



Researching Children's Designs for a Child Friendly Play Space at Rouse Hill Town Centre.

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UWS Research study members included: Professor Karen Malone (Project Manager), Dr. Katina Dimoulas, Dr. Son Truong and Dr. Kumara Ward.

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Cover drawing by Alisha, female, age 5, Playdays Early Childhood Centre.
"My dream play space would have a slide, swings, a bunny, flowers and grass".



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1. Background to Study

Rouse Hill Town Centre (RHTC) has been designed for the community, in particular with young people in mind. The Rouse Hill area is a family dominated demographic with 72% living in a family household. Research also highlights the area has a high proportion of double income families and a higher than average household income. The design of RHTC was underpinned by a premise of meeting the potential needs of the community and not being the traditional 'cookie cutter Shopping Centre'. This Greenfield Town Centre was designed with people in mind and quads were linked with child friendly play. The GPT group are proposing an upgrade of several key play spaces within the town centre. The upgrade has highlighted an opportunity to ensure play spaces are relevant for all customers, particularly for children and their families. Potential gaps and issues have been identified in relation to the current play spaces highlighting a need for play spaces to be evaluated. This research report relates to the redevelopment of one of the main play spaces in the Centre, the Food Terrace 'Musical Play Space', however the research findings will not be limited only to this space as they are applicable to the other play spaces within the Centre, and play spaces in other centres. GPT describe the Food Terrace play space, designed for 'Musical Play', as worn and run down. Located to the rear of the Food Terrace, this play area has not attracted the traffic flow originally anticipated. In reality, this play equipment is noisy, unsafe due to open exposure to stairs and a road, lacks soft play surfaces and as a drawcard to the Food Terrace does not meet expectations. The location of this play area was also in need of assessing (indoors or outdoors). A partnership between GPT and UWS was proposed to deliver the latest play space recommendations that meet the needs of the community and ensures RHTC continues to leave a legacy in the community. This underpins GPT's delivery promise on place-making.

The purpose of this study was to understand how a child's play space in a very busy shopping precinct could be designed with the support of children, for children. In adopting an authentic child participation framework, children were positioned as experts on issues related to their everyday lives. In most play space design it is common for children's environments to be designed with the involvement of adult experts only, who believe that they know what is best for children without asking the children who will be using the space. The central focus of this study is on the design of child friendly play spaces *for* children and *with* children. In particular, the results of this study provide children's recommendations for the re-design of the Food Terrace Musical Play Space in the Rouse Hill Town Centre.

2. Literature Review

Historically, in studies of human-environment relationships, there has always been a strong assertion that humans learn about their society and their place in it through engagement with their environments (Lynch, 1960). Play for children in a specific 'place' provides a significant opportunity for them to explore, engage and observe how people interact within and through places. Play is a freely chosen, personally directed, intrinsic behaviour that actively engages the child. Play spaces therefore need to be varied and open, especially when in a public domain so they will cater for the diversity and changing demographic of children and the range of their potential needs, abilities and choices. The significance of play as an essential part of every child's life has been acknowledged by the United Nations Convention on the Rights of the Child with Article 31 supporting a child's right to rest and leisure, and to participate in free play and recreational activities appropriate to the age of the child (UNICEF, 1992). In this short literature review a number of areas have been explored to provide some background to the data that will be explicated in more detail throughout the report. The review looks at the areas of free play and the key considerations in regard to: first, designing a play space for young children; second, as this play space will be located in a commercial precinct a consideration of previous research on play spaces in commercial facilities; and finally, to support questions about the methodology, a review on the importance of children's authentic participation as researchers with the designers to inform the play space design. The review starts with an appraisal of the definition of play and its role in children's lives.

2.1 Children and Play

Play is central to the experience of all children because through it they learn about the properties of objects and materials and how these can be used in creative ways both for pleasure and in practical problem-solving situations. They learn about themselves, how to make choices, take responsibility and develop a sense of agency when they influence their circumstances. They learn about others, their differences and similarities, social rules, as well as develop the skills to negotiate and resolve social conflicts. Play is also a means by which children can resolve conflicts and bring about emotional balance. Play therefore affords children fundamental childhood experiences that contribute significantly to their development and sense of well-being. Effective play opportunities can: promote the development of friendships; allow children to take risks, have adventures and

misadventures; facilitate contact with nature and the environment; and allow children to experience a range of emotions (Casey, 2007).

So play spaces have to be places where children can dawdle and daydream and also be motivated to shriek and run about! They are places for children to make contact with nature, with peers and with the community, places to take on risks and face challenges but also to maintain a sense of equilibrium. (Casey, 2007, p.10)

Researchers have distinguished three main categories of play (Malone and Tranter 2003) and the types of play activities you might see associated with them. These three categories include physical and motor skill play activities, play that supports social interaction and exploratory play that supports learning. These are summarised below:

Play and physical and motor skills The desire to run, jump, crawl, climb and swing is the natural way through which children's bodies develop. Improvement in coordination, bone and muscle growth, strength, agility and endurance are essential to a healthy childhood and later life. Physical and motor skill activities include playing on fixed structures, participating in structured games, and using free equipment (e.g., bats/balls).

Play and social interaction Play enables social and emotional development through activities where children must play with others, share and cooperate, respect other views, express their ideas, feelings and needs without the constant mediation of an adult. It is the time when a child constructs identity and “tries on” to see which identity fits. Children learn to negotiate their own self in relation to others, and interact with their peers. It allows children to acquire the social skills and emotional well-being essential to normal development. Social and non-social play activities include talking with others, watching others, reading, daydreaming– this could include onlooker activities where children watch the activities of others but do not attempt to engage in the activity, and unoccupied behavior when children demonstrate a marked absence of focus or intent. This could include children staring blankly into space or wandering aimlessly.

Play and exploration Through play children discover, explore and develop an understanding of the environment around them. Through their exploration and experience of the social, physical and natural environment they become familiar with the patterns and systems of life and the interconnectedness of these with themselves. Learning activities (including imaginative and creative play) might include building or making things with loose materials, observing and interacting with nature, exploring environment, and engaging in imaginative

activities (e.g. role plays, drama, fantasy).

Play spaces also provide for different types of play opportunities, depending on a child's age, experience, ability, whether they are with friends, alone, or with family members, their play activities may change or vary.

Type of Children's Participation in Play

1. *Solitary Play*. The child plays apart from other children at a distance greater than one metre or with his or her back to the other children. The child will normally be engaging in a different activity to the others and pay little attention to the others' behaviour.

2. *Parallel Play*. The child plays independently of other children even though they are in close proximity. The child plays beside others or in the company of others but does not play with their companions.

3. *Associated Play*. Child plays with others in a similar activity. Communication and materials exchanged. No overall goal to activity.

4. *Cooperative Play*. Children organise themselves in a group with a common goal or purpose to the social activity. Whatever the activity the focus is group centred.

Box 1: Four types of children's participation in play behaviours (Adapted from Malone & Tranter, 2003; Tranter & Malone, 2004).

The next section will look at how these understandings of play, play activities and participation might be incorporated into free play opportunities in play spaces.

2.2 Free Play and Play Space Design

Over the past decade, there has been a growing consensus that children's active play opportunities are declining, particularly in modern industrialized contexts. A systematic literature review indicates that children's declining physical activity levels in a variety of community contexts is a significant public health concern (Dollman, Norton, & Norton, 2005; Lester & Russell, 2010). In Australia, less than half of Year K, 2, and 4 students are currently meeting the Australian physical activity guidelines for young people (NSW Department of Health, 2011). Therefore, there is a continued need for play spaces that promote and afford children with opportunities for active free play.

Play spaces are often designed with a certain age group in mind who will play in certain ways. However, play spaces can be multi-age and in a commercial setting, particularly where families or groups of families might gather for play, it is important to consider the

range and variety of play opportunities are suited to a range of ages. Babies from a young age are able to enjoy the positive elements of a play environment and if catered for can be provided with a play space alongside children of other ages. Managing the play space and designing with this in mind takes some care. Toddlers once mobile can start to move around a space and test themselves, climbing and clambering up low structures. They like to play alongside others (parallel play) but often play alone. Toddlers with older siblings might follow their siblings and attempt to mimic their play and siblings will often act as pseudo carers to these toddlers. As children become older in their early childhood years and middle childhood they will seek to engage in play with others, sharing play experiences, building spaces to hide and pretend (this is the age of the cubbies) socialising talking about their play adventures, making rules and testing their risk taking skills (Rogers, 2008). Play spaces need to accommodate this versatility by designing explorative and creative elements with a balance of climbing and skilled play. With increasing age children normally will also play in more integrated or cooperative ways. Identifying the level of social participation in play activity can be representative of a child's maturity in social and cognitive development. The best play environments for children are those which are developed on the basis of children's natural play needs, taking into account the play behaviour engaged in at different developmental periods, including the social, physical and cognitive forms of play. Conflicts or withdrawal are more likely to occur when children are crowded and play equipment and materials are limited. Even in play environments with considerable space, paucity of equipment and materials limits children's play options and leads to increased levels of boredom and aggression and lack of social, physical and cognitive development.

How play spaces function, that is their affordance to promote certain activities and meanings, are often more important to children than the aesthetics or physical structures of place. That is, even in small places which may not contain a lot of physical elements or even be very aesthetically pleasing, children will show a great desire to connect and have a sense of ownership of a play space, especially if it becomes part of their every day or regular play experiences. Wohlwill and Heft (1987) extended the use of *affordances* by articulating the environment-child relationship in play spaces in terms of three characteristics: affordances, sensory stimulation and response feedback. So affordance is the functional aspects of play environment, what a child enacts in the function of their play opportunities in a place and this can vary according to their age, skills, experience, and motivation. Sensory stimulation combines with this and may influence affordance as it is the potential of environmental features and settings to provide stimulation through variations in colour, shape, pattern,

dimension and texture. Response feedback alternatively focuses on how the play environment has the capacity to respond to the desired activities of the child during play. Is the play space responsive and malleable to the child's actions? Does it provide a constant source of feedback for the child in terms of the child's abilities, competencies, capacities and behaviours? Drawing on this past work on play and affordances it could be concluded that highly engaging and valuable play spaces are those that provide a variety of affordances over time, they are flexible and responsive to children's actions and extend their capabilities and through sensory engagement with rich and textural elements children are stimulated.

Free play is also a culturally mediated activity that may take different forms in different groups. Recently, researchers have begun to explore the cultural dimensions of children's play in order to understand how children's expression of culture impact on the form and content of their play choices. Interestingly, cross-cultural research also suggests that children enact cultural-specific themes, reflecting activities and values that are important within specific communities, although there seems to be some universal dimensions of play. For example, research has tended to notice that 2-4 year olds universally use similar objects in pretend play and that for children of all ages and ethnicities, play is a key site for engaging social interaction between children. Providing cultural references (McConaghy, 2008) through the play whether as permanent or temporary play elements also encourages children's cultural literacy. There is much to learn about the potential to build play spaces that engage with children's self-made cultural references though play designers such as Ric McConaghy and others in Australia who have been working to build opportunities for children to be creative in articulating children's cultures through play space design.

It is important that children feel socially included in their play space. When considering making a play space inclusive to all children the designer needs to consider access as a physical and social issue. An inclusive environment considers access for someone who uses a mobility aid, such as a wheel chair, access because of age or size, and inclusion as a social norm. A play space for diverse users should be viewed as available and inclusive of all children regardless of their age, ethnicity, and finally participation. What opportunities exist for different types and levels of participation of play activities at the site? Having a variety of different types of play opportunities, with a range of elements and features not only caters to the broad range of children who will come to the play space but also ensures that multiple visits will not find children bored and uninterested.

“All children need to play and children with disability have exactly the same range of interests and needs as any other child or group of children” (Jeavons, 2008, p. 108). Play therefore is also a key site to support children of all physical abilities to be able to engage in open-ended opportunities that will extend their own physical capacities and allow them to interact with other children easily. According to Jeavons (2008) there are three universal ways to improve general access and engagement in play spaces. The first is the value of seamless physical access into play spaces, so accessible surfacing, paths and same level entries and exits, second is the importance of front on accessibility for children who use wheelchairs, and the third is providing seating for carers. Past research conducted in collaboration with people with a broad range of abilities has revealed a number of important considerations and ‘best practices’ for designing inclusive play spaces. Integral principles include creating spaces that: take into account a diverse range of users; can be used by more than one child at a time; and provide a variety of pathways and activities. Best practices in inclusive design, and particularly for children with physical disabilities include: integrating accessible surfacing (e.g. rubber, rubber tile, wood, etc.) with less-accessible surfacing (e.g. sand, pea gravel, wood chips, etc.); accessible entry to, as well as throughout the play space; sloped and flat terrain with ramps if required; knee clearances (e.g. at play tables); wider spaces for children who use wheelchairs; and appropriate seating and shade (Standfield, 2008). Additionally, design ideas based on nature of ability, will include sensory considerations, such as textured and coloured patterns, coloured cues on key play areas (e.g. steps and level changes), distinguishable hand grips at multiple levels, fencing and partially enclosed areas, and sensory experiences, such as touch, sound, and smell, with nature (Department for Victorian Communities, 2007). These best practices can be integrated into the overall design to create a rich and inclusive play space for all children.

Through free play, children learn about cultural identity and inclusion. Not all children, however, have equal access to play or play facilities. This may be due to adults’ lack of awareness of its importance, restricted availability and resources, difficulties in physical access or fear for children’s safety. Play can potentially contribute to social cohesion and build communities with many research projects illustrating that adults who take children to play spaces and play with their children are more likely to make adult friends and more likely to feel connected and less isolated in their community. The value of the play space therefore isn’t just about children and their free play needs but about the opportunity for children and their adult carer to connect with others. This is a fundamental principle when considering how to design inclusive and valuable play spaces.

Safety is an important consideration in all play spaces and there are a number of standards and requirements provided by the government that need to be followed. Australian Playground standards are largely about play equipment, its construction and maintenance and the surfaces where children might be in contact with the ground. Natural play spaces often offer a number of benefits for children and if designed well can often provide much more open ended and variable play opportunities than hard structures and prefabricated equipment. Supervision is a fundamental ingredient for safety and ensuring the provision for parents and carers to be immersed in the play space allowing them to participate playing with children or close by where they may enjoy their own solitude alongside children in the environment but keeping a watchful eye adds to the safety and enjoyment of the play space by children and their families.

Specific opportunities to connect with nature where children can encounter and engage with a range of natural elements are also seen as critical to children's development providing them with rich play opportunities, and potential physical and mental health benefits (Elliott & Davis, 2008). Elliott and Davis (2008, p. 8) note "...there is no doubt that natural and synthetic playspaces promote physical health, but there are some subtle advantages to be recognised in natural play spaces". Children's lives in suburban Australia are often very structured in built environments with the majority of play opportunities now being focused on hard play equipment rather than engaging and encountering with natural objects and elements. While issues of safety and standards dominate designing of public play spaces there are now some very well designed play spaces that provide both structured and free play elements that incorporate natural components. Research has shown the effect of leafy green spaces on children is very positive to their emotional well being and beneficial to allowing children to feel calmer and less agitated. Also socially, natural spaces enhance cooperation and more associated play as children share objects, observe and interact about their experiences. Attention restoration theory for example maintains that even just by being in a green place or looking at greenery, the sense of a person's overall well being can be improved significantly through the lowering of stress levels. Many believe children like adults crave these opportunities and in our busy lives opportunities to be in nature are being dramatically restricted. This is especially critical at a time when children are engaging in less and less free play outside of school and the home.

2.3 Play Spaces in Commercial Settings

Play spaces in commercial settings such as eating outlets, in-store playgrounds, pubs/restaurants and commercial play settings have been on the increase in the past two decades (McKendrick, 1999). The location of playgrounds in shopping centres or precincts has been increasingly more prevalent in recent years. Most shopping centres or precincts have at least one formal play space available for access by children and parents. These types of commercially situated play spaces typically comprise a play structure that has limited play experiences, that is made from hard durable, non-manipulable materials, in a small area and are not inclusive. McKendrick, Bradford and Fielder (2000) state that the majority of commercial play spaces and play spaces located in commercial enterprises are small and possess limited standardised equipment, are aimed at younger age groups, consist primarily of a multifunctional climbing frame that is of a modular construction.

An evaluation study was conducted on a *Shop and Play* early childhood program that was offered to parents and delivered out of a local shopping centre (Wyver, 2009). The researcher suggests that key findings of the evaluation indicate that *Shop and Play* sessions offer direct support of child and infant development, promote parenting skills and afford opportunities for social networking for families. The outcomes outlined are achieved through three significant factors of the program. The principle elements include:

1. The provision of *Shop and Play* programs provides easy access for parents and the opportunity for other important daily tasks to be achieved.
2. The physical, social and educational environment was created based on knowledge of child development, families and communities through formal studies.
3. A large physical space was available, due to the delivery in a shopping centre, allowing for a range of age appropriate play activities to be offered. For example, high activity play, careful construction and creative play, and areas for infants were created in a single play space (Wyver, 2009, p. 3).

Whilst this evaluation study was conducted on a formal, organised early childhood program for younger children (12 months and older), the results are applicable to play spaces in shopping centres generally, such as Rouse Hill Town Centre play spaces, which are often used by parent groups. The study results support the need for research to be conducted with communities and parents, and as discussed above children, who will be the primary users of the play spaces. Further, the results confirm that effective play space designs are based on community, parent and child consultations, in order to address social, cognitive and physical

development of users. It is essential that designers of play spaces have an encompassing view of play when they are creating these spaces. Casey (2007) cautions that the overarching perception of play will affect the effectiveness of the play space created. She further explains that a broad understanding of play and its benefits to children has the potential to result in a more comprehensive vision for the play space. Often the main reasons why play spaces, in particular commercially oriented play settings, are not effective relate to the lack of children's participation in the play space design, adults imposing their ideas about desirable play opportunities *for* children and the one-size-fits-all perspective of indoor and outdoor play space designers.

Play spaces in commercial settings offer benefits to adults accompanying children. These play spaces also serve a purpose for parents as a place to meet friends (including other parents) and to relax while children are occupied in a formal safe play setting (McKendrick, 1999). A study by McKendrick, et al. (2000) found that parents valued commercially oriented play spaces as safe play within their boundaries. This study also found that the decision to visit commercially oriented play settings was predominantly made by parents. However, adult agendas for planned, safe, contained play activities should not replace opportunities for children to be active agents in their own play experiences that foster spontaneity, imagination, unpredictability and flexibility – essential qualities associated with free play found in outdoor play settings (Casey, 2007).

2.4 Children as Researchers in Play Space Design

The purpose of this study was to understand how a child's play space in a very busy shopping precinct could be designed with the support of children, for children. In particular, the focus was to connect with and scaffold the involvement of children so they could have authentic input into the design of the play space at Rouse Hill Town Centre. Authentic participation is central to new ways of viewing children as active social agents and supports a rights based paradigm (Malone 2013). Contemporary theories of childhood sociology also, unlike more conventional and dominant theories on social capital, view children as social agents, 'active in the construction and determination of their own lives' (James & Prout, 2008, p. 8). Although appropriate consultation with children is required by legislation in many states, often it is overlooked or marginalised (ARACY 2008). This study therefore sought to provide a case study of good practice of children's participation in community play space design. The research workshops incorporated the ideas of children growing up in the area

and will help to ensure the play space designed in the Rouse Hill Town Centre is relevant for the children and the community.

Children are not always consulted on matters that closely concern them despite Article 12 of the UN Convention on the Rights of the Child, which states that: 'Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child.' It is common in early childhood for adults to record and interpret children's play behaviours or decide on play activities without consulting children. However, these views may not necessarily represent children's perceptions and experiences or their choices and desire. According to UNICEF a child-friendly city ensures that all children have the opportunities to express their views and participate in decision-making about their community in the same way as any other citizen of the city (UNICEF, 2001). A child friendly place is where children's rights and needs are at the centre of good planning and design (UNICEF, 2008). A key characteristic of a child-friendly play space is its capacity to provide opportunities for children to have freedom of movement to explore, play and engage uninhibited by physical, social or cultural constraints. In this study there was a fundamental shift in thinking about play space design from children's play needs that are normally decided by adults on behalf of children to a view that children should be partners with adults (including shopping centre developers, researchers, parents and architects) in designing a play space for children (Malone, 2013). According to Driskell (2001, p. 35) an urban planner himself, the benefits of young people's participation for planners and policy-makers is that they will "make better and more informed planning and development decisions", they will "more fully understand the needs and issues of the communities they serve", they can "educate community members on the inherent complexities and trade-offs involved in policy and development decision-making" and most of all they will "create urban environments that are more child friendly and humane". The potential for a public play space to be a valuable, healthy space for children is reliant on the quality of the participation and planning with children. Children involved in the Dapto Dreaming urban design project conducted by Malone (2013) recognised this when they wrote in the forward to their children's report: "It's about making sure adults listen and value us and include our dreams in their designs for our place."

It is essential that children's participation in built environment projects is embedded throughout the design process, that is, findings are not only used as a basis for design-decisions but children are also engaged in the designing process. The New South Wales

Commission for Children and Young People (2009) states: "Children and young people report that participating in decision-making boosts their confidence and self-esteem. When adults listen to and hear what children and young people say it shows that their authority in their lives is respected" (p.38). An eleven year old boy explains the benefits to children and the design outcome:

"I really want you to listen and so when you make the new playground that I can still come to the park and lie on the grass and look at the clouds and birds flying across the sky (NSW Commission for Children and Young People, 2009, p.38).

Malone (2013, p. 391), in her experience of working with children in the Dapto Dreaming project with Stockland urban developers, noted the children were very positive about the value of their involvement with comments from the children such as:

"Being able to help, proud that were part of the design of the playground". "I liked that I got to help design it- now it feels like I own it somehow"; "We will make sure our friends go down to the playground and make sure Stocklands built the way they said they would"; "I liked everything of the project and especially being creative"; "It's good kids get to be part of it and make a difference".

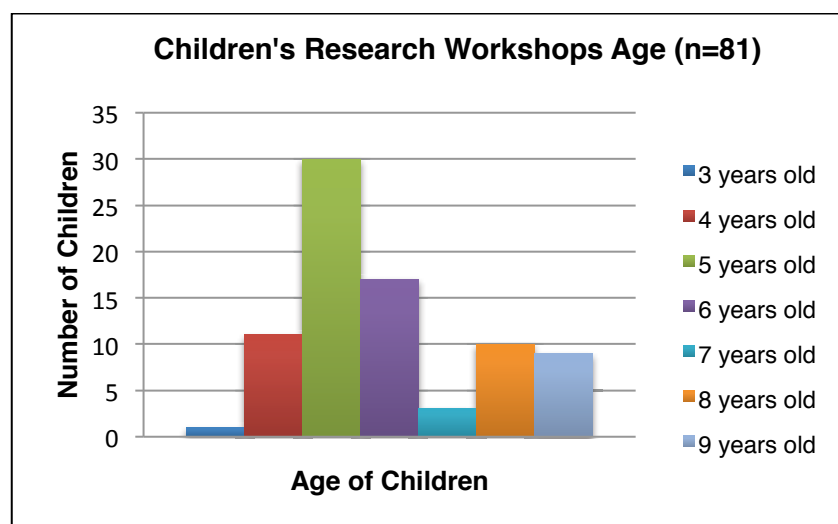
Malone also noted in her conclusion on the lessons learnt from the study it: "...was testimony to a new way forward in a reciprocal relationship between children and urban developers and reinforced the important role children could play as key social agents in community planning. The reality that children knew best how to design for other children's needs and that innately children design with sustainability in mind, were only two of a number of valuable lessons the developers quickly discovered through the process" (Malone 2013, p. 392).

3. Methodology

Children's participation as researchers is central to the purpose of this project. The children's research employed a range of methods that have been validated in previous child friendly research. The range of visual tools ensured that children with a diverse range of abilities had the opportunity to participate in either all or some of the research activities. In recent years there has been an increase in innovation to adopt and develop research methods for children. Childhood researchers have explored various methods that focus on maximizing children's abilities to express, both verbally and non-verbally, their views, experiences, and knowledge. In particular, it has been demonstrated that visual methods such as drawing, photography, mapping, and activity sheets may be used effectively with children (Truong & Mahon, 2012). Johnson (2008) identifies four main reasons to support the use of visual methods with children: i. Visual representations are sources of data; ii. Visual methods can be adapted to be inclusive of all ability levels; iii. Children construct information and are given greater control in the research process; and iv. Children's visual representations provide insight into their experiences. This study was guided by current research and best practices for conducting research with children.

3.1. Children's Research Workshops

Children's engagement in the project consisted of conducting two series of research workshops with children in two different age settings from the local community: early childhood and middle childhood. The children's research employed a multi-method research design that has been used successfully in a number of child friendly research projects in Australia and overseas (Malone 2013a, Malone 2013b). The target was to engage with around 40 Early Childhood (3-4 year olds) and 40 middle childhood (5-8 year olds) children.



Graph 3.1: Age of Children Participating in Children's Research Workshops

Graph 3.1 provides an overview of the children's age who participated in the children's research workshops. The following sections provide details of the specific activities at each research site.

3.1.1 Early Childhood

Early Years Children (aged 3-5 years) were invited from two early childhood education centres, to participate in the research project. The first centre was *Playdays Early Childhood Centre* where 20 children participated in research workshops (1 session) - 3 consent forms weren't validated. The second centre was *Milestones Early Childhood Centre* - 16 children participated in research workshops (1 session) - 8 consent forms not validated. Early years children were engaged in one research session that focused on exploring their ideas around what makes a positive play space for children that fits their needs, their dreams of what they would like in a play space and then what they would like for the Rouse Hill Musical Play Space. At both centres children started the session by evaluating the elements and qualities of play spaces from a collection of 30 play space design cards illustrating play spaces in Australia and overseas. They used coloured dots to identify their favourite play spaces and then a gold star to nominate their favourite. The photographs included images of small and large structured equipment focused playgrounds, natural outdoor play spaces, malleable and child built adventure playgrounds, water and sand play activities in public and private spaces, construction equipment focusing on opportunities for free play and creative and imaginative play opportunities using sculptures and cubby or secret places.

3.1.2 Middle Childhood

Primary School Children (aged from 5-9 years) from two classes (Grade 1 and Grade 3/4) at *Kellyville Ridge Primary School* were invited to participate in the research workshops. 23 Grade 1 children and 21 Grade 3 & 4 children participated in the research workshops. The primary age children engaged in two sessions running over a two-week period. The first focused on their experience of play spaces. During this session they drew a picture of familiar play environments and we interviewed them about this. The next step was to evaluate a series of 30 photographs depicting a variety of play spaces (the same as the ones above for early childhood) and identify which were their favourite and then they were interviewed around their reasons for choosing the image. During this first week the children were also given a disposable camera and asked to take photographs of play spaces in their local area, home and any other play experiences. In the second session children had their own photographs that they grouped and selected in order to write about the content of their photographs, the good and not-so-good. They also continued drawing and designed a dream

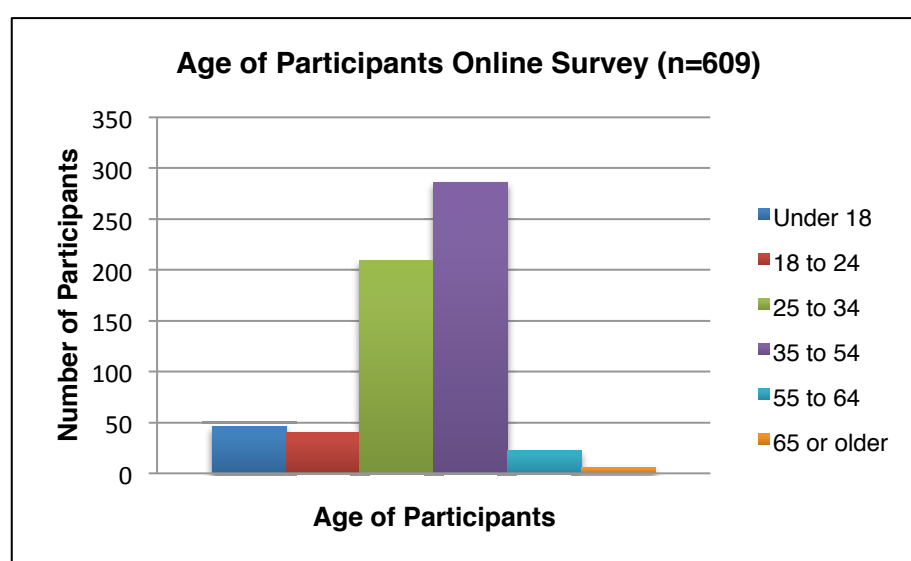
play space and identified key elements of what makes an ideal play space for children. They were interviewed about those drawings with a small number of children also video taped.

3.1.3 Summary

The research workshop activities were completed by 81 children, of these 11 did not have validated ethics. Overall, 36 early childhood age children from two different centres participated in 1 session, and 44 primary age children completed 2 sessions over a 2 week period, which included a photography session outside of school over a three-day period. Of the 44 participants only 40 children returned cameras complete with shots for processing and interviewing.

3.2. Community Research Activities

Opportunities for adults (including parents, Rouse Hill Town Centre Retailers and community members without children) to participate in the research were also made available throughout a four-week period of the research. The key activities for involvement are listed below. The online community survey was created using the web based Survey Monkey application. Opportunities for adults (particularly parents) in the community to participate in the survey was through the online interface and also through face to face completion of the online survey with researchers who were available in the centre over a week. The key activities for involvement in the survey are listed below. The overall target set for online surveys was 500 respondents, the final number was 563 adult participants and 46 child participants (see graph 3.2) The use of information booths in the centre when the online survey went live acted as a data collection initiative and to create interest around the survey.



Graph 3.2: Overall Age of all Online Survey Participants

3.2.1 Information booth in-situ

UWS researchers staffed the information booths at RHTC, which were open for the general public, stakeholders, and shopkeepers. The booth provided the opportunity to complete the survey and/or sign up for focus groups. The online surveys were completed by approximately 50 respondents onsite with these contributing directly to the numbers above. 100 handout sheets were distributed with survey information and focus group invitation.

3.2.2 Community survey

The community survey had 22 quantitative survey questions and 8 qualitative response opportunities with 1 open-ended comments section. 563 respondents completed the survey, with 537 qualitative comments collected across the full dataset. The survey was opened on the 30th January and was open until the 1st March. GPT sent out a prepared email through their centre database on 4th February that resulted in a significant spike of 270 respondents. A handout sent to the primary school parents by UWS staff on the 26th February also resulted in a spike of approx. 100 respondents.

3.2.3 Children's survey

Children were also given an opportunity to complete an online survey. The children's survey contained 19 quantitative survey questions and 8 qualitative question opportunities with 1 open-ended comments section. There were 46 respondents to the 19 quantitative questions with 22 qualitative comments across the full dataset. The survey was opened on the 30th January and was closed on the 1st March.

4. Research Results

4.1 Children's Survey Results

The children's research results is made up of a combination of the qualitative research data from the research workshops with the children in the early childhood centres and a local primary school and a small sample of results from an online survey that replicated many of the questions provided in the community survey. In this first section of the children's research results the report provides an overview of key findings only from the online survey. Although only a small number of children participated fully in the survey it is interesting to see the general trends coming from the data in order to see if this is consistent with the community survey results and the qualitative work from the children. A full copy of the survey results is included in a separate report that contains the full set of graphs and comments from both the community and child surveys.

4.1.1 Children's play activities

The majority of the children on the online survey were between the ages of 7-10 years old; they lived close to the centre in the surrounding suburbs and visited the centre mostly with their mothers, occasionally with siblings and never or seldom on their own. To get to the centre most are driven by car, although four children surveyed said they walked to the centre and two children rode their scooter or bike. The main purpose for going to the centre is either general or food shopping. The next most popular activities in order were to meet friends or family, eat in the food terrace and then play in the play spaces. Playing at the centre seems to be most common on Tuesday, Monday and then Thursday, which seems to follow the food shopping trends. The places that children report as their favourite places to visit in the Town centre are: Backyard Playground (37%); Food Terrace to eat (32%); Cinema (32%) and Shops (32%). Children were familiar with all the key play spaces in the centre, including: water fountain, backyard playground, musical play space, community vegetable garden and the secret garden. Generally out of these the Backyard is used the most, then the secret garden, musical play space and water fountain all similar in popularity with the community vegetable garden not a popular play destination. The popular play spaces are only frequented on average once a week (a little less than once a week for the secret garden) and time spent at the play space is usually very short, often 10 minutes or less; slightly longer for the Backyard Playground.

4.1.2 Safety and supervision

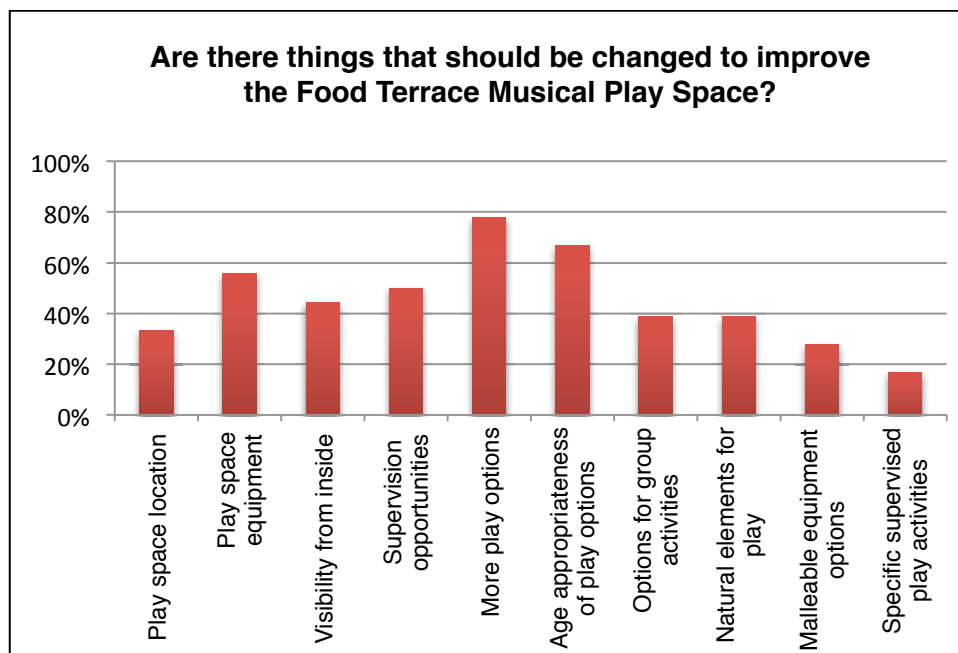
Parent supervision is generally needed for a child to play at any of the play spaces at the centre, especially it seems, at the musical play space where hazards are viewed as higher than the Backyard playground or the village water fountain. Generally children are not allowed to go or be in the centre unsupervised by an adult. Generally children feel fairly safe or very safe in the centre, no child said they felt unsafe. Children seemed equally sometimes concerned and never concerned about strangers, getting lost, getting injured or being bullied. Comments from the children stated: “I’m old enough to worry for my sister” and “my brother looks after me”.

4.1.3 Child friendly centre

Based on the children’s survey results, the number one priority for a quality experience at the centre was that it would be safe and clean. Only one child did not identify these two as their two most important priorities. The next important factor was how environmentally friendly the space was then came the variety of play spaces and the next being that the centre was close to their home. Asked what were the main issues that didn't make the centre a good place for children, children didn't reveal a lot of real issues but clearly not having a range of play spaces for different age groups and limited play spaces or places to socialise were of greatest concern: “there is very limited activities for primary school kids. They are bored with the water fountain and musical area”. So what would make it more child-friendly? Clearly better equipped play spaces, more variety, more child focused security and more parent-child shared spaces were the significant ways to improve the centre. One comment states: “Cleaner places. Places where I can see mum easier and I can play”.

4.1.4 Improving the musical play space

The key areas to improve specifically at the musical play space included having more play options, more age appropriate play options, different play equipment to what is there, supervision should be easier so parents can watch children play, and finally more visibility from inside the Food Terrace. Having opportunities for collaborative play, natural play elements and more malleable loose materials to create their own play was identified also by a significant number of the children. Overwhelmingly, children surveyed would prefer the musical play spaces to be both indoors and outdoors.



Graph 4.1: Children's online survey (n=46)

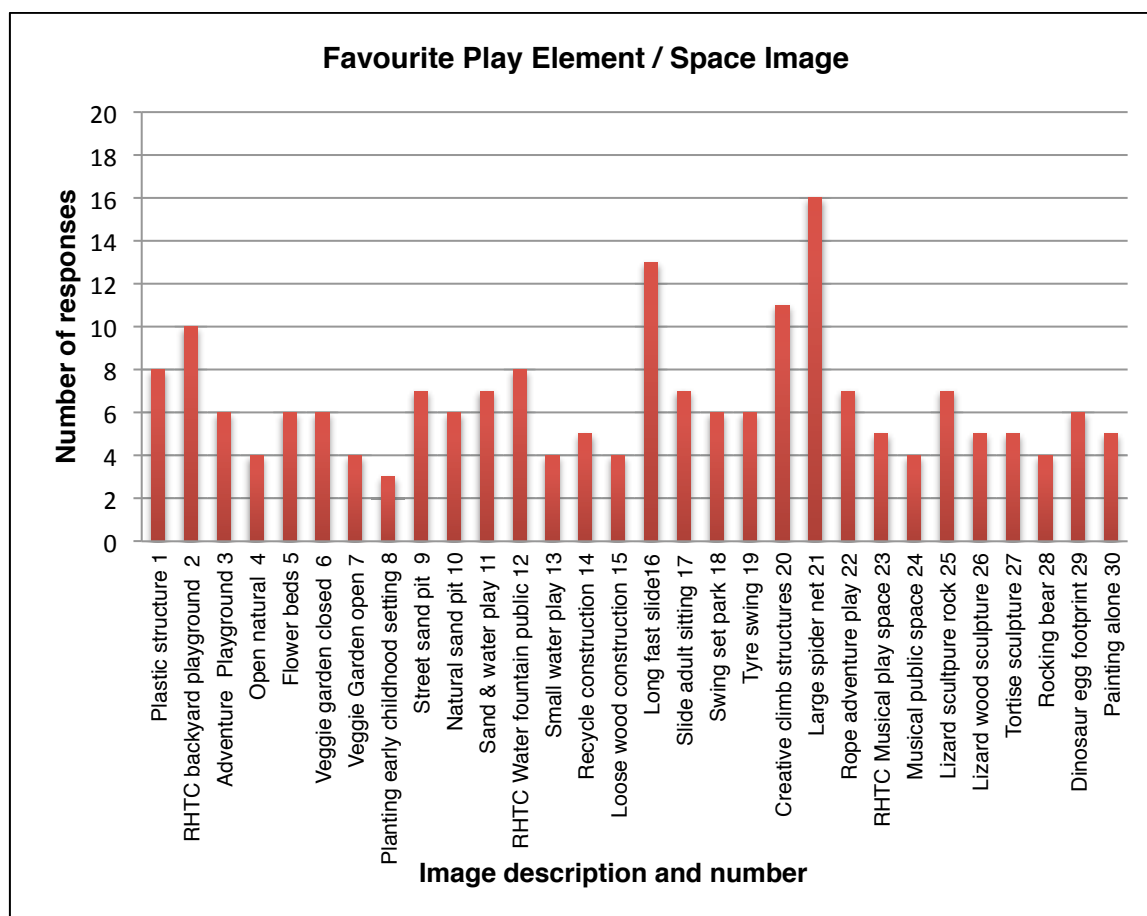
Are there things that should be changed to improve the Food Terrace Musical Play Space?

4.2 Children Research Workshops

This section of the results reports on the qualitative data that came from the research workshops held with the early childhood and middle childhood children. Children were involved in drawing their favourite play space and their dream play space, analysing and evaluating photographs of play spaces and play elements, choosing their favourite play spaces, taking cameras into their neighbourhoods and homes and photographing play spaces they did and didn't like and participating in individual interviews and open ended focus groups drawing on all the data provided. As there is a significant amount of visual data a supporting report (volume 2) has been developed that shows each of the children's individual drawings and photographs and their interview data. The codes that accompany any data contained in the report correspond to these individual data sets.

The children during the workshop worked with a series of photographs or images of play spaces and play elements from playgrounds all around the world. This images represented a cross section of structured plastic and metal playgrounds, natural play spaces, adventure playgrounds, open ended loose materials, creative sculptural elements, public and private play spaces and included the three main play spaces at Rouse Hill, the backyard playground, water fountain in the town centre and the musical play space that is to be refurbished. During the workshops children were asked to select their favourite play image. These responses were then calculated and contributed also to the overall views and ideas of

the children. A copy of the set of research play spaces images are included in the Volume 2 report, the graph below (Graph 4.2) is a overall plotting of the children's favourite images with a short descriptor. Some children chose more then one photograph so the response rate is higher then the population of children. Some of the images are also included where they were significant in the workshop data results.



Graph 4.2: Children's research workshops - favourite play element, space image (n=195)

The outcome of this activity provided the first entry points into our data analysis. The three standout elements for children were the large spider net, climbing long fast slide, and the creative climbing structure which incidentally have been stand-outs in other projects (Malone 2013). But these elements are for large outdoor play spaces, so the next top five images that were relevant for smaller play spaces came out as the small modular plastic playground, the water and sand playground, the child constructed climbing ropes, the integrated slide and seating play space from an early childhood setting, and the two creative natural sculptures – lizard on a rock and the dinosaur eggs and footprints. After collating this and all the workshop data and then engaging with and interrogating its content, the team were able to

identify a set of six key themes that represented how children were expressing their ideas about what makes a play space child friendly. These six themes included: first, the importance of doing activities where they were active, either climbing, swinging, sliding, or jumping; second, it was significant that many children included strong elements of nature and natural encounters as part of their play drawings and photographs – this also included using materials such as sand, clay and water; third, like their parents and the children on the survey, children expressed an important desire to always feel safe and secure; fourth, another important factor for children was the variety of different play options that would be available, including having a changing playscape that provided surprise, and was changing and evolving; fifth was the request for malleable play options and opportunities to construct and be creative; and finally, the appeal to ensure that the play space would be versatile enough that children of different ages and abilities (including friends, younger and older siblings) could be included in the play as well as their other family members, like their parents.

These six themes then became the central components of a framework for constructing a child designed child friendly play space. To illustrate these components in more detail the report will now look at each theme in more detail and include illustrative data from the children. This is also complemented by the child friendly play space children's report where the six components of a child friendly space are used to report back to the children their research findings. Through the research workshops the children of Rouse Hill and surrounding suburbs have told us a child friendly play space is a place where they can climb, slide and go fast; encounter nature; feel safe and good; experience different play; imagine and create and include family and friends in their play experiences.

4.2.1 I climb, slide and go fast

Climbing, sliding, going fast, fun and excitement are important activities and experiences that the children involved in the research talked about often throughout interviews about their drawings and discussions of favourite play spaces and play elements. When asked to choose their most favourite play space/element of all the images shown, many children reported that a climbing structure was their favourite play element on the image because it would be exciting and fun.



Photograph 4.1: Ethan, male. Age 6

“I like the climbing wall because its tall and very scary and you are not allowed any gear – have to be tough” – Ethan, male, age, 6, 042. (Photograph 4.1)



Photograph 4.2: Casey, female, age 6



Photograph 4.3: Image 21 Playspaces research set

“I like swing mummy pushes me real high and I get that funny tummy – you know how that feels, I had to stop because I felt a little scared”- Casey, female, age 6, 044. (Photograph 4.2)

“This is my favourite because it’s big. You can climb on it. You can climb to the top and get a nice view and you can slide down. I feel really happy playing here”. Kavvya, female, age 9, 068. (Photograph 4.3: Image 21)



Drawing 4.4: My Dream Play Space, Julia, female, age 8



Drawing 4.5: My Dream Play Space Roland, male, age 7

“This is a drawing of my dream play space. I would feel really good playing here. I think it would be a really really good play space and kids would love to play here because it is so big and fun to play in. It has a huge slide. Picnic space with grass. Climbing frame – slide and climbing. A ladder up to the slide” Julia, female, age 8, 066. (Drawing 4.4)

Julia’s favourite photograph was the same image as Kavvya – the large spider net and slide (Photograph 4.3: Image 21).

“My drawing of my neighbourhood park shows a climbing rope, spinning seat rocking seat, flying fox, monkey bars. I like the flying fox most because it goes really fast and then bounces back again” – Roland, male, age 7, 077.

“Slide doesn't look fast enough- steeper and faster so I can go fast.” Flynn, male, age 5, 052.

“I like lots of ropes to climb, I like ropes” – Matthew, male, age 5, 003.

“You can climb, on it. You climb, climb, climb, and it makes your heart beat” Andie, female, age 5, 009.

“Its really fun and fast” Angelina, female, age 8, 061.

“Playground at McDonalds, nothing special about the playground. Boring not much to do. You just sit and stare at it” Nathan, male, 8 years, 075.

4.2.2 I encounter nature

When asked to select the aspects they believe would improve the Musical Play Space, nearly half of the children surveyed said they would like to have natural play elements such as sand, water and plants included in the redesign of the Food Terrace Play Space. Natural elements and animals (e.g. flowers, grass, trees, the sun, ducks) were often included in children’s drawings of their dream play space and the very young children especially chose photographs where natural elements were clearly abundant:

“I like a play space when it has colourful flowers” Giselle, female, age, 5 007.

“I like it because it has sand like the beach” Matilda, female, age 5, 008.



Drawing 4.6: My Dream Play Space, Arnnav, male, age 5



Drawing 4.7: My Dream Play Space Caitlyn, female, age 6

“My dream play space would have fire, clouds, a spider, a squirrel, a bat, a fountain where you can drink, a castle, you can run around it. I like it because it has got forts” Arnav, male, age 5, 010. (Drawing 4.6)

“This is me in my neighbourhood. Climbing stuff, playing where there is nice grass, a purple horse, my sister, a toy. I like to play in nature, animals to play with and the sun”. Caitlyn, female, age 6, 043. (Drawing 4.7)

“My dream play space would have wind, water and waves and big rocks” Madison, female, age 5 033.

“My dream play space would have a slide, swings, a bunny, flowers and grass” Alisha, female, age 5, 004.



Photograph 4.8: Hope, Female, age 6



Drawing 4.9: My Neighbourhood Play Space, Tavleen, female, age 8

“Its a nice climbing tree, I am here with my dog, I like climbing the tree its fun and I can go really high up. I like the duck pond as well” Hope, female, age 6, 046. (Photograph 4.8)

“My neighbourhood drawing shows the park it has lots more – I go everyday. It is a big park and it is in front of my house. Everyday I feed the ducks food. There is a big hill and a park at the top. Tavleen, female, age 8, 060. (Drawing 4.9)

“My dream play space would have a house, flowers, grass” – Julia, female, age 5, 001.

“I like the grass. I went up real close. It’s really good to run on. When kids fall over its not very hard” and “This (photograph) has grass – really green kids can play beside the trees, safe away from the cars. I like trees”. Casey, female, age 6, 044.

4.2.3 I feel good and safe

Being safe and getting injured while playing in play spaces was raised often by children when they were talking about the photos they had taken of good and not-so-good play spaces.



Drawing 4.10: My Dream Play Space, Ethan, male, age 5



Photograph 4.11: Julia, Female, age 8

“My dream play space would be a place I feel good. It would have swings, a crocodile slide and the mouth opens and closes when a person goes down the slide. A turtle that pops out of an egg” Ethan, male, age 5, 011. (Drawing 4.10)

“Too bumpy and tricky, Little kids can fall and hurt them. Its just too bumpy” Julia, female, age 8, 066. (Photograph 4.11)

“It's a good place because if you fall it can't hurt you because there's sand. Kids like to swing in it and like to go fast on it” Laine, female, age 6, 051



Photograph 4.12: Lara, female, age 6



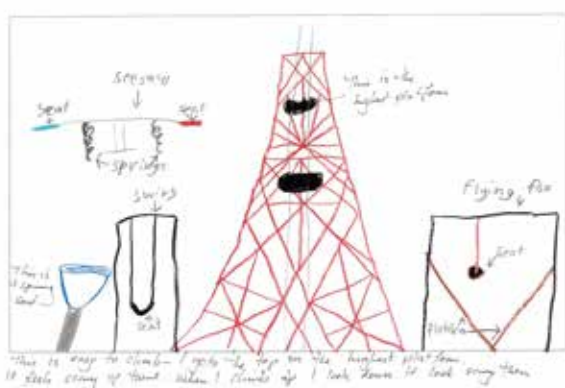
Photograph 4.13: Mary, female, age 9

"I like hanging on and I can go fast it doesn't matter if I fall off because its soft underneath"
Lara, female, age 6, 053. (Photograph 4.12)

"Hard surface. Its not a good play space" Mary, female, age 9, 072 (Photograph 4.13)

"When you fall down you can hurt yourself. You need to put something around" Roland,
Male, 7 years, 077.

"Because if your mum and dad are pushing you on it you could fall back. I fell back off it one
day and hurt my back. Because if mum and dad are not watching you, you could fall over"
Addison, female, age 6, 037.



Drawing & Photograph 4.14: My Neighbourhood Play Spaces, Tudhjot, male, age 9

"My drawing is of the climbing frame. It is easy to climb. I go to the highest platform. It feels scary up there. When I climb up I look down. It looks scary then. I took a photograph with me up there as well. This is good for children of all ages and its fun to climb" Tudhjot, male, age 9, 078 (Drawing & Photograph 4.14)

4.2.4 I experience different play

Children spoke often of the importance of having a variety of play options and access to lots of different types of equipment. Having different play experiences also includes thinking about the types of play opportunities that a play setting might offer through imaginary play and construction which is also discussed as another one of the key points.

"There are lots of secret spaces, underneath there is a door and a gate to a hiding place"
Lara, female, age 6, 053.

"My dream play space has a rollercoaster, a big slide, stairs for the big slide, race track, obstacle course. Boys are trying to hit the cubby house. A moon to sit on. It's at the top before you go down the slide. I feel good playing here". Lachlan, male, 5, 050.

“My favourite play space is photo number 22 because it has so much cool stuff”. Rocco, male, age 6.5, 056.



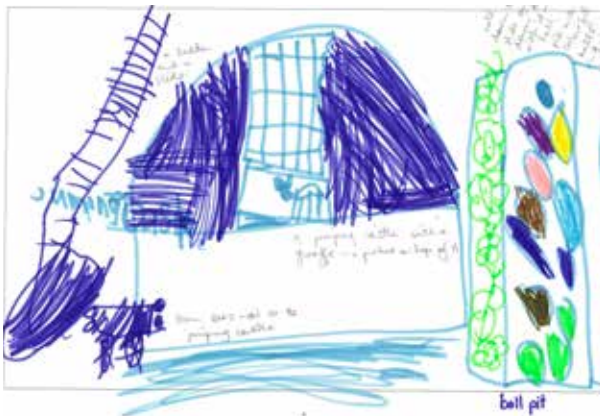
Photograph 4.15: Image 3 Playspaces research set



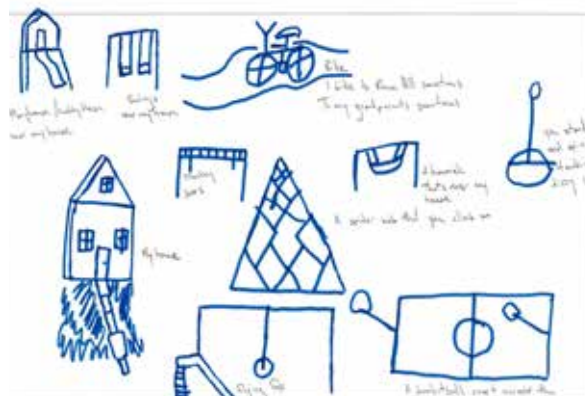
Photograph 4.16: Millie, female, age 8

“I like how it is like a big ship and it has really good climbing things and things to balance on and climb. Tunnels to climb through.” Hope, female, age 6, 046. (Photograph 4.15)

“This climbing thing is up the road from my house. It looks like fun, but its not, it’s so boring” Millie, female, age 8, 074. (Photograph 4.16)



Drawing 4.17: My Dream Play Space, Addison, female, age 6



Drawing 4.18: My Dream Play Space, Kyle, male, age 9

“My dream play space has some cars next to the jumping castle, a ball pit, a jumping castle with a giraffe (a picture of one on top of it), a ladder and a slide. Roll balls down the little slide and go down the slide with it – it’s fun, a ball pit with colourful balls – I sit in it and chuck balls around”. Addison, female, age 6, 037. (Drawing 4.17)

“In my drawing there is a playhouse, cubby, swings, monkey bars, flying fox, hammock, a thing you stand on and it makes you dizzy, a basket ball court and my bike. I bike to

Rousehill sometimes and my grandparents house. I took photographs of all these things. I like it when there are lots of things to do" Kyle, male, age 9, 070. (Drawing 4.18)

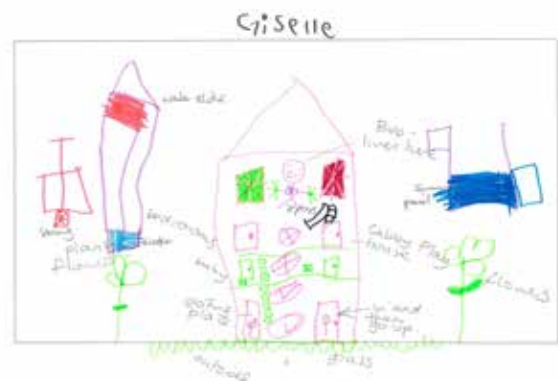
4.2.5 I imagine and create

Malleable play options were highlighted by children as a desirable improvement to any play space, providing opportunities to be creative and construct either using materials or through the creative use of sculptures and other elements in the space meant they could extend and create their own play rather than being on structured equipment which often scripted out possibilities.

“My dream space would have a sand pit, I like to use water in the sand pit and I make sand castles” Natalie, female, age 5, 014.



Photograph 4.19: Rocco, male, age 6



Drawing 4.20: My Dream Play Space,
Giselle, female, age 5.

“You can play any sorts of games, we can go on the swings, it's a good place to pretend. We play in teams and pretend there is a fire, we pack our bags and camp inside the cubby house. Signs are good. We block the windows when we don't want to stop playing” Rocco, male, age 6, 056. (Photograph 4.19)

“My dream play space would have a cubby play house with an eating place, baby bedrooms, door to go in and then up, water slide, swings, flowers, grass” Giselle, female, age 5, 007. (Drawing 4.20)



Drawing and Photograph 4.21: My Dream Play Space, Mikaela, female age 5, Image 9
Playspaces research set

“My favourite image was the street sand pit. I like this because you can make stuff. You can bring your own play stuff. My drawing of a dream play space has steps to get up from the sand pit” Jessica, female, age 5, 048. (Drawing and Photograph 4.21)



Drawing & Photograph 4.22: My Dream Play Space, Mikaela, female age 5, Image 29
Playspaces research set

“My favourite image was the picture with the dinosaur eggs. I like the footprints, the slide and boulders . I drew this as my dream play space” Mikaela, female, age 5, 054. (Drawing & Photograph 4.22)

“The park close to Dad’s church. Its really fun. There are a few things that people like. A thing you can talk through and a giant fake ant. And you can sit on it and pretend anything you like “ Arthur, Male, 7 years, 081.

“Sometimes I climb on it and also my brother pretends that he is killing the frog” Kaavya female, age 9, 068.

4.2.6 I include family and friends

Many children said they would like their parent or carer to be able to see them at all times when playing. Children’s desires included opportunities for group activities with many saying that they would like to have more play activities with their older and younger siblings, other children and adults. Creating space that was inclusive also mean considering children who had a range of abilities. One of our young Grade 1 children wore leg braces and went into great length to explain how small things like the gap between the wood on a bridge could be the difference between her being able to play or not.

“Kinda helps because Noah, (my little brother) can go with me, and then there is a slide, when we are done I can go on the spider web climbing then. And we have a really fun time with Noah, I like playgrounds where I can play with my Noah” - Casey, female, age 6, 044.

“Kids can play in we can play with mums and dads” - Jessica, female, age 5, 048.

“Because there is a slide and kids can slide down. My mum can go to subway and watch me through the window”. Addison, female, age 6 037.



Photograph 4.23: Image 29 Playspaces research set



Drawing 4.24: My Dream Play Space, Lachlan, Male, age 6

“I liked this photograph of a play space the most. I like the slippery dip. I like the place for sitting in it. You can slide with your brother, mother sister or mum” – Madison, female, age 5, 033. (Photograph 4.23)

“My dream play space has swings, monkey bars and slides there are lots kids playing” Lachlan, male, age 6, 049. (Drawing 4.24)



Drawing 4. : My Dream Play Space, Georgina, Female, age 6



Photograph 4.26: Casey, female, age 6

“My dream play space has lots of colourful slides you can go down three times or at the same time with lots of your friends” Georgina, female, age 6, 045. (Drawing 4.25)

“I like this one because the steps are close together so I can climb and Noah can climb. I can only go slow because I have the braces on my legs. I cant climb on play equipment at school only if a teacher is there. Sometimes I walk stiff and I need to hold on to things” Casey, female, age 6, 044. (Photograph 4.26)

“This is a photograph I took at the local park. I like it because little kids can go on it also adults. You can race and climb. In the middle are the triangles I sit in them” Harry, male, age 9, 065.

“I took this photograph of this because you can spin on it yourself and you can spin you sister, brother and friend” Laura, female, age 8, 071.

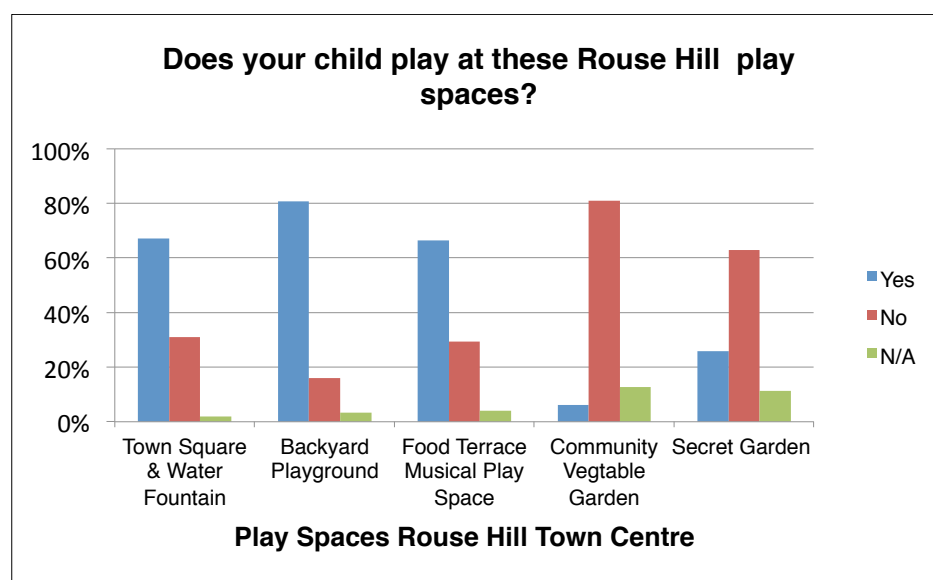
4.3 Community Survey Results

4.3.1 Demographics

The online community survey was completed by 563 respondents with 91% of participants being female. The survey was completed by a range of age groups, 7.1 % were 18 to 24 years, 37.2% were 25 to 34 years, 50.9% were 35 to 54 years and 4.8% were 55 years and older. Of 551 respondents 85% were a parent or carer of a child or children under the age 14 years. The remaining respondents were parents or carers of a child or children over the age of 14, community members with no children or RHTC retailers. The majority of respondents (61% or 343 participants) lived 0-5 kilometres from the Rouse Hill Town Centre and 96% normally travelled to the centre by car. 51% have been visiting the Town Centre for 5+ years and 42% have been visiting for 2 to 5 years.

4.3.2 Children's access to play spaces in the centre.

Parents or carers reported that their child's or children's most favourite places in the Town Centre, included: Backyard Playground (55%); Town Square & Water Fountain (33%); Shops (32%) and Food Terrace – to eat (23%). Graph 4.3 illustrates that the play spaces where children play the most are the backyard playground, the water fountain and the musical play space.



Graph 4.3 Community Online Survey (n=563)
Does your child play in these play spaces?

The majority of participants said that their child or children play in the Backyard Playground the most and that it is typically visited 1-2 times per week (79%) for 20 minutes to 1 hour. The Town Square & Water Fountain is commonly visited once per week (70%) for 10 to 30 minutes. Of the 329 respondents, 66% of parents / carers reported that their child or children play in the Food Terrace Musical Play Space. However, it is important to note that only 17% of respondents selected the Food Terrace Musical Play Space as a favourite place that children visit in the centre and it is commonly accessed once per week for 10 to 30 minutes. Results also show that only 77 participants indicated that their child or children visit the Secret Garden.

The following are some general comments from survey respondents on the area of access and use of the existing play space facilities.

“My grandkids love the fountain weather & time permitting we take them there. They never want to leave there. Also my eldest likes the backyard playground but I don't like it find it awkward so we don't go there often. We like the play areas in the baby change room as they're safe & there aren't big kids knocking the little ones over.”

“I love the shared fountain space and that kids are able to play in the water and climb all over the seating and water area. It isn't a dedicated space and it is in an area that requires high levels of supervision which tends to make the space fun for everyone. I'm sad that the community garden is now untended/locked and that the herbs are gone from the Toy Shop play area. That connection to food was important, especially given the rate at which the rural areas are disappearing from the region.”

“Sadly I don't feel the community is safe to allow children to play unsupervised these days. We don't play every visit, perhaps once every 2-3 weeks.”

“We don't actually visit all play spaces weekly. I would say we only visit once every 2nd week and only one play space. Have never been too the secret garden, although know its there and dont really see the community garden as having a purpose beyond marketing.”

“The backyard is often destroyed by other kids and I would never leave my kids unsupervised in their due to their ages and because other kids are left unsupervised in there making it unsafe for my kids.”

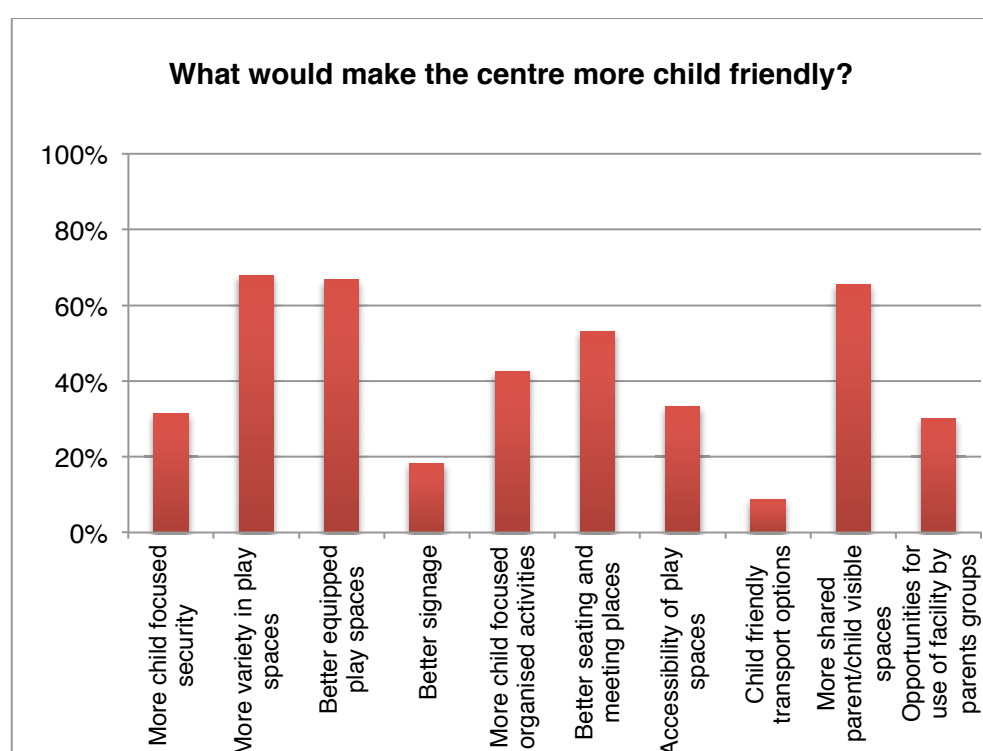
“Water Fountain - more a quick play, touch of the water on passing. I wouldn't leave my young kids without supervision at any play area or public space.”

“The water fountain area is great for the kids but the raised fountain scares me that the kids could fall off the ledge. And the area is right on the main road so you can't take your eyes off the kids. Backyard Playground - is terrible and I won't take my kids there. It needs a flat floor for the kids to run around and it needs to be kept clean.”

“Actually they play there less than once a month.”

4.3.3 Child-friendliness of the centre.

Parents and carers were asked a series of questions about the child-friendliness of the Rouse Hill Town Centre. When asked to rate their level of concern related to their child or children's safety when playing in centre play spaces, the majority of respondents reported wandering off (45%) and strangers (36%) as the main concerns. Safety (95%) and cleanliness (95%) were also qualities of the Town Centre that parents / carers indicated as highly important for children. These findings are particularly pertinent to the Food Terrace Musical Play Space, as the safety of this play space was often highlighted by parents/ carers in the qualitative responses as a major issue. A considerable number of participants (69%) also reported that the variety of play spaces available in the centre was a critical child friendly quality (see Graph 4.4). Further, the majority of parents / carers reported that the range of facilities for different age groups and limited play spaces were two significant issues in the centre. The following changes were reported by the majority of respondents as qualities that would make the Town Centre more child-friendly: more variety in play spaces; better equipped play spaces; more shared parent/ child visible spaces and more child focused organised activities.



Graph 4.4: Community online survey (n=563)
What would make the centre more child friendly?

The following comments were provided by community members about things that would improve the child friendliness of the centre and the play spaces. The comments clearly focus

on these same areas as the survey alluded to: safety and security, having a variety of age appropriate play spaces, accessibility for children for different needs and supporting children to have fun with their families:

“Good bathroom facilities for children.”

“The backyard playground is dangerous for small children, it is really not child friendly, most kids under age 4 have difficulty on the apparatus.”

“Need a space that is fenced off and not near the roads/cars for kids to play where it has the cafés around it for parents to relax but still watch and know they are safe.”

“Gated play areas close to sitting parents or parents able to view play area from their seating position. An area for 6-10 yrs kids would be great!”

“GATED. Can I say it again. Gated play areas for young children allows parents to feel more secure in allowing their children to play. Clean, as in internal surfaces of play structures washed down daily, checked for glass etc by staff regularly.”

“Having spaces so different age groups can play safely. The backyard often has 'big' kids playing with toddlers and accidents do happen or the little ones get scared.”

“Different age groups. For instance the playground near Oliver Brown is great in that it is enclosed but not that great for young kids as they can fall trying to climb up the slide as there isn't any steps just a hill.”

“I prefer fenced or enclosed play areas so small children can not wander off. The centre is very busy so I think this is very important.”

“Find that plenty older play area more suitable over 6, not Under. Think need more variety all ages specifically for teen and under 6 (18 months to 4 years old).”

“Accessible play space for all abilities.”

“Fenced area and accessible for children with disabilities please!!!”

“Also disability access for grandparents and/or disabled children.”

“Think if there is fun place for children in which parents believe is safe and clean will help visits to the shops more enjoyable for the whole family.”

“Need kid friendly seating for families with prams and small children and for people in wheelchairs.”

“More closed in areas with somewhere an adult can sit & watch.”

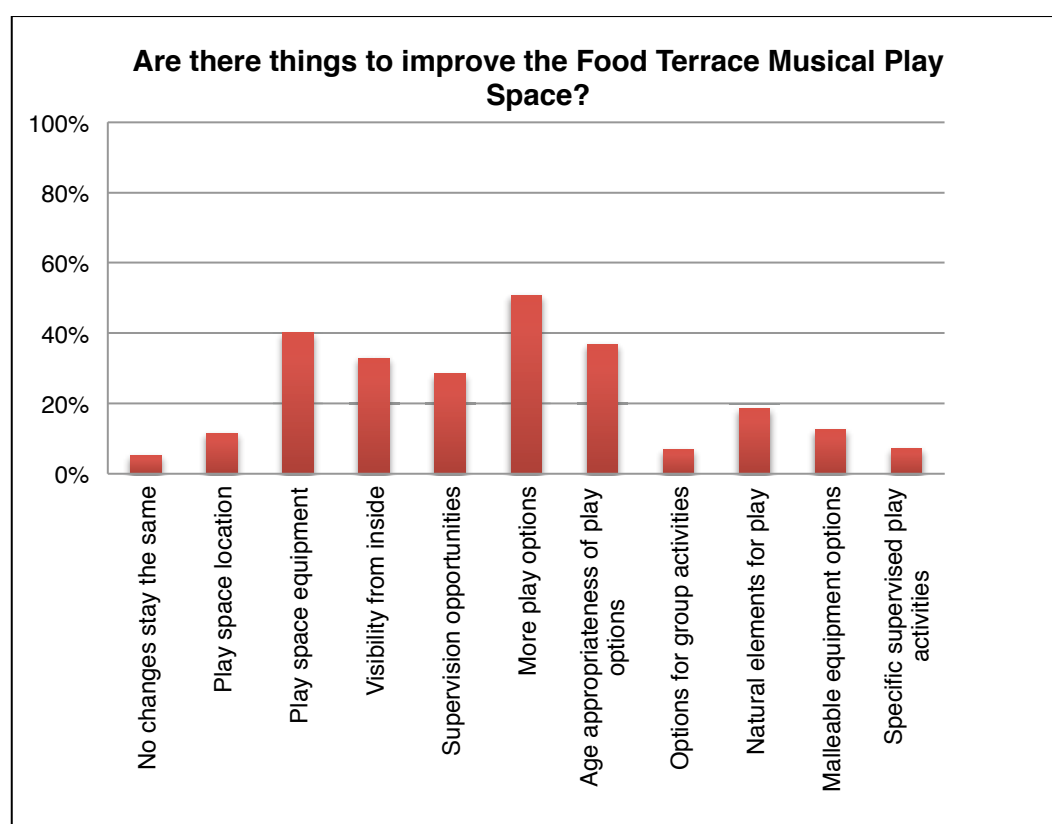
“We would like to see healthy food eating places for families.”

“As a childcare worker in the local area - children need spaces where they can just play - not be educated. Playing is stimulation and education enough for a child's brain - they don't need to be educated at the same time.”

4.3.4 Improving the “Food Terrace Musical Play Space”

Respondents were also asked to indicate their use of the Musical Play Space in conjunction with Food Terrace visits and the principal things that would improve this play space. Firstly, less than half (n = 167) of the participants who use the Food Terrace facilities do so to access the Musical Play Space. The majority use the Food Terrace to eat or meet and socialise with others.

When community members were asked the question ‘Are there things that should be changed to improve the Food Terrace Musical Play Space?’ the responses around the play options, play equipment and issues of visibility for supervision came up as the most significant areas in need of improving (see Graph 4.5). These outcomes also line up with the general view of what makes a centre child friendly. The survey responses and the comments fell into two principal aspects: improvements for safety and better equipment and options for play. Below are the specific survey results and comments from survey participants compiled around these two key areas.



Graph 4.5: Community Online Survey (n=563)
Are there things to improve Food Terrace Musical Play Space?

Improvements for safety

33% of the respondents said they would like visibility to the outdoor play space to monitor children from inside the Food Terrace area and 28% added that supervision opportunities were important to ensure their children's safety. Community participants provided a number of supporting comments around the issues of safety and security; these are just a small selection:

"Parents should be able to see and speak to their kids when they are in the playground at all times. Kids can disappear down the stairs and the parents would never know. Maybe close off the area so the stairs are not accessible. Also moving chairs away from the garden so kids can't climb up there."

"I would enclose the area, as it is close to stairs and little kids run away quickly. Parents can relax a bit if it is enclosed. You could even split the area into 2 for different age brackets?? Or have someone supervise the area in peak times. Currently there is always bigger kids there climbing all over the tops of the poles in the play area and jumping down and several times almost landed on my 1 year old."

"Enclose the area. The little ones love [to] run away very quick and there are next to this area some stairs that I'm afraid of."

"No smoking, better security children – can disappear down the stairs to the road. The equipment is noisy & children climb on the wooden poles which isn't really safe."

"I didn't even know there was a musical play space outside the food court. I typically don't use the food court but on the rare occasion that I have I've seen smokers outside near the play space and therefore would never take my kids out there due to passive smoking problems."

"The musical play area outside the food court has stairs that go straight down to the road. It is difficult for me to let my toddler play there as he is adventurous and I'm worried what could happen especially when I can be busy with the baby."

Better equipment and play options

40% of participants responded that the play space needed more play space equipment, 51% identified the need for more play options, 37% questioned the appropriateness of play options and 31% would like more malleable and natural elements in play spaces. The community provided the following comments elaborating on the focus of providing a diversity of play options:

"The musical play space could be used utilised better. Making the whole outdoor area a play space. There is so much you can do in that area."

"The musical play space is very limited and to be honest the banging of the notes by the kids is very irritating when you are trying to eat with your family or converse."

"Better equipment for a range of ages."

"It would be good if it had more play options for age groups so I could keep both my kids entertained there after eating lunch."

"The musical play space isn't really autism friendly as many children have sensory processing problems & the noise is too much."

"Get rid of the stomping music notes!!! its meant to be a friendly place for kids to play and parents to sit and have a coffee! not a head ache."

"If they could enclose the play area & add more equipment with tables inside so parents can sit and eat while kids are playing."

"Play space suitable for toddlers in particular a playground designed for 0-4 years without worrying that an older child is going to hurt them (intentional or not)."

"I believe it would get more use if it was indoors flowing into the food terrace. Also if there were more play activities & it was bigger. I've noticed there's a club @ Wentworthville Leagues Club that has an amazing play area indoors for kids. I believe it'd be good for the kids & the parents so they could play comfortably & parents supervise comfortably. There's other outdoor activities available at RHTC do I think this on indoors would be better."

"Prefer it not to be a musical play space. The noise isn't appropriate near a noisy eating area. It would be better in another space. Some indoor soft play indoors as well as a more challenging older children's outdoor space perhaps."

"This play space is a waste of space. It could be a lot better designed. More play equipment, softer grounding for kids, shaded areas would go a long way to improving same."

"Music play space is really limited with everything. My children not interested to stay there longer than 3-5min. More play areas would be great."

"I think that you need to work with someone who knows what is suitable for all types of children such as *Touched by Olivia* as they create inclusive play spaces for children with disabilities etc and so many more children now have autism or other conditions."

"More play options for babies not yet walking but love to touch and play would be great."

"The outdoor garden is great but when it rains it's a shame it can't be used. As a parent when it is raining you struggle to find fun things for the kids to do after being stuck inside sometimes for days. So an outing to RHTC to play is sometimes a great option, however gets so wet and slippery there."

"Nice for the play area to be outside I'm the fresh air and not inside with all the over crowdedness, noise and smells."

5. Key Design Recommendations and Conclusion

The recommendations for the play space designer have been developed by analysing the research data provided by both the children in the child specific workshops and survey, and data emanating from the community survey (represented predominantly by parents of young children). This data has then been analysed in light of current literature in children's play, generally free play in play spaces, and the challenges of play spaces in commercial precincts. Four key themes have evolved through this analysis and have become the basis for the recommendations; these include: the importance of creating a supportive, safe and secure play space; the significance of designing a play space that is inclusive of all children and their families; ensuring there is provision for a variety of play options reflected in the range of equipment and elements in the play environment; and the imperative to encourage exploratory and natural free play through the use of malleable materials and imaginative play elements.

5.1. Create a supportive, safe and secure play space

'A child friendly play space is one where I feel good and safe' was one of the themes for the children's report and the children's data. Throughout the discussions with children and with the adults the issues of safety and security were paramount concerns regarding the centre and the play space generally. While the majority believed the centre was safe, there was still hesitation by parents to allow even older children to play unsupervised anywhere in the centre. The Food Terrace where the new play space will be located can be a hectic and noisy place and parents were very concerned about the importance of being able to supervise children during their play. Due to the way the play space is currently designed as being outside and not gated or secure from the road, parents were unwilling to let children play there unless they were supervising closely. Recommendations from parents were clear – the space needed to be gated; it needed to be designed as indoor and outdoor play space to take advantage of opportunities for children to play while parents were using the Food Terrace facilities; and in the outdoor area it needed to be clean, free from cigarette smoking and the elements. Children also supported this sentiment by also wanting the space to be indoor and outdoor, and to be designed to ensure parents could be easily integrated into the space so they were well supervised. For children, feeling good and safe meant having surfaces that meant you didn't get hurt and allowed younger siblings to play along and also be safe. Both these elements, the ground surface and being secure from possible hazards and risk are key areas in the literature that are important to consider in public play spaces.

5.2. Design an inclusive play space for children and families

According to the children's data, 'a child friendly play space includes family and friends'. In the study children identified inclusive play options as critical to a well designed dream play space. When looking through the photographs of different play spaces with children in preparation for their dream designs, children often noted the elements of play spaces that supported children to play cooperatively with others, 'you can slide with your brother, mother, sister'. Many children commented on one particular photograph¹ of a slide with a seat designed into it where an adult sat, saying they liked that their parent could be playing/sitting in the space with them. Parents also commented frequently that a play space where they could be incorporated into the play space would be useful and that these spaces in the play environment could include areas where a young toddler or crawling baby could play. Having a play space that was multi-age and considered the needs of children with disabilities was valued by many in the study. This was especially so for one child, Casey, who told us about her desire to play with her younger brother while also overcoming some of the challenges of having braces on her legs. She was able to articulate design elements clearly through her photographs, such as the gap between steps of one bridge, that allowed her and her younger brother to walk across and swings and slides with little monkey bars and steps so her brother Noah could climb up and go with her down the slides. Comments from carers and parents also identified the need to ensure the play space was built to support a variety of children's needs and with this in mind to consider that wheelchair access for children also meant access for prams and grandparents who might be on walking frames or other support equipment. Research supports these community recommendations by illustrating that firstly all children should feel physically and socially included in play spaces, that changes in caring roles means many grandparents are now involved in caring young children, and finally that the social element for parents is just as important for parents as it is for children at play spaces.

5.3. Provide a variety of play options in the play space

It was unanimous across all the participants, old and young that having variety of play options should be a priority for the play space. This also supports the earlier recommendation of inclusivity in play opportunities. Children told us, and took photographs of a range of play environments where they could do a number of different types of play

¹ See Report Volume 2 Children's research workshops data - Attachment 1: Photograph reference image number 17

activities. So building on the literature, these valued experiences provided opportunities to participate in the three key categories of play: physical and motor skill development, social engagement and interaction and exploration and discovery. The children's report included two themes that would fit into this recommendation: 'I climb, slide and go fast' reflected in the many dream drawings and photographs of children using slides, spider nets, climbing walls, swings, and flying foxes; and second the theme, 'I experience different play' that was revealed when children identified the importance of play spaces being able to incorporate a variety of play options, quiet spaces and physical spaces, natural and creative elements integrated with options across a diversity of age groups. Casey, aged 5, for example who included a photograph of a swing set near her home that has a swing for toddlers next to a swing for older children stated "This photograph is of a baby swing, I like that Noah my brother can sit with me, Noah is three". These child sentiments were supported by the adults when they were asked to identify priorities for improving the musical play space, they chose more variety in play options, more age appropriate play options and different play equipment. A whole raft of comments was provided by parents focusing on the importance of better and more diverse equipment and elements at the play space.

5.4. Encourage exploratory and natural free play in the play space

An important element of play is the opportunity to explore, discover, use your imagination and create your own play opportunities. These two themes were evident throughout the children's data, that is in a child friendly play space 'I encounter nature' and 'I imagine and create'. This recommendation is advocating for the value and critical importance of *free play*. This is especially true for all children but particularly for the early and middle childhood aged children who are utilising play spaces as important environments for forming their ideas about how to engage with the world. Structured play equipment with very linear play options are important as stated earlier for children's physical and motor skills development but can easily become boring and pedestrian to a child who is visiting a play space often. To encourage children's return use of play spaces it needs to be exciting, an element of the unknown, evolving and changing, providing elements within it that they can co-construct with others or there are built in aspects of the play space that can be manipulated allowing for different uses. Examples of this from the children included small enclosed areas that could become cubbies or imaginary spaces, water and sand elements where they can 'make stuff' and 'bring stuff to play in it' – these malleable or changing elements that might be interspersed within the play space, create anticipation and excitement and draw children to the space week in, week out. Many parents made comments that their children were bored

at the play space and not interested to stay there longer than 3-5 minutes: “your child gets bored”, “not interesting for children”. This is consistent with the need to design a more engaging and interesting space that will provoke the children’s curiosity and attract their attentiveness. While most adults were less inclined to discuss the idea of loose natural and malleable materials (although nearly 20% did say natural elements would improve the space), one parent did suggest: “have craft activities, every week have a new activity”, another said “some soft play and imaginative play areas” and another “It would be great if the playground changed with the seasons it interesting and different each time we came”. Many parents valued the idea that the space is outdoors and wanted the designers to consider how to incorporate shade, light, sun and nature in the surrounds.

In addition to the play space design, a further consideration to ensure that these recommendations, particularly the fourth recommendation of encouraging exploratory and natural free play, are met is through hiring a playworker to bring the space to life. Playwork is a general description for approaches that use the medium of play to enhance the potential of child development through play (Brown, 2002; Brown & Webb, 2005). Playwork is based on the assumption that given the right conditions, children will learn and develop both while they are playing, and through their play. Therefore, the aim of a playworker is to create a rich environment that enables play to take place (Brown, 2002; 2008). A skilled playworker creates flexible environments that are adaptable and controllable by the child. One way of achieving this is to ensure there are loose parts in the play space, such as the malleable and changing elements previously discussed, that may inspire creativity and inventiveness in the children’s play. Within the context of the RHTC, the provision of a skilled playworker would help to ensure this fourth recommendation is put into action, by promoting children’s opportunities to explore, discover, use their imagination, and create their own unique play experiences. Having a part-time or occasional playworker to help animate the Food Terrace play space and/or other play spaces at the centre on a regular basis would also be a distinctive feature for RHTC within the community. The role of the playworker would be to animate the space for children and families throughout the year, which could also create more excitement and interest in continuing to play at RHTC over time.

6. Final Conclusions

GPT funded this research study in order to consider how to design a new play space to replace an existing play space in the Food Terrace of Rouse Hill Town Centre commonly known as the musical play space. The play space is located in a busy functional area where the community goes to eat, rest, socialise, sometimes read and occasionally access the musical play space. “Its dangerous with stairs leading down to a busy street. Should have a gate to prevent children running off” and “Get rid of the noisy playground, very irritating” These two comments from the community relay two of the most common sentiments of the community about the play space: firstly that it is dangerous and not safe for young children and creates a lot of anxiety for parents when trying to supervise their child’s play and secondly, that the existing play space is boring, noisy and limited in the options it provides for engaging free play. These issues with the space meant the area was poorly utilised by families and its potential as a significant play space in the centre was restricted. The centre manager had been correct in identifying and wanting to address these concerns by inviting the UWS research team to embark on a study to inform the future refurbishment of the space. Normally this would be restricted to a community style consultation and left to play ground designers to come up with an appropriate design.

What is unique with this study though is the desire of the GPT group to acknowledge the importance of engaging young children and positioning them as ‘experts’ in children’s play to be the central advisors in the design of the space. This is consistent with current trends throughout the world supported by UNICEF to include and ask children to be partners in the decisions about improving their environment to support their quality of life. By supporting a model of children’s participation based on the international child friendly cities and communities initiative the centre embarked on a process to value and acknowledge the rights of the child to be key participants in the design process. Through the use of visual and verbal means the University of Western Sydney research team was funded to embark on a participatory research project with children: 115 children from early childhood centres and a local primary school located in the Rouse Hill neighbourhood. The focus was on early and middle childhood play experiences. During research workshops the children explored their experiences of play through drawings and taking neighbourhood photographs, identified their play preferences and provided feedback from images of a range of diverse play spaces from around the world; and then finally designed, drew and discussed their dream play space for children.

The findings of the research from the study in Rouse Hill illustrated that a child friendly play space according to the children was a place where they could climb, slide and go fast; they would encounter nature; feel safe and good; have experiences of different play; be able to imagine and create and include family and friends in their play experiences.

Combined with the community and children survey results and building on current literature in the field of children's play the study team devised four themes framing four recommendations to improve and inform the design of the new play space that will replace the existing musical play space located at the Food Terrace at Rouse Hill Town Centre. The four themes: are the importance of creating a supportive, safe and secure play space; the significance of designing a play space that is inclusive of all children and their families; ensuring there is provision for a variety of play options reflected in the range of equipment and elements in the play environment; and the imperative to encourage exploratory and natural free play through the use of malleable materials and imaginative play elements. Finally, the team would like to encourage the town centre management to consider the possibility of being innovative and forward thinking in its approach to the supporting of exciting and interesting free play opportunities at the play space by employing a casual or occasional play worker whose role it would be to inspire creativity and exploration in the play space. They would do this by promoting a range of regular play activities or rotate, change elements of the play element that could contribute to a feeling of anticipation and excitement for children and a desire to see what is happening in the play space.

The following box identifies the four key recommendations evolving from the UWS research teams investigation into the views and ideas of children and the community about how to improve the musical play space at Rouse Hill Town Centre.

Four recommendations RHTC Child Friendly Play Space

Recommendation 1. Create a supportive, safe and secure play space

Recommendation 2. Design an inclusive play space for children and families

Recommendation 3: Provide a variety of play options in the play space

Recommendation 4. Encourage exploratory and natural free play in the play space

Box 2: Four recommendations RHTC Child Friendly Play Space

7. References

- ARACY (2008). *Children's agency in communities: a review of literature and the policy of practice context*, ARACY/ARC NHMRC Research network seed funding report, September 2008.
- Brown, F. (2002). *Playwork: Theory and practice*. Buckingham, England: Open University Press.
- Brown, F. (2008). The fundamentals of playwork. In F. Brown & C. Taylor (Eds.), *Foundations of playwork* (pp. 7-13). Berkshire, England: Open University Press.
- Brown, F., & Webb, S. (2005). Children without play. *Journal of Education*, 5, pp. 139-158.
- Casey, T. (2007). *Environments for outdoor play: A practical guide to making space for children*. United Kingdom: Sage.
- Department of Victorian Communities (2007). *The good play space guide: "I can play too"*. Retrieved from http://www.dpcd.vic.gov.au/_data/assets/pdf_file/0006/39183/Good-Play-Space-Guide_2011.pdf
- Dollman, J., Norton, K., & Norton, L. (2005). Evidence for secular trends in children's physical activity behaviour. *British Journal of Sports Medicine*, 39, 892-897. doi: 10.1136/bjsm.2004.016675
- Driskell, D. (2002). *Creating Better Cities with Children and Youth: A manual for participation*, London: Earthscan/UNESCO.
- Elliott, S. L., & Davis, J. M. (2008). Introduction: Why Natural Outdoor Playspaces?. In Elliott, S. L., & Davis, J. M. *The Outdoor Playspace Naturally: For Children Birth to Five Years*, Pademelon Press, NSW. pp. 1-14.
- James, A & Prout, A (2008). *Constructing and Reconstructing Childhood: Contemporary Issues in the Sociological Study of Childhood*, 2nd edn, Routledge Falmer, London.
- Jeavons, M, (2008) Making Natural Playspaces Accessible to Children with Disabilities, in Elliott, S. L., & Davis, J. M. *The Outdoor Playspace Naturally: For Children Birth to Five Years*, Pademelon Press, NSW. pp. 107-132.
- Johnson, K. (2008). Teaching children to use visual research methods. In P. Thomson (Ed.), *Doing Visual Research with Children and Young People* (pp. 77-94). London: Routledge.
- Lester, S., & Russell, W. (2010). Children's right to play: An examination of the importance of play in the lives of children worldwide. Working Paper No. 57. The Hague, The Netherlands: Bernard van Leer Foundation. Retrieved from <http://ipaworld.org/main/wp-content/uploads/2010/02/BvLF-IPAWorkingPaper-Childrens-Right-to-Play-Dec2010f.pdf>
- Lynch, K. (1960). *The Image of the City*, Cambridge, Massachusetts: MIT Press.
- Malone, K (2013a). *Child Friendly Bolivia: Research with Children in La Paz, Bolivia*, Centre for Educational Research, University of Western Sydney, NSW Australia.
- Malone, K. (2013b). "The future lies in our hands": children as researchers and environmental change agents in designing a child-friendly neighbourhood, *Local Environment: The International Journal of Justice and Sustainability*, 18:3, pp. 372-395.
- Malone, K & Tranter, P. (2003) Children's environmental Learning and Use, Design and Management of School Grounds, *Children, Youth and Environments*, 13, (2) http://www.colorado.edu/journals/cye/13_2/Malone_Tranter/ChildrensEnvLearning.htm
- McConaghy, R. (2008). Designing Natural Playspace: Processes, in Elliott, S. L., & Davis, J. M. (2008). *The Outdoor Playspace Naturally: For Children Birth to Five Years*, Pademelon Press, NSW. pp. 27-42.
- McKendrick, J. H. (1999). Not Just a Playground. Rethinking Children's Place in the Built Environment. *Built Environment*, 25(1), 75-78.
- NSW Commission for Children and Young People. (2009). *Built 4 kids: A good practice guide to creating child-friendly built environments*. Retrieved from <http://www.kids.nsw.gov.au/Publications---resources/Other-resources>

NSW Department of Health (2011). Schools Physical Activity Nutrition Survey. Retrieved from http://www0.health.nsw.gov.au/pubs/2011/spans_2010_summary.html

Rogers (2008) How Do Natural Playspaces Meet Developmental Needs and Interest, in Elliott, S. L., & Davis, J. M. *The Outdoor Playspace Naturally: For Children Birth to Five Years*, Pademelon Press, NSW. pp. 75-94.

Standfield, S. (2008). *Let's play. Inclusive and accessible outdoor play spaces*. Retrieved from https://www.rickhansen.com/Portals/0/WhatWeDo/SchoolProgram/OnlineResources/LetsPlay_PACs.pdf

Tranter, P. & Malone, K. (2004) Geographies of environmental learning: an exploration of children's use of school grounds, *Children Geographies*, 2 (1). pp. 131-156.

Truong, S., & Mahon, M. (2012). Through the lens of participatory photography: Engaging Thai children in research about their community play centre, *International Journal of Play* 1(1), 75-90. doi: 10.1080/21594937.2012.658647

UNICEF (1992). *Convention on the Rights of the Child*, New York: United Nations Publications.

UNICEF (2001). *Partnerships to Create Child-Friendly Cities: Programming for Child Rights with Local Authorities*, New York: UNICEF/IULA.

UNICEF (2008). *The Child Friendly Cities Research Program*, New York: UNICEF.

Wohlwill, J. and Heft, H. (1987) The Physical environment and the development of the child, in D. Stokols and J. Altman (eds) *Handbook of Environmental Psychology*, Volume 1, New York: Wiley.

Wyver, S. (2009). *Evaluation of the Macarthur square shopping centre playgroup (Shop & Play)*. Reported prepared for the Touched by Olivia Foundation. Retrieved from http://www.1304656609Mac_Uni_July_09_Report.pdf

