivision is proposed to the north-west of Corymbia Circuit, request transfer of land to Council management for future park/playground (e.g. part of parcel 18389, lot 1008 & parcel 18390, lot 1009, DP 75038).	
	Upgrade playground in Springvale Reserve.	
	Remove single piece of equipment in Marcus PI Reserve. The playground does not comply with current Australian Standards. Should the shops on Sorlie Rd be redeveloped, Council will seek to negotiate with property owners the allocation of open space for a playground for public use.	
	Remove single piece of equipment in Bluegum Reserve. Rabbett Reserve is located within 415m. Jindabyne Reserve is located within 385m.	
	Remove playground equipment in Greendale No. 2. The playground does not comply with current Australian Standards. There are two playgrounds located in the same street within 200m of each other. Greendale No.2 is a sloping site. Greendale No. 1 is flat, the reserve has shade trees and offers good pedestrian access through to Bowan Ave.	
	Once playground is upgraded in Springvale Reserve remove playground equipment in Estelle Reserve. The playground does not comply with current Australian Standards. The reserve is extremely steep and access to the playground is poor. Springvale Reserve is located within 300m.	
	Remove playground equipment in Ilford Reserve. The playground does not comply with current Australian Standards. Coster Reserve is located within 300m. Coster Reserve offers access through to Sunset PI and Coster Street. Pedestrian access from Sunset PI to be	

Suburb	Action	Priority
	improved. Once playground is upgraded in Yindela Reserve remove playground equipment in Warung Reserve. The playground does not comply with current Australian Standards. Yindela Reserve is located within 330m. Aranda Reserve is located within 500m.	
<i>Harbord</i>	Investigate opportunity to provide a playground in the western part of Harbord around Coles Road and Marlborough Avenue. Upgrade playground in Cooksey Avenue. Once playground is upgraded in Cooksey Avenue remove playground equipment in Evans Reserve. The playground does not comply with current Australian Standards. Cooksey Reserve is located within 350m, Freshwater Reserve is located within 550m and Jacka Park is located within 650m.	Low
<i>Killarney Heights</i>	Upgrade playground in Starkey Reserve. The reserve has an area of open space for ball games, picnics etc, shade trees and provides pedestrian access through to surrounding streets. Once playground is upgraded in Starkey Reserve remove playground equipment in Ballina Reserve. The playground does not comply with current Australian Standards. Starkey Reserve is located within 215m. Remove single piece of playground equipment in Kinsdale Reserve. The site is sloping and has a fire hydrant in the centre of the reserve. Cashel Reserve is located within 450m. Regional playground at Forrester Memorial Oval is located within 715m. Remove playground equipment in Finian Reserve. The playground does not comply with current Australian Standards. Waterford Reserve is located within 270m. Waterford Reserve provides shade trees and pedestrian access through to surrounding streets	Low
<i>Manly Vale</i>	Investigate opportunity to provide playground in the vicinity of Kenneth Road, west of Condamine Street. Swain Reserve to be considered. Provide playground in the vicinity of Manly Vale Community Centre.	High Medium
<i>Narrabeen</i>	Maintain status quo.	N/A
<i>Narraweena</i>	Remove playground equipment in Alamein Reserve. The playground does not comply with current Australian Standards. The location is unsuitable for a playground as it encourages playground users to cross the road from all directions to access the play equipment. Beverley Job Park is located within 170m, providing a large area of open space and a district level playground. It is recommended Alamein Reserve be replanted and function as a local park.	Medium
<i>North Balgowlah</i>	Provide playground in Condoval Reserve adjacent to the sportsground. Upgrade playground in Woolgoolga Reserve to district level. Investigate acquisition of RTA or Dept. Planning land between Serpentine Crescent and Burnt Bridge Creek for park and playground.	Medium High
<i>North Curl Curl</i>	Maintain status quo.	N/A

Suburb	Action	Priority
<i>North Manly</i>	Maintain status quo.	N/A
<i>Oxford Falls</i>	Maintain status quo.	N/A
<i>Queenscliff</i>	Maintain status quo.	N/A
<i>Terrey Hills</i>	Maintain status quo.	N/A

7.4 Implementation

Organisational and resource constraints mean that recommended actions will need to be implemented over several years. The recommendations have been prioritised as high, medium or low. The priority attached to each action has been assessed against the complete list of recommended actions in this Strategy. Council makes a commitment to implement these actions when they are incorporated into Council's Annual Management Plan and allocated funds as part of Council's adopted Capital Works Program.

Many of the "high" priority actions are of an administrative nature and can be undertaken relatively quickly. Works programming should be undertaken in conjunction with the Generic Parks Plan of Management.

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Appendix A
Playground Inventory

Appendix A: Playground Inventory

Playground/Asset Name	Street	Suburb	Category
Adare Place Reserve	Adare Pl	Killarney Heights	Neighbourhood
Aitken Avenue Reserve	Aitken Ave	Queenscliff	Neighbourhood
Akora Street Reserve	Akora St	Frenchs Forest	Neighbourhood
Alamien Avenue Reserve	Alamein Ave	Narraweena	Neighbourhood
Allworth Drive Reserve	Allworth St	Davidson	Neighbourhood
Ambleside Street Reserve	Ambleside St	Wheeler Heights	Neighbourhood
Anembo Reserve & Fire Station	Anembo	Duffys Forest	Neighbourhood
Angophora Crescent Reserve	Angophora Cr	Forestville	District
Ankali Place Reserve	Ankali Pl	North Manly	Neighbourhood
Aranda Drive Reserve	Aranda Cres	Frenchs Forest	Neighbourhood
Arnhem Res & R.O.W To Sunlea Plc	Arnhem Rd	Allambie	Neighbourhood
Arthur Street Reserve	Arthur St	Dee Why	Neighbourhood
Ashworth Ave Rd Reserve To Haigh Ave	Ashworth St	Belrose	Neighbourhood
Ballina Avenue Reserve	Ballina Ave	Killarney Heights	Neighbourhood
Belmore Reserve And Shops	Belmore Lne	Cromer Heights	Neighbourhood
Belrose Library And Surrounds	Lockwood Ave.	Belrose	Neighbourhood
Berry Reserve	Pittwater Rd	Narrabeen	Regional
Beverley Job Playing Fields	McIntosh Rd	Narraweena	District
Birrong Avenue Reserve	Birrong St	Belrose	Neighbourhood
Birwood Park	Ocean St	Nth Narrabeen	District
Blighs Road Reserve	Blighs Rd	Cromer	Neighbourhood
Bluegum Street Reserve	Sylvia Pl	Frenchs Forest	Neighbourhood
Boronia Reserve, Stratford Drive	Stratford Dr	Belrose	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Brentwood Avenue Reserve	Brentwood Pl	Frenchs Forest	Neighbourhood
Brick Pit Reserve	Bantry Bay Rd	Frenchs Forest	District
Brooker Avenue Reserve and Drainage Reserve	Brooker Ave	Beacon Hill	Neighbourhood
Brookvale Park (Oval) Northern Park	Alfred Rd	Brookvale	Regional
Brown Street Reserve	Brown St	Forestville	Neighbourhood
Burruga Avenue Reserve	Burruga Ave	Terrey Hills	Neighbourhood
Calca Crescent Reserve	Calca Cr	Forestville	Neighbourhood
Canea Crescent Reserve	Canea Cr	Allambie	Neighbourhood
Careden Avenue Reserve	Careden Ave	Beacon Hill	Neighbourhood
Cashel Crescent Reserve	Cashel Cr	Killarney Heights	Neighbourhood
Castle Crescent Reserve	Castle St	Belrose	Neighbourhood
Casuarina Reserve	Bushlands Ave	Forestville	Neighbourhood
Childs Circuit	Perentie Rd	Belrose	Neighbourhood
Collaroy Beach Reserve	Birdwood Ave	Collaroy	Regional
Collaroy Plateau Playing Fields	Stella St	Collaroy Plateau	District
Cook Street Reserve	Cook St	Forestville	Neighbourhood
Cooksey Avenue Reserve	Wyadra Ave	Harbord	Neighbourhood
Cootamundra Drive Reserve	Cootamundra Dr	Allambie Heights	Neighbourhood
Coreen Avenue Reserve	Coreen Ave	Terrey Hills	Neighbourhood
Coster Place Reserve And R.O.Way	Coster Pl	Frenchs Forest	Neighbourhood
Cromer Community Centre	Fisher Rd Nth	Cromer	Neighbourhood
Crown Road Reserve And R.O.Way	Crown St	Queenscliff	Neighbourhood
Dee Why Beach Reserve	Oaks Ave	Dee Why	District
Donegal Reserve	Donegal Rd	Killarney Heights	Neighbourhood
Duncan Reserve	Cooyong Rd	Terrey Hills	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Earl Street Reserve	Earl St	Beacon Hill	Neighbourhood
Egan Place Reserve	Egan St	Beacon Hill	Neighbourhood
Eltham Reserve	Eltham St	Narraweena	Neighbourhood
Epacris Avenue Reserve 1.	Epacris Ave	Forestville	Neighbourhood
Estelle Place Reserve	Estelle Cres	Frenchs Forest	Neighbourhood
Evans Street Reserve	Evans St	Harbord	Neighbourhood
F.J.Machon Reserve	Anzio Ave	Allambie Heights	Neighbourhood
Fairway Close Reserve	Kenneth St	Manly Vale	District
Fielding Street Reserve	Fielding St	Collaroy	Neighbourhood
Finian Ave Reserve	Finian Ave	Killarney Heights	Neighbourhood
Forestville Memorial Playing Fields	Melwood Ave	Forestville	Regional
Frank Beckman Reserve And Shops	Yulong Ave	Terrey Hills	Regional
Freshwater Beach Headland (North)	Kooloora Ave	Harbord	District
Freshwater Beach Reserve	Moore St	Harbord	Neighbourhood
Gilai Place Reserve	Gilai Pl	Allambie	Neighbourhood
Gilbert Place Reserve And Road Island	Gilbert Pl	Frenchs Forest	Neighbourhood
Gilles Reserve	Gilles Rd	Beacon Hill	Neighbourhood
Goroka Reserve	Government Rd	Beacon Hill	Neighbourhood
Grasmere Crescent Reserve	Grasmere Cr	Wheeler Heights	Neighbourhood
Greendale Avenue Reserve 1	Greendale Ave	Frenchs Forest	Neighbourhood
Greendale Avenue Reserve 2	Greendale Ave	Frenchs Forest	Neighbourhood
Griffith Park Reserve	Pittwater Rd	Collaroy	Neighbourhood
Gwarra Reserve "Fire Buffer Zone"	Ferguson St	Forestville	Neighbourhood
Harbord Park Playing Fields	Wyadra Ave	Harbord	Neighbourhood
Hews Parade Playing Fields	Hews Parade	Belrose	District
Holborn Avenue Reserve	Holborn Ave	Dee Why	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Ilford Road Reserve 1.	Ilford Rd.	Frenchs Forest	Neighbourhood
Ilikai Place Reserve	Ilikai Pl.	Dee Why	Neighbourhood
Jacka Park Oliver Street	Glenn St	Harbord	District
James Meehan Reserve & Car Park D.Y.S.L.S.C	Clyde Rd.	Dee Why	Regional
Jimada Avenue Reserve	Jimada Ave	Frenchs Forest	Neighbourhood
Jindabyne Reserve	Epping Rd	Frenchs Forest	Neighbourhood
Kalgai Reserve	Kalgai St	Frenchs Forest	Neighbourhood
Kalianna Crescent Reserve	Kalianna Cr	Beacon Hill	Neighbourhood
Kambora Ave Reserve And Fire Station	Borgnis	Davidson	Neighbourhood
Kapunda Place Reserve	Kapunda Pl	Belrose	Neighbourhood
Karina Place Reserve	Karina Cr	Belrose	Neighbourhood
Kerry Close Reserve	Kerry Cl	Beacon Hill	Neighbourhood
Killarney Heights Playing Fields	Starkey St	Killarney Heights	Neighbourhood
Killarney Hts S/ Centre Surrounds (Tramore Reserve)	Tramore Pl	Killarney Heights	Neighbourhood
King Street Reserve No 2	King St	Manly Vale	Neighbourhood
Kinsdale Crescent Reserve 1.	Kinsdale Cl	Killarney Heights	Neighbourhood
Kurara Close Reserve	Kuraracl	Terrey Hills	Neighbourhood
Lae Place Reserve	Lae Pl	Allambie	Neighbourhood
Lillihina Road Reserve & R.O.Way	Lillihina Ave	Cromer	Neighbourhood
Lindsay Reserve And R.O.Ways	Deakin St	Forestville	Neighbourhood
Lionel Watts Playing Fields	Blackbutts Rd	Frenchs Forest	Regional
MacFarlane Playing Fields	Mcfarlane ST	Davidson	Neighbourhood
Maitland Street Reserve	Maitland St	Davidson	Neighbourhood
Makim Street Reserve	Makim St	Nth Curl Curl	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Manly Warringah War Memorial Park	End Of King St	Manly Vale	District
Maple Place Reserve	Maple Pl	Belrose	Neighbourhood
Marcus Place Reserve (Sorlie Shops)	Sorlie Rd	Frenchs Forest	Neighbourhood
Maroa Crescent Reserve	Maroa Cres.	Allambie	Neighbourhood
May Road Shops And Reserve	May Rd	Narraweena	Neighbourhood
Meehan Street Reserve	Meehan Rd	Cromer	Neighbourhood
Merrilee Place Reserve 1.	Merrille Cres	Frenchs Forest	Neighbourhood
Michele Reserve	Michele Rd	Cromer	Neighbourhood
Millers Reserve - Playing Fields	Cambel Pde	Manly Vale	Neighbourhood
Mills Place Reserve	Mills Pl	Beacon Hill	Neighbourhood
Mooramba Reserve	Mooramba Rd	Dee Why	Neighbourhood
Munnumba Avenue Reserve And R.O.Ways	Munnumba St	Belrose	Neighbourhood
Nalya Road Reserve	Nalya Rd	Narraweena	Neighbourhood
Nandi Avenue Reserve	Nandi Ave	Frenchs Forest	Neighbourhood
Narrabeen Beach S.L.S.Club Reserve (Lions Club)	Albert St	Narrabeen	District
Nianbilla Place Reserve	Pound Ave.	Frenchs Forest	Neighbourhood
Nolans Reserve	Kentwell Rd	North Manly	Neighbourhood
Nolans Reserve	Riverview Pde	North Manly	Neighbourhood
Opala Street Reserve	Opala St	Belrose	Neighbourhood
Orana Reserve	Windrush Ave	Belrose	Neighbourhood
Orara Road Reserve	Orara Rd	Allambie	Neighbourhood
Palomar Parade Reserve And R.O.Ways	Palomar Pde	Harbord	Neighbourhood
Parr Parade Reserve	Parr Pde	Narraweena	Neighbourhood
Passmore Reserve	Campbell St	Manly Vale	Regional

Playground/Asset Name	Street	Suburb	Category
Patanga Road Reserve	Patanga Rd	Frenchs Forest	District
Peppercorn Park	Carnarvon Dr	Frenchs Forest	District
Princess Mary Street Reserve	Princess Mary St	Beacon Hill	Neighbourhood
Pusan Place Reserve	Pusan St	Belrose	Neighbourhood
Quarry Reserve	Amourin St	North Manly	Neighbourhood
Rabbett Street Reserve	Rabbett St	Frenchs Forest	Neighbourhood
Ralston Ave Reserve And Shops	Ralston Ave	Belrose	Neighbourhood
Ramsay Street Reserve (Plateau Side)	Ramsay Rd	Collaroy	Neighbourhood
Richter Crescent Reserve	Richter Ave	Davidson	Neighbourhood
Roselands Avenue Reserve	Roselands Ave	Frenchs Forest	Neighbourhood
Rounce Avenue Reserve	Rounce Ave	Forestville	Neighbourhood
Ryan Place Reserve	Ryan Pl	Beacon Hill	Neighbourhood
Ryrie Avenue Reserve 1.	Ryrie Ave	Forestville	Neighbourhood
Shannon Avenue Reserve	Shannon Ave	Killarney Heights	Neighbourhood
Springvale Avenue Reserve	Springvale Ave	Frenchs Forest	Neighbourhood
Starkey Street Reserve	Starkey St	Killarney Heights	Neighbourhood
Stirgess Ave Park And Grounds	Stirgess Ave	Curl Curl	Neighbourhood
Stoddart Place Reserve	Stoddart Pl.	Dee Why	Neighbourhood
Surf Road Reserve Off Pitt Road	Surf Rd	Nth Curl Curl	Neighbourhood
Terrigal Road Reserve	Terrigal Rd	Terrey Hills	Neighbourhood
The Crescent Reserve	The Crescent	Dee Why	Neighbourhood
Towradgi Reserve	Towradgi St	Narraweena	Neighbourhood
Truman Road Playing Field	Toronto Ave	Cromer Heights	Neighbourhood
Tulich Reserve	Tulich Ave	Dee Why	Neighbourhood
Tyagarah Place Reserve	Tyagarah Pl	Cromer	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Undula Crescent Reserve	Undula St	Belrose	Neighbourhood
Wabash Avenue Reserve	Wabash Ave	Cromer	Neighbourhood
Walter Gores Reserve	Howard Ave	Dee Why	Neighbourhood
Wambiri Reserve And R.O.Way	Maybrook Ave	Cromer	Neighbourhood
Wandella Road Reserve	Wandella Rd	Allambie	Neighbourhood
Wareham Crescent Reserve	Wareham Cres	Frenchs Forest	Neighbourhood
Warri Crescent Reserve And R.O.Way	Warri Cl	Narraweena	Neighbourhood
Warung Avenue Reserve	Warung Ave	Frenchs Forest	Neighbourhood
Waterford Place Reserve	Waterford Pl	Killarney Heights	Neighbourhood
Wayne Schimanski Reserve And R.O.Ways	Grimes Pl	Davidson	Neighbourhood
Wedgewood Crescent Reserve	Wedgewood Cr	Beacon Hill	Neighbourhood
Wellman Road Reserve And R.O.Way	Wellman Rd	Forestville	Neighbourhood
Wentworth Place Reserve	Wentworth St	Belrose	Neighbourhood
Wheeler Park And Scout Hall	Lakeside Rd	Narrabeen	District
Windrush Avenue Reserve	Windrush Ave	Belrose	Neighbourhood
Wingara Grove Reserve	Wingara St	Belrose	Neighbourhood
Winsome Reserve And R.O.Way	Winsome Ave	Nth Balgowlah	Neighbourhood
Woodbine Street Reserve	Woodbine St	Nth Balgowlah	Neighbourhood
Woolgoolga Street Reserve	Woolgoolga St.	Nth Balgowlah	Neighbourhood
Wyatt Reserve	Wyatt Ave	Belrose	District
Yanco Close Reserve	Yanco Cl	Frenchs Forest	Neighbourhood
Yindela Reserve And Shops	Pound Ave	Davidson	Neighbourhood
Warringah Aquatic Centre Pool & Surrounds	Aquatic Dr	Frenchs Forest	Restricted Access
Beacon Hill Childrens Centre	Wilandra Rd	Beacon Hill	Restricted Access

Playground/Asset Name	Street	Suburb	Category
Belrose Children Centre	Bambara Dve	Belrose	Restricted Access
Collaroy Plateau Child Health Centre	Hall Ave	Collaroy Plateau	Restricted Access
Harbord Literacy Institute	Lawrence St	Harbord	Restricted Access
Manly Vale Community Centre	Innes St	Manly Vale	Restricted Access
Narrabeen Childrens Centre	Ocean St	Narrabeen	Restricted Access
Narraweena Community Centre	Oceania St	Narraweena	Restricted Access
Terrey Hills Kindergarten	Yulong Rd	Terrey Hills	Restricted Access
Allambie Heights Public Hall	Allambie Hgts Road	Allambie Heights	Restricted Access

Appendix B
Criteria for GIS Analysis

Appendix B: Criteria for GIS Analysis

Table 1 defines catchments in terms of travel time to the various categories of parks and playgrounds within Warringah. Although the benchmarking exercise indicated Councils typically use a catchment based on distance, this does not adequately take account of barriers to travel such as roads and natural features in the physical landscape. Such barriers increase travel times to a destination and in a LGA such as Warringah (that is a highly developed urban landscape with significant topographical relief) are important considerations.

Table 1 GIS analysis - catchment areas

Park Category	Catchment
Local	< 10 minute walk
Neighbourhood	< 10 minute walk
District	> 10 minute walk, < 10 minute drive
Regional	> 10 minute drive
Playground Category	Catchment
Neighbourhood	< 10 minute walk or ride
District	> 10 minute walk or ride, < 10 minute drive
Regional	> 10 minute drive

Note: In terms of urban parks, this study was limited to the consideration of local and neighbourhood parks, although the supply/demand analysis was undertaken in the context of, and with due consideration for existing district and regional parks.

Population Density and Target User Groups

The benchmarking exercise and literature review indicated that in most cases the provision of parks and playgrounds by Councils does not generally reflect existing and predicted populations of key target user groups. For Canberra in the ACT, a criterion of 1 playground per 1000 people is applied but does not consider specific age groups. Given Warringah has 2001 Census data for a range of target user groups, an attempt has been made to use this information in the supply/demand analysis of neighbourhood parks and playgrounds.

Based on the total of the highest density per square kilometre for the 0-12 and 25-40 target user groups, a figure of one *park and playground* (of any category) per 200 people in the 0-12 and 25 - 40 target groups was adopted.

Access

The criteria listed in **Table 2** quantify travel times across the landscape and assign various 'penalties' for pedestrians crossing roads en-route to a park or playground.

Table 2 GIS analysis - access penalties

Type of Access	Means of access	Weighting to apply to analysis
Pedestrian Access	Footpath	1
	Crossing arterial road	9
	Crossing sub-arterial road	3
	Crossing suburban road	1.5
Bicycle access	Bicycle path	0.5
Vehicular access	Arterial road	60 km/hr
	Sub-arterial road	50 km/hr
	Suburban road	50 km/hr

Physical/Topographical Features

These criteria aim to take account of various physical features in the landscape that act as barriers to travel or increase travel times to and from parks and playgrounds. Appropriate increases in travel time or barriers to travel are identified in **Table 3**.

Table 3 GIS analysis - access barriers

Physical Feature	Implication on travel
Escarpment	Barrier to travel
Natural Bushland Area	Barrier to travel*
Contours	Accepted increase in travel time by gradient applied.

*Although access (via unsealed tracks and trails) through bushland may be possible in some areas, for the majority of neighbourhood park and playground users these areas will act as a barrier.

Other Attractors

The criteria listed in **Table 4** reflect the proximity of some parks and playgrounds to other features in Warringah that serve to increase the appeal of a park or playground. For example, a park adjacent to a beach is likely to be more attractive to users than a similar park in an urban area. To take account of this situation, an increase in the catchment area of parks and playgrounds within a given distance of a range of other features was applied.

Table 4 GIS analysis - attractors

Type of Attractor	Increase in Catchment	Proximity to Attractor
Village centres	20%	Within 300 metres
Primary Schools	20%	Within 300 metres

Type of Attractor	Increase in Catchment	Proximity to Attractor
Libraries	10%	Adjacent (< 50 metres)
Beaches	30%	Must lie within lands included in the Coastal Lands Plan of Management, plus James Meehan Reserve.
Lagoons	25%	Adjacent (< 50 metres from shoreline)
Large Open Space areas that cater for active recreation (sportsgrounds etc)	25%	Must be within the open space area
Large Open Space areas that cater for passive recreation (bushland areas, Griffith Park etc)	20%	Must be within the open space area

Note: If more than one of the above attractors is relevant for a specific park or playground, the higher figure was applied in determining the catchment.

Risk Assessment

Risk assessment was used as a qualifier in recommending the rationalisation or upgrade of parks and playgrounds, that is, it was not a primary consideration. The assessment was based on the results of a quarterly report that Council commissions from a consultant risk assessor, as well as the application of Australian Standards.

For example, where analysis indicated that a given area was oversupplied with neighbourhood playgrounds and one of any four playgrounds could be removed, risk assessment status of each playground was considered. Typically, the play equipment that posed the highest risk to users was recommended for removal.

Demographic considerations

The following demographic information was used for the demand assessment. Categories were based on the criteria set out in **Table 5**.

Table 5 Demographic and development criteria

Classification	Low	Medium	High
Proportion of Warringah's population	0-2.5%	2.5-6%	6-13%
Density of people per km ²	637-1400	1,400-2,500	2,500-5,400
Potential for further medium density development	<100 units	100-300 units	300< units

Appendix C
Community Survey Data

Appendix C: Community Survey Data

Warringah's Council Neighbourhood Park and Playground Survey

Community consultation for the Playground Strategy and the Neighbourhood Parks Review were undertaken concurrently. A total of 505 surveys were completed, 95 infield surveys and 410 self-completed surveys.

The in-field surveys were conducted in ten parks (nine with playgrounds).

Parks/Playgrounds Surveyed

Park/Playground	Suburb	Category	Date	No. of Surveys
Lionel Watts Oval	Frenchs Forest	Regional	6 & 17 July 2005	29
Bruce Bartlett Reserve	Collaroy	Regional	4 July 2005	23
Frank Beckman Reserve	Terrey Hills	Regional	6 July 2005	17
Jacka Park	Harbord	District	4 July 2005	10
Hews Reserve	Belrose	District	17 July 2005	6
Birdwood Park	Narrabeen	District	4 July 2005	6
Kurara Close Reserve	Terrey Hills	Neighbourhood	6 July 2005	2
Hinkler Park (no playground)	Queenscliff	District	4 July 2005	1
May Road Reserve	Narraweena	District	6 July 2005	1
The Crescent Reserve	Dee Why	Neighbourhood	4 July 2005	0
			Total	95

Respondents were asked to identify the park or playground that they visit most frequently and then respond to the following questions with that park or playground in mind.

How often do you visit the park/playground?

%	Response
6.7	Every day
36.2	Several times a week
24.6	About once a week
12.1	About once a fortnight
9.1	About once a month
8.9	About 2-6 times a year
0.3	Less than once a year
1.7	First visit
0.5	Not sure/don't know/irregular

Why do you visit the park/playground?

%	Response
6.2	Passing through
13.4	Walking
1.3	Walking with dog
5.5	Cycling
2.0	Jogging
37.1	Use the playground
8.1	Picnic/BBQ
15.8	Sporting activity (including play)
9.1	Relaxation (outdoor sitting)
1.6	Social interaction

When do you mainly visit this park/playground?

%	Response
46.3	Weekdays
37.2	Weekends
9.6	During holidays
3.6	Special events
0.2	Other
3.1	Any time

Where do you travel from to get to this park/playground?

%	Response
87.2	Home
1.8	Work
11.0	School

How do you normally get to the park/playground?

%	Response
41.2	Walked
50.9	By car
6.5	By bicycle
1.0	By bus
0.4	By skateboard

How long would it normally take you to get here?

%	Response
48.6	Less than 5 min
39.0	6 to 10 min
11.4	11 to 20 min
1.0	More than 20 min

If it takes you less than 10 mins from home, how long have you lived in this area?

%	Response
11.5	Less than 2 years
29.9	2 to 5 years
58.6	More than 5 years

Who do you normally visit the park/playground with?

%	Response
2.6	Alone
57.4	Friends
1.0	Household
24.2	Partner
12.9	Children
1.9	Organised group/activity

How long do you normally stay in the park/playground?

%	Response
3.4	Less than 15 min
15.5	16-30 min (½ hr)
34.3	31-60 min (1 hr)
28.5	61-90 min (1 ½ hours)
12.6	91-120 min (2 hrs)
3.0	121-150 min (2 ½ hrs)
2.7	More than 2 ½ hrs

When you visit the park/playground, do you notice the number of other people around?

%	Response
74.6	Yes
25.4	No

Thinking of other people in the park/playground, do you think:

%	Response
22.6	There are too many
67.4	There are the right amount
10.1	There are not enough

How did you find out about the park/playground?

%	Response
30	Friends/Family
69.4	Walked, drove/cycled passed
0.5	Council website
	Other

**A) When you think about neighbourhood parks, how important are the following features?
Refer to list & tick your responses under COLUMN A (very important – important – not important).**

**B) Rate the features of this park?
Refer to list & tick responses in COLUMN B (very good – average – poor).**

Feature	COLUMN A			COLUMN B		
	Very Imp. %	Imp. %	Not imp. %	Very Good %	Ave. %	Poor %
Access for people with disabilities or older persons	51.3	41.7	7.0	48.3	43.3	8.4
Art work/cultural features	9.6	35.2	55.2	9.2	36.7	54.1
BBQ facilities	27.8	48.0	24.3	28.9	35.7	35.4
Car parking	61.5	29.2	9.3	53.1	33.3	13.5
Cleanliness/maintenance	86.5	13.3	0.3	42.9	46.0	11.2
Gardens	35.2	53.8	10.9	23.2	58.7	18.1
Informal play areas (eg. skipping/ball games)	46.3	49.3	4.5	37.8	44.8	17.5
Playgrounds	67.6	29.2	3.3	47.8	37.4	15.1
Proximity to cycle paths/walkways	49.6	42.2	8.3	56.6	32.3	11.2
Proximity to public transport	23.1	36.4	40.5	42.4	38.1	19.5
Proximity to shops	16.6	34.4	49.0	34.5	43.9	21.6
Proximity to your home	41.1	45.6	13.3	62.8	30.5	6.7
Safety/security (eg. lighting/open space)	72.9	23.5	3.5	41.6	42.6	15.9
Shelter and shade	74.6	22.8	2.6	27.4	42.5	30.2
Signage	22.0	47.6	30.4	16.0	60.5	23.6
Seating	48.8	42.4	8.8	21.8	51.6	26.6
Toilets	66.2	26.3	7.5	13.4	30.7	55.9
Trees/natural areas/bushland	69.6	27.3	3.2	50.6	40.9	8.4

**(A) When you think about playgrounds, how important are the following features?
Refer to list & tick your responses under COLUMN A (very important – important – not important).**

**(B) Rate the features of this playground?
Refer to list & tick responses in COLUMN B (very good – average – poor)**

Feature	COLUMN A			COLUMN B		
	Very Imp. %	Imp. %	Not imp. %	Very Good %	Ave. %	Poor %
Access for people with disabilities or older persons	54.3	39.2	6.5	55.5	38.3	6.2
Car parking	60.0	32.9	7.1	59.6	32.9	7.5
Distinctive and interesting play equipment	75.7	22.0	2.4	43.5	44.1	12.4
Identification of cultural areas and sites	20.9	44.5	34.7	11.8	42.7	45.4
Informal play areas (eg. skipping/ball games)	50.0	43.7	6.3	35.5	47.3	17.3
Maintenance	86.2	12.9	0.9	38.4	49.5	12.1
Proximity to cycle paths/walkways	48.3	44.3	7.4	56.0	38.5	5.5
Proximity to public transport	27.2	44.4	28.4	48.9	43.0	8.2
Proximity to shops	18.8	43.5	37.7	46.1	37.3	16.6
Proximity to your home	43.4	45.8	10.8	53.7	39.2	7.1
Safe play equipment	89.3	8.9	1.8	58.3	35.1	6.6
Safety/security of playground area (eg. fencing)	85.6	12.4	2.06	58.6	28.7	12.8
Seating	60.8	37.4	1.8	42.6	41.3	16.1
Setting suitable for supervision	81.1	18.0	0.9	54.4	37.5	8.1
Shade	81.9	17.0	1.2	43.2	35.9	21.0
Trees/shrubbery/gardens	53.3	42.6	4.2	44.1	43.8	12.1
Toilets	73.8	22.8	3.3	19.6	30.3	50.0

Do you think there is an adequate supply of parks in Warringah?

%	Response
68.5	Yes
31.5	No

Do you think there is an adequate supply of playgrounds in Warringah?

%	Response
59.4	Yes
40.7	No

Where do you normally live?

%	Response
99.4	Australia
0.6	Overseas

What country were you born?

%	Response
88.6	Australia
11.4	Other

For those who answered 'overseas' to this question the results are listed on the following page.

For those who answered 'Other' to this question the results are listed on the following page.

Are there languages other than English spoken at home?

%	Response
21.1	Yes
78.9	No

For those who answered 'yes' to this question the results are listed on the following page.

Which age group are you in?

%	Response
1.8	10-14
2.5	15-19
3.8	20-29
51.1	30-39
28	40-49
5.3	50-59
3.8	60-69
3.8	70+

Which of the following best describes you?

%	Response
5.5	Student
23.7	Employed full-time
34.3	Employed part-time/casually
1.2	Looking for work
29.5	Home duties
5.8	Retired

Normal place of residence	Number of Respondents	Place of birth	Number of Respondents	Other language spoken at home	Number of Respondents
England	1	Germany	4	Guyarati	2
France & Sweden	1	South Africa	3	Japanese	5
Brazil	1	United Kingdom	18	Vietnamese	1
Total	3	England	18	Greek	3
		USA	2	Thai	1
		New Zealand	11	Tagaldg	1
		Sweden	1	Polish	1
		Portugal	1	Spanish	3
		Italy	1	Hebrew	1
		Switzerland	1	Mandarin	2
		France	3	Punjabi	1
		Greece	1	Swedish/French	1
		Netherlands	2	Portugese	3
		Philipines	1	French	8
		Guernsey, Channel Is	1	Tibetan	1
		Hong Kong	1	Cantonese	2
		Venezuela	2	Danish	1
		India	1	Persian	1
		Scotland	1	German	7
		China	3	Dutch	3
		Switzerland	1	Chinese	2
		Denmark	1	Italian	3
		Iran	1	Total	53
		France	1		
		Japan	3		
		Ireland	4		
		Brazil	2		
		Total	89		

**Respondents were asked to provide the postcode of the suburb in which they live.
Note: Not all respondents provided this information.**

Postcode	Manly/Warringah/Pittwater suburbs	Survey Respondents	
		Number of respondents	% of respondents
2085	Belrose, Davidson	20	6.25
2086	Frenchs Forest	20	6.25
2087	Killarney Heights, Forestville	90	28
2092	Seaforth	1	0.3
2093	Manly Vale, North Balgowlah, Balgowlah, Balgowlah Heights, Clontarf	32	10
2094	Fairlight	2	0.6
2095	Manly	3	0.9
2096	Curl Curl, Harbord, Queenscliff	18	5.6
2097	Collaroy Plateau, Collaroy	34	10.6
2099	Cromer, Dee Why, Narrabeena, North Curl Curl	45	14
2100	Oxford Falls, Beacon Hill, Allambie Heights, North Manly, Brookvale	21	6.6

Postcode	Manly/Warringah/Pittwater suburbs	Survey Respondents	
		Number of respondents	% of respondents
2101	Narrabeen, North Narrabeen, Elanora Heights, Ingleside	24	7.5
2102	Warriewood	4	1.25
2103	Mona Vale	2	0.6
2106	Newport	1	0.3
2107	Bilgola, Avalon, Clareville	2	0.6
2151	North Parramatta, North Rocks	1	0.3
	Other Sydney LGA's	7	2.2
	Totals	320	99.7%

Note: does not add up to 100% due to rounding.

Respondents were asked to list three parks or playgrounds that they visit frequently in Warringah. The twenty most visited parks/playgrounds are listed below. A number of sportsgrounds and bushland reserves were also visited frequently.

Park or Playground visited frequently in Warringah (received surveys)	Suburb	Hierarchy	Most Visited	2 nd Most Visited	3 rd Most Visited	Total
Bruce Bartlet Reserve	Collaroy Beach	Regional	23	20	25	68
Michaela Howie Playground	Dee Why Beach	District	21	31	23	75
Poppy Park/ Forestville Playing Fields	Forestville	Regional	35	26	14	75
Manly Warringah War Memorial Park	Manly Vale	District	10	7	8	25
Hews Reserve	Belrose	District	4	4	0	8
Collaroy Plateau Playing Fields	Collaroy Plateau	District	4	5	2	11
John Fisher Park	Curl Curl Lagoon	District	8	10	9	27
Dee Why Park	Dee Why	District	0	4	6	10
James Meehan Reserve	Dee Why Lagoon	Regional	21	13	11	45
Garigal National Park (old Davidson State Rec Area)	Forestville	Regional	1	6	9	16
Wellman Reserve	Forestville	Neighbourhood	19	0	0	19
Lionel Watts Park/ Frenchs Forest Showground	Frenchs Forest	Regional	15	24	7	46
Freshwater Reserve	Harbord	Neighbourhood	6	3	3	12
Jacka Park	Harbord	District	6	6	2	14
Killarney Heights Oval	Killarney Heights	Neighbourhood	8	10	8	26
David Thomas Reserve	Manly Vale	District	0	4	4	8
Passmore Reserve	Manly Vale	Regional	26	18	17	61
Berry Reserve	Narrabeen	Regional	19	17	21	57
Wheeler Park	Narrabeen	District	5	10	2	17
Nolans Reserve	North Manly	Neighbourhood	4	11	2	17
Total parks/playgrounds identified						782

A number of parks or playgrounds that were visited frequently were in other local government areas. These included:

Park or Playground visited frequently (other LGA)	Suburb	Most Visited	2 nd Most Visited	3 rd Most Visited	Total
Manly LGA					
Cross Street Reserve	Balgowlah	0	1	0	1
North Harbour Reserve	Balgowlah	0	0	1	1
Tania Park	Balgowlah Heights	0	0	1	1
Woolgoolga Reserve	North Balgowlah	1	0	0	1
Spring Street Reserve	Fairlight	0	1	1	2
Lagoon Park	Manly	5	5	7	17
Keirle Park	Manly	3	0	2	5
Seaforth Oval	Seaforth	1	0	0	1
Park or Playground visited frequently (other LGA)					
Pittwater LGA					
Wimbledon Reserve	North Narrabeen	0	0	1	1
Apex Park	Mona Vale	0	1	1	2
Winnereremy Bay	Mona Vale	0	1	4	5
Progress Park	Warriewood	1	0	1	2
Hunters Hill LGA					
Buffalo Creek Reserve	Hunters Hill	0	1	0	1
Total					40

Respondents were asked to think of a good example of a park in Warringah and to explain why they considered it to be a good example. The comments were incorporated into the general comments section.

Good example of a park in Warringah	Suburb	Hierarchy	Number of Respondents
Beacon Hill Reserve	Beacon Hill	District	1
Berry Reserve	Narrabeen	District	20
Brentwood Park	Frenchs Forest	Neighbourhood	1
Brookvale Park	Brookvale	District	2
Bruce Bartlet Reserve	Collaroy Beach	District	13
Dee Why Park	Dee Why	District	3
Epacris No.1	Forestville	Neighbourhood	1
Frank Beckman Reserve	Terry Hills	District	0
Freshwater Reserve	Harbord	District	3
Garigal National Park (old Davidson State Recreation Area)	Forestville	Regional	14
Griffith Park	Collaroy	District	4
Hews Reserve	Belrose	District	2
Jacka Park	Harbord	District	5
James Meehan Reserve	Dee Why Lagoon	District	17
Jamieson Park	Narrabeen	District	4
John Fisher Park	Curl Curl Lagoon	District	10
Killarney Heights Oval	Killarney Heights	District	3
Lionel Watts Park/ Frenchs Forest Showground	Frenchs Forest	District	16
Manly Warringah War Memorial Park	Allambie Heights	Regional	16
Manly Warringah War Memorial Park (Aquatic Drive)	Allambie Heights	District	0
Michaela Howie/ Dee Why Beach	Dee Why Beach	District	11

Good example of a park in Warringah	Suburb	Hierarchy	Number of Respondents
Narrabeen Beach Ocean Street	Narrabeen	District	1
Nolans Reserve	North Manly	District	5
Passmore Reserve	Manly Vale	District	34
Plateau Park	Collaroy Plateau	District	2
Poppy Park/ Forestville Playing Fields	Forestville	District	13
St Matthews Farm Reserve	Cromer	District	1
Starkey Reserve	Killarney Heights	Neighbourhood	2
Stoney Range	Dee Why	District	1
Wabash Reserve	Cromer		1
Wellman Reserve	Forestville	Neighbourhood	6
Wheeler Reserve	Narrabeen	District	3
		Total	251

A number of parks that were identified as being good examples were in other local government areas. These included:

Good example of park (other LGA)	Suburb	Number of Respondents
North Harbour Reserve	Balgowlah (Manly LGA)	2
Tanya Park	Balgowlah Heights (Manly LGA)	1
Lagoon Park	Manly (Manly LGA)	5
Keirle Park	Manly (Manly LGA)	2
Bayview Park	Bayview (Pittwater LGA)	6
Winnereremy Bay	Mona Vale (Pittwater LGA)	8
Apex Park	Mona Vale (Pittwater LGA)	1
Lakeside Park	North Narrabeen (Pittwater LGA)	2
Progress Park	Warriewood (Pittwater LGA)	1
St Ives Showground	St Ives (Ku-ring-gai LGA)	1
Willoughby Park	North Willoughby (Willoughby LGA)	1
	Total	30

Respondents were asked to think of an good example of a playground in Warringah and to explain why they considered it to be a good example. The comments were incorporated into the general comments section.

Good example of playground in Warringah	Suburb	Hierarchy	Number of Respondents
Manly Warringah War Memorial Park	Manly Vale	District	3
Maroa Reserve	Allambie	Neighbourhood	1
Hews Reserve	Belrose	District	4
Wyatt Reserve	Belrose	District	1
Brookvale Park	Brookvale	Regional	1
Bruce Bartlet Reserve	Collaroy Beach	Regional	52
Collaroy Plateau Playing Fields	Collaroy Plateau	District	1
John Fisher Park	Curl Curl	Neighbourhood	3
Dee Why Park	Dee Why	District	5
Michaela Howie Park	Dee Why Beach	District	44
James Meehan Reserve & Car Park	Dee Why Lagoon	Regional	19
Forestville Playing Fields (Poppy Park)	Forestville	Regional	24
Wellman Reserve	Forestville	Neighbourhood	1
Brick Pit Reserve	Forestville	District	1
Garigal National Park (old Davidson Rec Area)	Forestville	NPWS – Regional	1
Lionel Watts Park/Frenchs Forest Showground	Frenchs Forest	Regional	22

Good example of playground in Warringah	Suburb	Hierarchy	Number of Respondents
Freshwater Beach Reserve	Harbord	District	2
Killarney Heights Playing Fields	Killarney Heights	Neighbourhood	1
Passmore Reserve	Manly Vale	Regional	34
Fairway Close Reserve	Manly Vale	District	1
Wheeler Park	Narrabeen	District	6
Berry Reserve	Narrabeen	Regional	9
Narrabeen Lakes (no reserve specified)	Narrabeen	N/A	4
Woolgoolga Reserve	North Balgowlah	Neighbourhood	1
Frank Beckman Reserve	Terry Hills	Regional	2
		Total	60

A number of playgrounds in other local government areas were identified as being good examples. These included:

Good example of playground (other LGA)	Suburb	Number of Respondents
Manly LGA		
North Harbour Reserve	Balgowlah	1
Tanya Park	Balgowlah Heights	1
Lagoon Park	Manly	10
Pittwater LGA		
Winnereremy Bay	Mona Vale	20
Progress Park	Warriewood	7
		39

Respondents were given the opportunity to comment on the provision of parks and playgrounds in Warringah. The following comments were provided.

Theme and comment
Playgrounds
Playgrounds need more interesting and adventurous play equipment.
More adventure parks for children 6-9 years including flying fox, skate parks, ropes.
Playgrounds are much better than my area.
More shade needed in playgrounds.
Provide more interesting play equipment for older children.
Coreen Reserve has almost no equipment and lots of kids would play there if it had more equipment as there are lots of young families in the street.
Facilities for playgrounds and parks needed in the Forest area.
Dee Why and Collaroy Beach playgrounds are so crowded that it becomes very dangerous and difficult to supervise children. Beverly Job Playground is not interesting enough and some of the equipment is quite old. The reason I visit Dee Why and Collaroy playgrounds is because the equipment is newer and in better condition than nearer playgrounds.
All playgrounds should have toilet facilities, should be non-smoking and have some shade.
Playgrounds and parks like the one at Winerreremy Bay, Mona Vale that have big flying fox, climbing frames and older age play equipment are fantastic.
Blackbutts playground is always overcrowded and not nearly as safe as other playgrounds.
I like the design of Terry Hills and Frenchs Forest playgrounds because it allows my children to play in a natural setting safely. There is good use of native plants and trees that blends into the surrounding area and variety of play equipment in good condition.
Recommended upgrading the swings for babies to those like the ones at Manly Lagoon, Queenscliff. More stable.
There are not enough playgrounds that cater for older kids >8 years old. A very good park in Mona Vale behind Pittwater High. Excellent facilities and link to bicycle track.
Killarney Heights shops playground needs a fence and safe equipment with soft fall and shade. Please look at this park it is dangerous and lots of people use it.

I miss the seesaw, I miss the slippery dip. Kids need to be able to climb and explore as we did when we were children. If you remove playground equipment because it is not up to some safety standard - please replace it with something else.
The local parks had all the forts / climbing equipment removed and no interesting play equipment.
Seems to be a need for more playgrounds as the Northern Beaches playgrounds are generally always busy.
The park at Belrose Library needs more equipment and another swing. Opal Reserve needs more kids equipment, please.
More cycle ways.
Fences should be higher.
Develop water recycling to water fields adequately.
Parks / playgrounds need to accommodate the family social gatherings. Playground, bike track, area to kick and play ball, toilets. Away from traffic. Typically fairly level areas of land.
Keep it simple - no concrete. Good shade area with open areas of grass. BBQ areas - more to entice social interaction and gatherings for all ages. Modern self clean toilets like near Manly Police / bus stop, same and more spread out through park areas so we can use them. Pull down Berry Reserve toilets as no one can use them as they are so unsafe - gay hangouts.
The new park on Narrabeen Beach will be a great facility. We often use Winerreremy Bay Park (Pittwater) so look forward to a new park in our local area. We think that Winerreremy Bay is the ultimate park for young families with great facilities. Hopefully Warringah Council will follow Pittwater's lead in this area.
Need good equipment, seating and shade for playgrounds.
Could Ararat Reserve (Grafton Cres) please have a time on weekdays for unleashed dogs to exercise?
Value of green space
Not enough parks and playgrounds.
With the number of units being built in Dee Why there needs to be many more open grass areas with descent play equipment that is fenced.
Please leave Passmore and Nolans the way they are. We walk that park at least once a week and enjoy every aspect that it has to offer. Green space is never replaced. No one knocks down buildings to build a park. If it goes now, it will not come back. Kids need parks and exercise and my kids are my life.
Nolan and Manly Dam are fabulous family places, needed in such a densely populated area.
I think it would be criminal to start concreting up parks. We need more green for our environment.
Parks and playgrounds make an important contribution to the "fabric" of the community. You can meet friends / neighbours at a local park. Parks / playgrounds provide a sense of belonging and contribute greatly to the amenity of the area. I think we are blessed with good parklands in our area - we need to protect and preserve them.
Manly Vale/North Manly don't need to be the subject of anymore development. The council really needs to think about the issues and listen to the community.
It is important that they are good. We have to help children play outdoors and exercise as opposed to indoors watching TV and playing computer games.
Please don't reduce our green space. We need to plan for future generations. Give our unit dwellers open areas to be active and healthy. Please keep Passmore, Nolans green and grassy and multi-purpose.
That council reconsiders any plans to develop Nolans / Passmore reserves for use as well as netball courts, car parks and indoor arena. Please consider the needs of the whole rather than the few.
I sincerely hope this is not a disguise to say parks are not used and then turn them into netball fields - no response, no parks used?
They are starting to feel a bit homogeneous (playgrounds) because of all the liability issues and what is "deemed" safe.
North Manly is a special area taking away Nolan and Passmore Reserves to build a sports centre, netball courts and large parking area is ridiculous. Do we want this area or any area of the North Shore to end up looking like the city/western suburbs?
Lionel Watts is a marvel open oval/area.
Too much built up area and not enough green.
Parks are important.
Toilet facilities
Need toilets for children to use otherwise need to leave urgently!
Toilets are lacking or dirty at all playgrounds.
Toilets at Jacka Park please.
Toilets need regular cleaning / maintenance. We pay our rates and they should be maintained.
Open toilets (9-5) day and night.
Try to have toilets within close proximity of most or all playgrounds, open and well maintained. But very positive impression most of the time.

Toilets need upgrading and locked overnight to prevent vandalism.
Better placed and maintained toilets and lighting.
Winnererremy Bay is ideal for older children and we travel there many times. It is well planned with tables, cycle ways, BBQs and has unique play equipment for older children (8-15). The only negatives are the lack of toilets (but they are being built) and it's a long way from home. We take our own food so we don't need shops.
Toilets are the biggest problems with mums. Little ones often give little warning and toilets are often away from playground. Toilets to be provided and in close proximity to playground
Maintenance
Parks should be well maintained.
Freshwater Beach - grounds in poor condition after rain; improve maintenance; Playground areas need to be flat and level for safety.
Maintenance; rubbish removal.
Footballers to clean up mess after weekend.
Regular maintenance required - long grass is not acceptable.
Our local park - Angophora Reserve was scheduled for an upgrade this year. To date nothing has happened except for the removal of equipment that was there. General upgrade is required for most of Warringah parks and playgrounds.
Timely maintenance - It takes a long-time for broken gates etc to be fixed in playgrounds.
There is a dead tree in Michele Reserve which I pointed out to a Council employee more than 12 months ago - could drop limbs and hurt someone. Michele Reserve is used a lot by locals coming on foot and by car - the equipment should be well maintained.
We are very lucky to have a lot of beautiful areas of open space. Unfortunately they are too often misused / vandalized by graffiti, syringes etc. Mostly they are lovely and maintained very well, thanks.
Spider Park (Pittwater Council) behind Pittwater High is a good example of a good park - for all ages -would like to see some of the Warringah Council parks e.g. North Narrabeen Surf Club, lakeside at Narrabeen etc upgraded.
Broken glass and graffiti is a constant problem. More rubbish bins.
Closer attention must be paid to wet fields i.e. training on wet areas, mowing whilst soggy (silly), need more grounds not to over play same old grounds. More attention to top soiling or rectifying in the off season.
Playgrounds i.e. Dee Why need to be improved and maintained.
Fences should be maintained better in playgrounds.
Good standard of park
Parks are generally very good with many to choose from compared to other countries I have lived in.
Keep up the good work Warringah Council.
We do offer the best park and playgrounds. I have been to other States and they don't provide the same quality in playgrounds in particular shade cloths. Particularly in Melbourne they don't provide this and in summer there is no shade at all. I think Warringah Council does a good job in what we have available.
Keep up the good work. Perhaps more art and sculptures would be good in smaller parks.
Keep up the good work. Support Manly Dam, it's a treasure.
Teenagers
More areas for teenagers so they don't have to share the playground with little ones.
Please don't construct skateboard facilities at Millers Reserve which is totally unacceptable from surrounding facilities – thanks.
Big kids boss smaller kids. Move to smaller playgrounds.
Need basketball area for older kids and other areas such as skateboarding.
Could Ararat Reserve (Grafton Cres) please have a time on weekdays for unleashed dogs to exercise?
Safety of Play Equipment
Safety & maintenance is not always up to scratch at Harbord.
I think the playgrounds are reasonably safe and entertaining.
Should have safety barriers on slippery dips; dead branches hanging over playground should be cut down; regular cleaning.
BBQs
Need barbeques.
BBQ near playgrounds.
BBQ facilities.

Appendix D

Playground Design Checklist

Appendix D: Playground Design Checklist

The purpose of this checklist is to guide the design and function of playgrounds and the playground environment.

- **Playground Equipment**

- During the concept design phase consider current and future population projections to establish the age range and size of potential user groups.
- When planning the play space provide maximum play value. Playground equipment should be varied, interesting and challenging to provide for a wide age and ability range (see Attachment). Individual pieces cannot cater for all ages and abilities. Several pieces of equipment are needed to cater for a wide age and ability range.
- Play equipment to be provided in accordance with the Council's playground hierarchy.
- Create experiences for the broad categories of play:
 - Cognitive Play** - provide equipment that involves thinking and reasoning with opportunities to observe and explore. Activities may include use of funnels and containers for sand and water play.
 - Creative/Explorative Play** - this type of play can be provided through landscape design, innovative and thoughtful plant selection and interactive elements such as sound, sand, water and the inclusion of artworks. Quiet spaces where children can play imaginary games and interact with the environment should be incorporated.
 - Social/Dramatic Play** – provide opportunities for acting out and role-play, such as shops, cubby houses or space invaders.
 - Physical/Active Play** – provide equipment or open space that facilitates such activities as swinging, sliding, climbing, balancing, spinning, ball games and running.
- Consider equipment styles (composite play systems or independent play equipment), manufacturing materials (i.e. use of recycled products) and their durability (i.e. materials better suitable to temperature extremes, salty air), quality & safety features.
- Continue to make concept and detailed playground designs available for community comment.
- Playground design and play equipment provision should minimise maintenance through sound design principles such as using the vandal resistant materials, creating a sense of ownership, good management practices, efficient maintenance, and maximizing surveillance of vulnerable sites.
- Ease of installation, the manufacturer's warranty and a playground maintenance program should also be considered prior to the final selection of the play equipment.
- Prioritise playground design within the context of budgetary constraints.
- Equipment selection and layout should be made in accordance with the Australian Standard AS 4685:2004 Playground Equipment. Playground equipment should be installed and maintained in accordance with Australian Standards.

- **Designing playgrounds for children with disabilities**

- Equipment selection and layout should be made in accordance with the Australian Standard AS 1428 Parts 1-4.
- Design playgrounds, which support inclusive access. Consideration should be given to physical spaces, activity areas, equipment and materials. These considerations should not

prohibit opportunities for personal interaction, various levels of independence and developmental challenges.

- Consider vehicle access and drop off points.
- There should be access for people with mobility disabilities around the play area and between the equipment.
- Gates should have an opening width of at least 900mm and have sufficient space around the gate to manoeuvre mobility aids.
- Disabled toilets at regional facilities should allow enough circulation space for the wheelchair/mobility aid and a carer. Consideration to be given to the provision of a larger change table and the installation of a ceiling hoist for transfer.
- Council's Disability Officer to advise on concept and detailed playground designs.
- Consider commissioning an Access Consultant for regional playgrounds to achieve accessibility of the playground environment.
- **Undersurfacing**
 - Install certified undersurfacing under and around playground equipment in accordance with Australian Standard AS/NZS 4422.1996 Playground Surfacing.
 - Install the most appropriate type of undersurfacing for the playground site, taking into account the topography, potential for drainage issues, needs for inclusive access, level and frequency of use and the prescribed maintenance period.
- **Playground layout**
 - Provide suitable entries, exits and access to the playground and the associated features.
 - Avoid conflict of activities. Moving equipment such as swings and flying foxes should not be located near static structures or traffic flow lines.
 - Consider the ease of movement through the playground by children and caregivers.
 - Separate the play areas for the young and very young by the design, scale and function of the equipment and areas.
 - Utilize existing trees for shade. Consideration should be given to additional planting to provide future shade. Where possible select endemic species. Certain varieties of trees and shrubs may be less desirable than others because of falling fruit, thorns etc. Consult with Conservation and Land Management (CaLM) for recommended species.
 - Incorporate open space for informal play areas for ball games, running around and for picnics.
 - Playground layout should provide for good supervision (i.e. clear line of site) and where possible allow for passive surveillance as a deterrent to vandals.
 - Consider the slope or topography of the playground site. This has important implications the location of playground equipment, inclusive access, playground safety and drainage.
- **Playground Environment**
 - Consider both natural and man-made elements of the playground environment. Use the natural environment to provide engaging elements such as plantings, rocks, logs, water and sand. Variety and challenge can be achieved by mounting play equipment on mounds and natural slopes. Consider the surrounding land use that relates to the site i.e. existing services (toilets, drinking fountains, lights etc) roadways, utilities (power & telephone lines), signage and other community facilities.

- Consider linkages such as footpaths and bicycle paths to encourage physical activity and community connectedness. Where appropriate, provision should be made for bicycle racks adjacent to the play space.
- Consider the location of car parking in relation to the playground.
- Playground Safety**
 - Ensure playground equipment, undersurfacing and associated features comply with Australian Standards.
 - Other key areas for consideration in relation to playground safety are the location of access points, visibility and landscape development. Playgrounds should, where possible be observed by neighbouring houses, other buildings and/or public areas.
 - Playground placement and design should aim to reduce the impact of noise i.e. from roads.
 - Where appropriate, fencing or other suitable barriers should be considered to separate playground users from hazards.
 - Provide areas for adult and caregiver supervision to help prevent playground injuries. Evidence supports the view that good supervision limits the incidence of injury.
 - Associated features**
 - Install associated features (e.g. fencing, shade, undersurfacing, landscaping and signage) in accordance with Australian Standards and Council's playground hierarchy.
 - Design and location of associated features should support inclusive access.
 - Provide adults/caregiver areas to allow for easy visual supervision, as well as a degree of comfort and amenity for the carer. Such areas in playgrounds provide opportunities for caregivers to socialise.
 - Incorporate seating and picnic benches. Some seating should be located close to where children play, so that children can be observed and supervised by caregivers.
 - Avoid locating BBQ's too close to where children play.
 - Provisions should be made for drinking water.
 - Provision should be made for rubbish bins. Where appropriate bins for recycled products should be installed.
 - The design of associated features should consider the possibility of vandalism and maintenance access.
 - Fencing**
 - Assess the playground environment to identify the need for fencing. Fencing is appropriate in areas where there is potential conflict between children using the playground and other activities associated with the playground location such as a road, car park, watercourses or an off leash dog exercise area.
 - Consider the use of natural features such as mounds, rocks and plantings as an alternative to manufactured fencing. Ensure the line of site, for supervision purposes, is not obstructed.
 - While fencing provides a degree of safety and amenity, consideration should be given to the location of the playground and the playground hierarchy (i.e. fencing a neighbourhood playground located on a quiet street would not be appropriate).

- **Shade**
 - Utilize existing trees wherever possible, as an alternative to purpose built shade structures or when the structure is at the end of its life. Where trees provide adequate shade and the structure is no longer required, the structure can be relocated to another playground.
 - Consideration should be given to mature trees for those playgrounds that lack appropriate shade and/or additional planting to provide future shade.
 - Consult with Conservation and Land Management (CaLM) for recommended species.
- **Public art and cultural development**
 - Playgrounds should primarily be designed to support children's play. Public art can provide alternative play opportunities and offer visual amenity.
 - Public art should be integrated into the overall design of the playground and considered at the concept design phase. Public art can include (but is not limited to) murals, sculpture, painting, installation and performance.
 - Consider opportunities for interpretation of the environment, local history and culture.
- **Signage**
 - Consistent playground signage placed at the defined entrance/s to the reserve. Signage to be provided in accordance with Council's Communication and Visual Standards Manual and Australian Standards.
 - Signage should include contact details to encourage playground users to report faulty or damaged equipment. This also encourages a 'sense of ownership'.

ATTACHMENT:

The Playground Strategy caters for the needs of children up to 12 years of age, with further segmentation for analysis purposes as follows:

- ▶ Pre-school children: 0-5 years
- ▶ Primary school children: 5-12 years

Children are developmentally different in size and ability. Play space development should consider children's growth and learning stages. Providing suitable open space and selecting age-appropriate equipment helps provide valuable play and learning experiences and contributes largely to child development and developing competencies for life.

0-5 year olds

Up to aged 2 children are exploring their senses and immediate environment. Play areas designed for this age group should offer spaces to, crawl, stand and walk. Play equipment should be colourful, moving or spinning, make sounds and include activity panels or pictures for carers to tell stories.

Provisions for appropriately sized slides and swings that are enclosed for safety and offer back and abdominal support are suitable for 0-2 year olds.

By 2 years children are starting to enjoy gross motor activity, walking up and down stairs, running and squatting. However most children at this age are smaller, weaker and less coordinated than 5-12 year olds. Children at this age are more prone to slips and falls. Thus play spaces should incorporate smaller steps and spaces to crawl and explore. Play equipment should be located closer to the ground.

Hands require smaller grips and handles to allow younger children to easily manipulate items.

Lower platforms with appropriately placed railings and provisions for multiple access such as ramps, ladders and lower steps provide appropriate physical challenges.

Flexible spring rockers promote balancing skills with the rhythmic movement helping to stimulate language development. A well designed spring rocker can also encourage self-reliance, if the child is able to get on and off the rocker independently.

Tactile experiences such as the use of sand, water and manipulation of materials stimulate fine motor skills and promote creative play.

Provide opportunities for children to play alone and with other children. Appropriate equipment may be single-use equipment (i.e. spring rockers) and multi-child use equipment (composite units). Sand pits, double swings, double slides, talking pipes and musical installations encourage social and inclusive play.

As the child develops language skills, equipment or areas that promote pretend games and role-play are important (i.e. ships, planes, shop fronts etc).

5-12 year olds

Playgrounds for primary school-aged children should continue to encourage social growth with equipment for single-use and multi-users. Some equipment for 5-12 year olds should encourage cooperation such as multi use swinging structures (i.e. see-saws and flying foxes) and special manipulative equipment that requires more than one user. The layout of the playground can also create opportunities to interact.

Children this age still play 'pretend games' and engage in fantasy play such as space invaders and super heroes but as they get older games such as tag and chase become more popular. Provisions should be made for playing these games.

Tyres swings, slides, sliding poles, jumping platforms, ropes, climbing structures, bridges and balance beams provide a physical/active element and challenge to the play space. At this age, children love competition and to show what they can do.

Primary school-aged children should have more advanced methods of getting off equipment like poles and ladders to challenge their problem solving abilities.

Open spaces provide areas to run and play games and promote social growth and cooperation.

Bicycle circuits and hard surfaces for using the scooter, rope jumping, roller-skating, roller blading and handball are important.

Older children have greater arm development and strength and should be encouraged to use climbing structures, overhead and horizontal bars.

Quiet spaces provide opportunities for older children to socialise with others and a place to reflect.

Appendix E

Distribution of Children in Warringah

Appendix E: Distribution of Children in Warringah

Suburb	0-6 yrs	% of children in suburb aged 0-6	7-12 yrs	% of children in suburb aged 7-12	Total children aged 0-12 yrs	% of total children in Warringah	Density of children/ Km ²
Allambie Heights	618	54.4	517	45.6	1135	5.4	147
Beacon Hill	614	54.0	524	46.0	1138	5.4	455
Belrose	637	38.3	1028	61.7	1665	7.9	142
Brookvale	188	33.7	162	66.3	350	1.6	175
Collaroy	1185	55.0	964	45.0	2149	10.2	413
Cromer	742	56.0	584	44.0	1326	6.2	192
Curl Curl	177	46.6	203	53.4	380	1.8	422
Davidson	163	41.8	227	58.2	390	1.8	144
Dee Why	1301	59.4	887	40.6	2188	10.4	705
Forestville	698	54.9	573	45.1	1271	6.0	139
Frenchs Forest	1299	54.9	1066	45.1	2365	11.2	260
Harbord	909	62.3	550	37.7	1459	6.9	503
Killarney Heights	372	53.8	320	46.2	692	3.2	432
Manly Vale	474	60.5	310	39.5	784	3.7	356
Narrabeen	356	56.2	277	43.8	633	3.0	395
Narraweena	504	55.9	397	44.1	901	4.2	409
North Balgowlah	383	56.6	293	45.4	676	3.2	422
North Curl Curl	315	55.7	250	44.3	565	2.7	403
North Manly	252	57.6	185	42.4	437	2.0	336
Terrey Hills	276	50	275	50	551	2.6	119
Total	11463	54.4	9592	45.6	21055		

Appendix F

Playgrounds requiring upgrade to Australian Standards

Playground/Asset Name	Street	Suburb	Category
Adare Place Reserve	Adare Pl	Killarney Heights	Neighbourhood
Akora Street Reserve	Akora St	Frenchs Forest	Neighbourhood
Allworth Drive Reserve	Allworth St	Davidson	Neighbourhood
Ambleside Street Reserve	Ambleside St	Wheeler Heights	Neighbourhood
Anembo Reserve & Fire Station	Anembo	Duffys Forest	Neighbourhood
Ankali Place Reserve	Ankali Pl	North Manly	Neighbourhood
Aranda Drive Reserve	Aranda Cres	Frenchs Forest	Neighbourhood
Arnhem Res & R.O.W To Sunlea Plc	Arnhem Rd	Allambie	Neighbourhood
Arthur Street Reserve	Arthur St	Dee Why	Neighbourhood
Ashworth Ave Rd Reserve To Haigh Ave	Ashworth St	Belrose	Neighbourhood
Belmore Reserve And Shops	Belmore Lne	Cromer Heights	Neighbourhood
Beverley Job Playing Fields	McIntosh Rd	Narraweena	District
Brentwood Avenue Reserve	Brentwood Pl	Frenchs Forest	Neighbourhood
Brown Street Reserve	Brown St	Forestville	Neighbourhood
Burruga Avenue Reserve	Burruga Ave	Terrey Hills	Neighbourhood
Canea Crescent Reserve	Canea Cr	Allambie	Neighbourhood
Careden Avenue Reserve	Careden Ave	Beacon Hill	Neighbourhood
Cashel Crescent Reserve	Cashel Cr	Killarney Heights	Neighbourhood
Casuarina Reserve	Bushlands Ave	Forestville	Neighbourhood
Cook Street Reserve	Cook St	Forestville	Neighbourhood
Cooksey Avenue Reserve	Wyadra Ave	Harbord	Neighbourhood
Cootamundra Drive Reserve	Cootamundra Dr	Allambie Heights	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Coreen Avenue Reserve	Coreen Ave	Terrey Hills	Neighbourhood
Coster Place Reserve And R.O.Way	Coster Pl	Frenchs Forest	Neighbourhood
Donegal Reserve	Donegal Rd	Killarney Heights	Neighbourhood
Duncan Reserve	Cooyong Rd	Terrey Hills	Neighbourhood
Epacris Avenue Reserve 1.	Epacris Ave	Forestville	Neighbourhood
F.J.Machon Reserve	Anzio Ave	Allambie Heights	Neighbourhood
Fielding Street Reserve	Fielding St	Collaroy	Neighbourhood
Gilai Place Reserve	Gilai Pl	Allambie	Neighbourhood
Gilbert Place Reserve And Road Island	Gilbert Pl	Frenchs Forest	Neighbourhood
Goroka Reserve	Government Rd	Beacon Hill	Neighbourhood
Grasmere Crescent Reserve	Grasmere Cr	Wheeler Heights	Neighbourhood
Greendale Avenue Reserve 1	Greendale Ave	Frenchs Forest	Neighbourhood
Gwarra Reserve "Fire Buffer Zone"	Ferguson St	Forestville	Neighbourhood
Harbord Park Playing Fields	Wyadra Ave	Harbord	Neighbourhood
Holborn Avenue Reserve	Holborn Ave	Dee Why	Neighbourhood
Ilikai Place Reserve	Ilikai Pl.	Dee Why	Neighbourhood
Jacka Park Oliver Street	Glenn St	Harbord	District
Jimada Avenue Reserve	Jimada Ave	Frenchs Forest	Neighbourhood
Jindabyne Reserve	Epping Rd	Frenchs Forest	Neighbourhood
Kalgal Reserve	Kalgal St	Frenchs Forest	Neighbourhood
Kalianna Cres Reserve	Kalianna Cr	Beacon Hill	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Kambora Ave Reserve & Fire Station	Borgnis St	Davidson	Neighbourhood
Kapunda Place Reserve	Kapunda Pl	Belrose	Neighbourhood
Karina Place Reserve	Karina Cr	Belrose	Neighbourhood
Keegan Reserve	Keegan Place	Forestville	Neighbourhood
Kerry Close Reserve	Kerry Cl	Beacon Hill	Neighbourhood
King Street Reserve No 2	King St	Manly Vale	Neighbourhood
Kurara Close Reserve	Kuraracl	Terrey Hills	Neighbourhood
Lillihina Road Reserve & R.O.Way	Lillihina Ave	Cromer	Neighbourhood
MacFarlane Playing Fields	Mcfarlane ST	Davidson	Neighbourhood
Maitland Street Reserve	Maitland St	Davidson	Neighbourhood
Makim Street Reserve	Makim St	Nth Curl Curl	Neighbourhood
Maple Place Reserve	Maple Pl	Belrose	Neighbourhood
Maroa Crescent Reserve	Maroa Cres.	Allambie	Neighbourhood
Meehan Street Reserve	Meehan Rd	Cromer	Neighbourhood
Merrilee Place Reserve 1.	Merrille Cres	Frenchs Forest	Neighbourhood
Michele Reserve	Michele Rd	Cromer	Neighbourhood
Millers Reserve - Playing Fields	Cambel Pde	Manly Vale	Neighbourhood
Mills Place Reserve	Mills Pl	Beacon Hill	Neighbourhood
Munnumba Avenue Reserve And R.O.Ways	Munnumba St	Belrose	Neighbourhood
Nalya Road Reserve	Nalya Rd	Narraweena	Neighbourhood
Nandi Avenue Reserve	Nandi Ave	Frenchs Forest	Neighbourhood
Nianbilla Place Reserve	Pound Ave.	Frenchs Forest	Neighbourhood
Nolans Reserve	Kentwell Rd	North Manly	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Nolans Reserve	Riverview Pde	North Manly	Neighbourhood
Opala Street Reserve	Opala St	Belrose	Neighbourhood
Palomar Parade Reserve And R.O.Ways	Palomar Pde	Harbord	Neighbourhood
Parr Parade Reserve	Parr Pde	Narraweena	Neighbourhood
Princess Mary Street Reserve	Princess Mary St	Beacon Hill	Neighbourhood
Pusan Place Reserve	Pusan St	Belrose	Neighbourhood
Quarry Reserve	Amourin St	North Manly	Neighbourhood
Rabbett Street Reserve	Rabbett St	Frenchs Forest	Neighbourhood
Ralston Ave Reserve And Shops	Ralston Ave	Belrose	Neighbourhood
Ramsay Street Reserve (Plateau Side)	Ramsay Rd	Collaroy	Neighbourhood
Roselands Avenue Reserve	Roselands Ave	Frenchs Forest	Neighbourhood
Rounce Avenue Reserve	Rounce Ave	Forestville	Neighbourhood
Ryan Place Reserve	Ryan Pl	Beacon Hill	Neighbourhood
Ryrie Avenue Reserve 1.	Ryrie Ave	Forestville	Neighbourhood
Shannon Avenue Reserve	Shannon Ave	Killarney Heights	Neighbourhood
Springvale Avenue Reserve	Springvale Ave	Frenchs Forest	Neighbourhood
Starkey Street Reserve	Starkey St	Killarney Heights	Neighbourhood
Stoddart Place Reserve	Stoddart Pl.	Dee Why	Neighbourhood
Surf Road Reserve	Surf Rd	Nth Curl Curl	Neighbourhood
Terrigal Road Reserve	Terrigal Rd	Terrey Hills	Neighbourhood
The Crescent Reserve	The Crescent	Dee Why	Neighbourhood
Towradgi Reserve	Towradgi St	Narraweena	Neighbourhood

Playground/Asset Name	Street	Suburb	Category
Tulich Reserve	Tulich Ave	Dee Why	Neighbourhood
Tyagarah Place Reserve	Tyagarah Pl	Cromer	Neighbourhood
Undula Crescent Reserve	Undula St	Belrose	Neighbourhood
Wabash Avenue Reserve	Wabash Ave	Cromer	Neighbourhood
Walter Gores Reserve	Howard Ave	Dee Why	Neighbourhood
Wandella Road Reserve	Wandella Rd	Allambie	Neighbourhood
Wareham Crescent Reserve	Wareham Cres	Frenchs Forest	Neighbourhood
Warri Crescent Reserve	Warri Cl	Narraweena	Neighbourhood
Waterford Place Reserve	Waterford Pl	Killarney Heights	Neighbourhood
Wayne Schimanski Reserve And R.O.Ways	Grimes Pl	Davidson	Neighbourhood
Wedgewood Crescent Reserve	Wedgewood Cr	Beacon Hill	Neighbourhood
Wellman Road Reserve And R.O.Way	Wellman Rd	Forestville	Neighbourhood
Wentworth Place Reserve	Wentworth St	Belrose	Neighbourhood
Windrush Avenue Reserve	Windrush Ave	Belrose	Neighbourhood
Wingara Grove Reserve	Wingara St	Belrose	Neighbourhood
Woodbine Street Reserve	Woodbine St	Nth Balgowlah	Neighbourhood
Woolgoolga Street Reserve	Woolgoolga St.	Nth Balgowlah	Neighbourhood
Yanco Close Reserve	Yanco Cl	Frenchs Forest	Neighbourhood
Yindela Reserve	Pound Ave	Davidson	Neighbourhood