

Te Pua/Keith Park – Nau mai, Haere mai Let's Play Together

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Abstract

Te Pua/Keith Park playground employed an innovative early program of co-design with an All Abilities Project Group (AAPG), representing disability organisations and key stakeholders from the community. Through ongoing engagement with disabled people as experts, the outcome was an inclusive and welcoming play space for a diverse range of children, young people and their caregivers.

Play equipment included a range of vestibular, visual, and auditory pieces as well as a customised 2m high wheelchair accessible play tower for inclusive play experiences. Parents, families and carers were enabled to play with their children through smooth and step-free surfaces as well as specific play equipment such as an adult and child swing. Children and young people of different ages and abilities were encouraged to sit/lie/stand in the basket swing and see-saw together. Unique to this playground, communication boards were innovatively and collaboratively designed with visual images representing various features of the playground and QR codes linking to online videos with New Zealand Sign Language. In addition to play equipment, the AAPG identified that the toilet facilities were crucial to ensuring accessibility to many families, including those with bigger children or teens with access needs who were often faced with the reality of needing to be changed in unsanitary and unsafe ways without the appropriate facilities being available. Keith Park worked with a leading toilet manufacturer to co-design a bespoke double toilet block with enhanced accessibility features including an adult-sized change table. Every aspect of the park was carefully selected and designed including fencing, furniture, plants and colours. Colour enhanced accessibility by guiding children with low vision and created a play circuit to assist the neurodiverse community. The resultant playground is one that welcomes all to play, which is a core tenet of child development, socialisation and participation.

Keywords: universal design, playground, co-design, participation, communication

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Introduction

Play is an essential childhood occupation (Lynch & Moore, 2016). Play is vital to the health, wellbeing and development of children (Goltsman, 2011). Through play, children and young people develop physically, cognitively, emotionally and socially. They learn and practice essential life skills including patience and turn-taking, balance and coordination, problem-solving and creativity, communication and collaboration.

Playgrounds provide opportunities for role-playing and social interaction (Prellwitz & Skär, 2007). Playgrounds are places that can enable inclusion, places where children and their parents, families and carers can meet and establish a sense of community and reduce isolation. However, disabled children generally have less access to neighbourhood play settings (Fernelieus & Christensen, 2017; Goltsman, 2011; Prellwitz & Skär, 2007). If a playground is not inclusive to people with different abilities, the opportunity for social cohesion is lost.

Playfulness can be thought of as an inclination to play or a state of play, where those playing can freely pretend, create, use their imagination and suspend reality (Bundy, 1997).

To encourage and promote playfulness, playgrounds need to offer those playing with a range of play experiences without prescribing how they should play. In addition to climbing, swinging and sliding, playgrounds should also offer opportunities for imaginative, creative and sensory play. Playfulness has a strong social element. Experiencing play with others is what enables children and adolescents to thrive, not only through interactions with other children, but also with their caregivers and/or whānau (family) through intergenerational play opportunities. Playground design and elements need to enable and encourage social interaction (Fernelieus & Christensen, 2017).

Universal design is a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation (Steinfeld & Maisel, 2012). Universally designed environments are supportive, adaptable, accessible, and safe regardless of age, size, ability or impairment. Rather than fitting the person into the playground, inclusive playground design ensures players can access and use park elements with others and feel like the park fits their capabilities, strengths, and needs for play. However, there is a lack of evidence that universal design ensures that play occupations take place, and further research is needed in this area (Moore, Lynch & Boyle, 2015). Case studies, such as the one presented below, can provide information on both the process of incorporating universal design into a playground as well as some of the resulting design outcomes.

Planning for Public Spaces

This playground refresh took place in Auckland, New Zealand. For context, the Disability Survey (Stats NZ Tatauranga Aotearoa, 2013) stated that 24% of the New Zealand population were living with disabilities, while the Auckland regional disability rate was 19%. Of the disabled population 11% were children under 15 with 52% of children having learning difficulties with speech, social and development impairments. The next Disability Survey in Aotearoa New Zealand is set to be completed in 2023.

Impairment rates in New Zealand children

By impairment type, 2013, % of population aged 0-14

Provider: Stats NZ

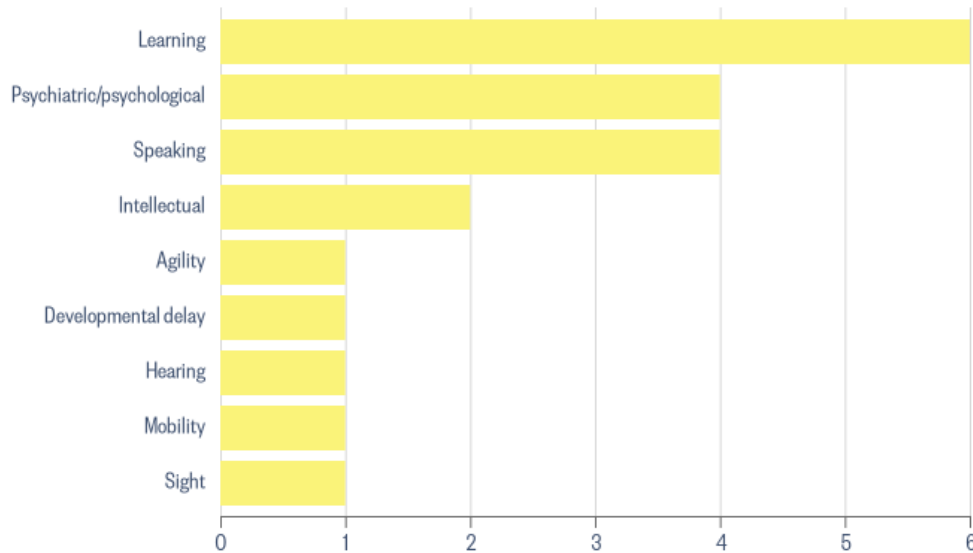


Diagram 1. Impairment rates in New Zealand children (Disability Figures NZ, 2013)

In 2017, a play review was undertaken by Te Kaunihera o Tāmaki Makaurau Auckland Council and produced a consultation document called *Auckland Tākaro - Investing in Play (2017)*. The document explained play facilities around the region and identified potential areas for improvements. Tāmaki Makaurau Auckland lacked intentional accessible playgrounds that catered for children with learning difficulties, children with neurodiverse conditions such as autism and children who are disabled. This finding is echoed internationally (Lynch et al., 2020). It is important in the planning for public spaces, including playgrounds and parks, that invisible disabilities are well considered and included as well as physical and sensory disabilities. In total Tāmaki Makaurau Auckland had 887 public playgrounds with 14% of these playgrounds considered to have accessible play. The levels of accessibility vary, but many of these playgrounds are fitted with a single accessible play item such as a basket swing, but the swing may have obstacles or uneven surfacing to overcome to access it. The provision of play equipment for children with neurodiverse conditions was not known or easily tracked within the council systems. In the last several years accessible play is becoming more standard as part of good design practice.

With the growing percentage of disabled people, the need for accessible play is essential. Manurewa Local Board, one of 21 local boards in Auckland, acknowledged that accessible play was lacking and are committed to making changes in both the short and long term. Local boards are “charged with decision-making on local issues, activities and services, and provide input into regional strategies, policies, plans and decisions” (Auckland Council Te Kaunihera o Tāmaki Makaurau, 2022). Local boards make decisions on local matters, including parks, and set a three-year local board plan and

Te Pua/Keith Park

approve capital work programmes. The Manurewa Local Board Plan (2020) included accessibility and inclusiveness as key outcomes; outcome three states “Our people enjoy a choice of quality community spaces and use them often” which continues their commitment for open spaces to be available and usable by people of all ages and abilities. This outcome was encouraged by the community of Manurewa who want to see more accessible offerings within their local transport, libraries and parks. Each year the board has made considerable efforts to continue this journey.

Te Pua Keith Park was destined to become the first inclusive playground in South Auckland. The Māori name, Te Pua, meaning ‘the blossom’ was the name given to a chieftainess of the local iwi (tribe), Te Ākitai Waiohua. “New bilingual signs in a park bearing a name provided by mana whenua are just one of the ways Manurewa Local Board is showing pride in the area’s strong Māori identity and championing te reo Māori” (Our Auckland Tō Tātou Tāmaki Makaurau, 2021).



Figure 1. At Te Pua Keith Park, from left, David Wilson (Te Ākitai Waiohua), Joseph Allan (Chair Manurewa Local Board), Cr Daniel Newman (Manurewa-Papakura), Anne Candy (Manurewa Local Board), Cr Angela Dalton (Manurewa-Papakura), Melissa Atama (Deputy chair Manurewa Local Board), Kathleen Wilson (Te Ākitai Waiohua), Rangi McLean (Manurewa Local Board) and Glenn Murphy (Manurewa Local Board). This sign in Te Pua Keith Park tells the story of the name as provided by Te Ākitai Waiohua. It also features a QR code to scan so you can hear the words.

Te Pua Keith Park was already a key place for people in Manurewa to connect and enjoy the variety of informal recreation such as boating, fishing, picnicking, walking, harbour views and attending local events throughout the year like Movies in the Park and Teddy Bears Picnic (Our Auckland Tō Tātou Tāmaki Makaurau, 2020). Whilst some of the informal recreation activities have not previously had accessibility at the

forefront, they have the potential to be improved and provide assets and experiences enjoyable for all.

At the planning phases of Keith Park, there were aspirations to look at all the park assets, however the focus was on the playground and toilet due to budget constraints. Initially, the project team needed to understand how the park was used and provide rationale for why it needed to change. This review looked at where the current assets were located and how they could support the growth of the new playground. From this review, the existing assets were catering towards the rear of the park for picnics and fishing users. This meant that without changes to the layout, the playground would remain unsupported by infrastructure and as a result jeopardise the planning around the park being a focal inclusive space.

Changes needed to be carefully considered and be functional for the rest of the park. One item in particular was the existing toilet. The toilet was already in poor condition requiring renewal and was in a hidden location behind trees approximately 130 metres away from the main car park and playground. The desire was to have the toilet relocated by the playground while also maintaining easy access for people fishing. Various options for the toilet location were presented and it was ultimately decided to facing the road in front of the playground creating natural surveillance from the houses and road.



Figure 2. Existing toilet at Te Pua Keith Park.



Figure 3. Playground before refurbishment.



Figure 4. View of Te Pua Keith Park from the air indicating location of the toilet block and playground.

Creating this integrated space of playground, car park and toilet enables whānau (families) to stay and play for longer periods of time and create a more accessible environment. With the limited knowledge of accessibility, it was evident that the need for experts in this field would be critical to project overall success. The Manurewa Local board wanted this playground to have a co-design method of delivery to provide advice and also enable local children with all disabilities to be part of the journey which eventually would create the All-Abilities Project Group (AAPG).

Prior to meeting with AAPG, the project team produced two draft concept plans for consideration and feedback. As part of this concept plan the team established outcomes that we needed to cover and help make design decisions that would ultimately be presented to the AAPG. The following outcomes became the foundation in the design planning process:

1. Accessibility and inclusiveness – creating a space for everyone
2. Overall connection – assets are placed in the right location to make the experience easy, safe and inviting
3. Increase utilisation – people love to come here and have access to the right resources

These three drivers provided a focal point of reference throughout the project when planning and consulting with the AAPG which allowed the team to pave a clear way of working through the needs and desires.

It was important to understand what available off-the-shelf play-equipment that we could share with the AAPG. Consulting with local play suppliers was necessary to gain insight on current research, costs, targeted ability groups and timeframes. The experience of finding accessible play was positive as there was a variety of options with

excellent quality and the pricing was only slightly higher or equal to non-accessible play items.

Our play suppliers also provided research and documentation on their accessible play items, an important learning to assist in understanding integrated and inclusionary play. The suppliers mentioned that older designs of accessibility were based on a segregated approach, meaning that disabled children are separated from able-bodied children. For example, the liberty swing (wheelchair swing) has been supplied at some locations around Tāmaki Makaurau Auckland with good intent, however, these swings are usually fenced off and locked, so that only children who use wheelchairs could use it.

Accompanying signage stated that these wheelchair swings are only for the disabled which can be considered demeaning. Some research suggests that 57% of children who use wheelchairs never or rarely visit a public playground that is likely connected to the segregation model of older playgrounds (Kompan, 2020). According to Kompan, a leading play manufacturer, the best form of accessible playgrounds is an inclusion model where all children play and learn from each other. The inclusion model is based on what disabled children would like to see in a playground including: being able to play with their friends and socialise, play on thrilling equipment and being able to use equipment independently.

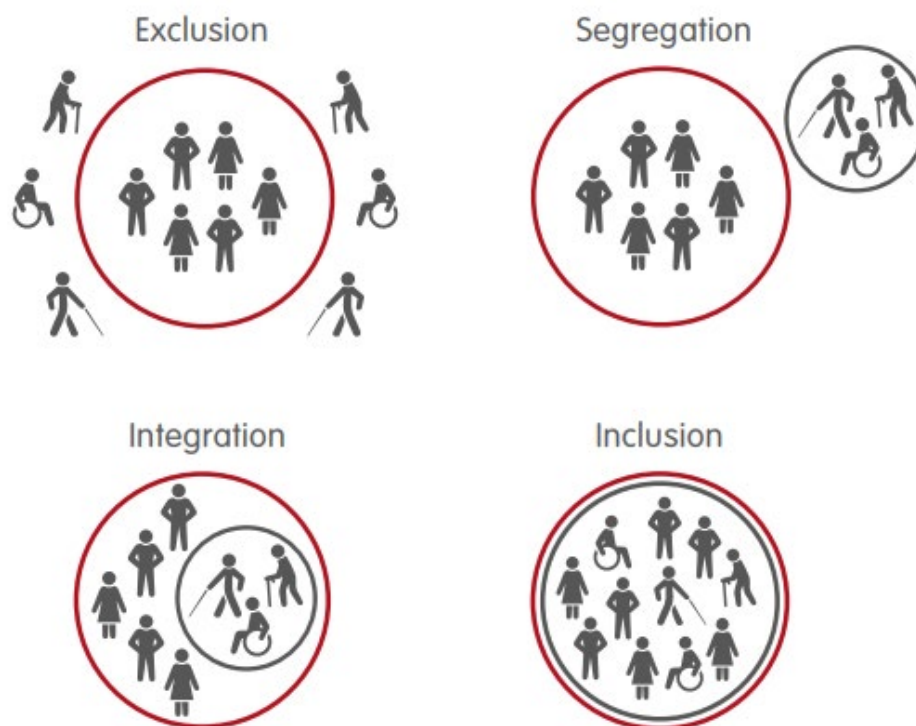


Diagram 2. Kompan (2020) Illustration based on the UNESCO Salamanca Declaration
Creating inclusive play space was important for Te Pua Keith Park to ensure all abilities would play and interact together, but also to create a thrilling experience and be able to use equipment independently. These findings were important to the planning of Te Pua

Keith Park and was shared by AAPG who supported the approach as it meant that all could play and educate each other on their different needs.

“Now the next generation of families of various abilities will have the opportunity to play alongside each other and together”
Joseph Allan, Manurewa Local Board Chair

Co-design Process

Te Pua Keith Park started its journey as a tired, unloved, underused playground tucked away in a corner of South Auckland. Engaging with the public and external stakeholders was considered business as usual for playground renewals. However, the decision was that this process would be different from the past and include early engagement with a focus group. This had the strong support of the Manurewa Local Board (MLB) who wanted a co-design framework. The MLB decided to create a focus group for designing the new playground at Te Pua Keith Park to enabling optimal inclusiveness to meet the diverse needs of the community. At the outset, the board connected with multiple organisations inviting them to participate in co-designing the future playground to better ensure accessibility and inclusivity. Many groups agreed to contribute to the group and project.

The group consisted of the MLB, local community, allied health professionals and a range of disability organisations – Acorn Autism, CCS Disability Action, Deaf Aotearoa, The Pride Project, Blind Low Vision New Zealand and Talking Matters creating the All-Abilities Project Group (AAPG). The project morphed from a standard renewal to an inclusive welcoming play space for a diverse range of children, young people, caregivers and families. Early and ongoing engagement with disabled people, their whānau (family) and experts resulted in a space for all to have their say and be part of the design journey.

Co-design refers to a design process where consumers or citizens are partners in the design process from the beginning of service planning, to ensure that the final product or service will meet their needs and work optimally for them.

Initially the workshops with various organisations and varying concerns to collaboratively develop a design seemed like a difficult task to achieve especially with the difference from the standard consultation model with a streamlined quantitative survey. Considering this difference and way of working it was important to establish a good project team. The project team consisted of a landscape architect and a project manager allocated to the project who worked very closely together throughout the process and achieved all essential milestones. MLB requested an all-ability playground, but also wanted to see Te Pua Keith Park be the best playground in Manurewa and be considered a local destination. These expectations created further risk on the finance and timelines as they seemed almost un-achievable as the budget was strictly \$670,000 NZD and expected delivery due October 2019 (9-month window) to design and build the project. The delivery timeframe was not achievable as time was needed to include and enable the full the co-design mode for decisions be made with the collective. There was a fear of working in a co-design model due to the unknown and consideration that it would take longer, be more complex and more costly due to needing to specify more bespoke playground elements. The majority of these

assumptions were incorrect. Whilst the process did take some additional time, the learning and understanding developed through the process was immeasurable and will be with the project team for the rest of our careers. The project team was honest and upfront with the group explaining the limitations of cost and timeline. The group was very receptive and respectful of this and helped weigh up options carefully. The co-design process should not be viewed with apprehension. Providing clear intentions and sharing the same purpose can produce a truly successful outcome.

The aspirations and desires of the AAPG were captured through a series of workshops and discussions. In total there were three workshops with the entire group and two separate additional workshops to develop the communication boards.

- 1. Review the preliminary design/draft layout options** - entailed reviewing two draft concept plan options, and which idea to adopt. Selecting equipment options. Providing additional feedback and ideas at this stage. Having early invention was necessary ensuring timely ideas to the plan.
- 2. Agree on the concept design** - finalising the concept plan, all changes previously required were completed and ready for review. Toilet location confirmed. Further feedback on plans and necessary changes. Confirming the patterns and colours.
- 3. Review the detailed design** - reviewing the full design set for procurement, final review to provide necessary changes to the plan before being released for tender.

Establishing a good working relationship with everyone was essential to all the meetings. This was done by creating a safe space ensuring the project team could elicit maximum benefit from members within the allocated time. At the first workshop the MLB led a non-denominational karakia (prayer) that allows everyone to become neutral within the space and safe amongst one another, especially when first meeting everyone. Karakia (prayer) is important within Maoridom (indigenous Māori way of doing and thinking) and is used frequently in Aotearoa New Zealand.

A round of introductions were completed at each meeting, as new faces would appear, and it was inclusive for people who are blind or have low vision to know at the outset who was present at the workshop. The meeting then moved on to setting the intention of the workshop and inviting all to provide feedback. The safe space for sharing ensured ideas flowed and all were enabled be part of the journey. Decisions were made by around the table agreement to choose between options presented. Meaningful discussions occurred and everyone was able to provide advice on the design. Many ideas and advice would be a shared issue, however, on a couple of occasions one member's view would conflict another's experience. For example, the vibrant colours of the surface could be distressing for some children with autism, however, could enhance visibility for children and caregivers with low vision. These scenarios were discussed to find the best solution. In this scenario it was agreed that the vibrant colours would remain, but the surface pattern would be simple to compliment a route/ circuit style of the playground. This was considered to work well for both groups.



Figure 5. Play circuit of Te Pua Keith Park with the circuit indicated by a red arrow.

Through the co-design process the following areas were the top priorities for the AAPG to include within the design:

- Include accessible pathways, access entrances, furniture and play equipment. Provide an accessible route that connects every area and every accessible play component (Fernelius & Christensen, 2017; Goltsman, 2011).
- Be fully fenced with accessible gates. Rubberised surface suitable for accessibility. Seek solutions that provide means of access and mitigate potential safety hazards through design (Goltsman, 2011).
- Develop communication boards with sign language.
- Integrated design for all abilities where all can play together. Placeless challenging activities directly next to those requiring greater physical ability encourages interactions across all ability levels (Fernelius & Christensen, 2017; Goltsman, 2011).
- Circuit layout to suit children with neurodiverse conditions such as autism
- Provide height elevation for wheelchair users. Access onto and off equipment can be provided with landforms, ramps, platforms (Goltsman, 2011).
- Double accessible toilet block
- Overall provide an inviting, fun and safe place for all

During the two first workshops the group raised concerns that a single unit toilet would not be fit for purpose and asked that a double accessible toilet be created as the concern was that disabled children would need to wait to use the toilet which can cause issues. The group also discussed the importance of larger changing tables as the standard baby change table doesn't cater for bigger/older children. The project group contacted their supplier for options on how a larger changing table could work and costs associated with it. The supplier worked on a bespoke design which included a standard accessible unit and a bespoke accessible unit. The bespoke unit included an adult length change bench, larger diaper bin, touchless sliding doors, increased space within the unit to allow more room for manoeuvring in a wheelchair and room for carers to assist. Ultimately, the local board supported the case and provided additional discretionary funding to enable the build of a double toilet facility. This additional budget increased the overall investment towards Te Pua Keith Park to \$720,000 NZD. After each workshop the local board supplied tea, coffee and lunch. This sharing of kai (food) takes the workshop from tapu (sacred) to noa (common) which assists in closing the meeting and relationship building. Sometimes this time would also invite further conversations to explore ideas that were presented.



Figure 6. Playground communication board developed for Te Pua Keith Park

The AAPG delegated that it was appropriate for the project team to directly work with Acorn Autism and Deaf Aotearoa to develop the communication boards as it required detailing with their wider organisations to develop. The project team visited Acorn Autism staff at their offices to start the design of the communication boards. By working directly with the occupational therapists our landscape architect was able to develop the first draft of the Communication Boards which was shared and advised on. The communication board was also developed with Deaf Aotearoa who invited the project

team to meet their entire team, the designs were subsequently presented and endorsed. Deaf Aotearoa explained that Sign Language is easier to follow when you can watch someone do it and advised their request to provide videos to support the boards. Deaf Aotearoa created the QR code which has videos corresponding with the imagery so people can learn and follow Sign Language.

The project team also took additional time to have the communication boards to meet the Council branding policy which would result in a Auckland Council approved communication board template that can be implemented throughout Tāmaki Makaurau Auckland. This was important to the AAPG as their aspirations were to have this process documented and applied for future projects. The communication board also encourages people to take a photo or download the communication board to use at other parks and to use the QR code and learn signs for each image.

Design Solutions

Play equipment included a range of vestibular, visual, and auditory pieces as well as a customized 2m high wheelchair accessible play tower for inclusive play experiences. Play experiences offered include climbing, swinging, spinning, sliding, sensory play, balancing, jumping and rocking.

- Two accessible toilets with enhanced accessibility features including automatic doors, large turning circles, and a large change table as detailed previously. The Pacifica artwork on the toilet block was developed by a local artist who understood the brief for the all-abilities playground with the artwork centred around the Talking Matters logo to encourage talking amongst families and children. The colour selection was carefully considered to not overpower those with sensory sensitivities and also be cohesive with the playground. The use of layered floral patterns and Te Reo (Māori language) words were used to create an inviting and educational design.
- Easy access from the playground to accessible and standard parking – while many local playground users may walk or wheel to their playground, for some people, private vehicles are their only method of accessible transport. A customised vehicle may also serve as more than just transport, it may be a place to change, a place to store essential medicines or equipment, or a place to calm if experiencing sensory overwhelm.
- 90% of this playground is wheelchair accessible – this was achieved through careful and considered design from the preliminary stage of planning with the AAPG. If accessibility is considered too late within a design, high levels of accessibility may be seen to be too difficult or expensive to incorporate.
- A picnic table with wheelchair space – gathering places need to be accessible to promote social interaction. This includes accessible seating so that people of varying abilities can sit together (Goltsman, 2011). This promotes social cohesion and whānau (family) interactions.
- Accessible drinking fountain – free and easy access to clean drinking water is essential, particularly near playgrounds. Accessible drinking fountains need to be at an appropriate height, have easy to operate buttons, have clear space with

solid and smooth surfacing to approach. Bottle fillers and dog drinking bowls are considered desirable by some users.



Figure 7. Accessible toilet block with Pacifica artwork

- An innovative communication board and incorporation of New Zealand Sign language - unique to this playground, communication boards were innovatively and collaboratively designed and developed, and have been so successful that they are planned to be replicated in other playgrounds across the region.

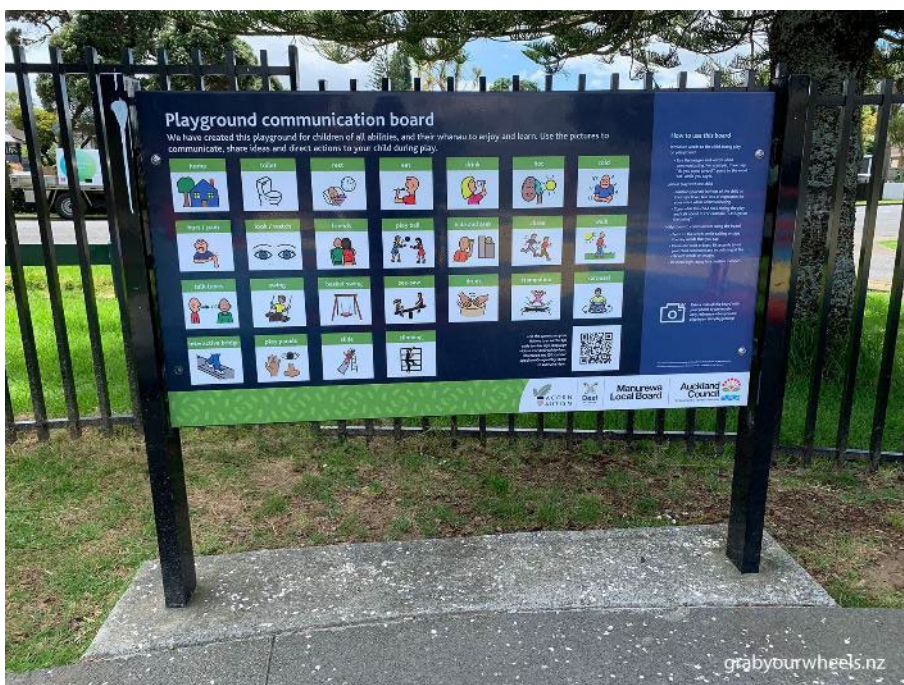


Figure 8. Te Pua Keith Park communication board, co-designed with allied health professionals, the disability community and council staff.

Te Pua/Keith Park

- Inclusive trampoline, carousel, net see-saw and basket swing – the basket swing is shaped to enable multiple people to sit or lie while swinging, accommodating a variety of functional abilities and ages. This promotes social cohesion enabling people of different abilities to swing together. The ground level carousel enables multiple people to sit or stand during play, enabling people with limited mobility or using wheelchairs to access this equipment with its wide and level entry.



Figure 9. In ground trampoline.



Figure 10. Net see-saw.



Figure 11. Level access carousel.

- Soft safe fall surfacing – The soft fall surfacing used throughout the playground at Te Pua Keith Park ensures safety, while also being accessible for prams and wheelchairs. Rather than having bark (which the existing playground had) or gravel, people of all abilities can access all the play elements in the park.
- Fully fenced – fencing is important for safety, particularly for playgrounds located near to roads and for increased safety for children who are neurodiverse and may try to abscond when they become overwhelmed. Fencing has been provided to create a barrier, but not to lock people into the space. This requires a careful balance of the needs of children who are neurodiverse, and the needs of caregivers, who may use wheelchairs themselves and need to be able to open the gates independently.
- Customised 2m high wheelchair accessible play tower – the customised tower is accessible by wheelchair with wide, shared pathways and a ramp leading to the tower from the playground. Once on the main platform there is space for people using wheelchairs to easily manoeuvre and access play panels and talk tubes. This enables shared play and social interaction.

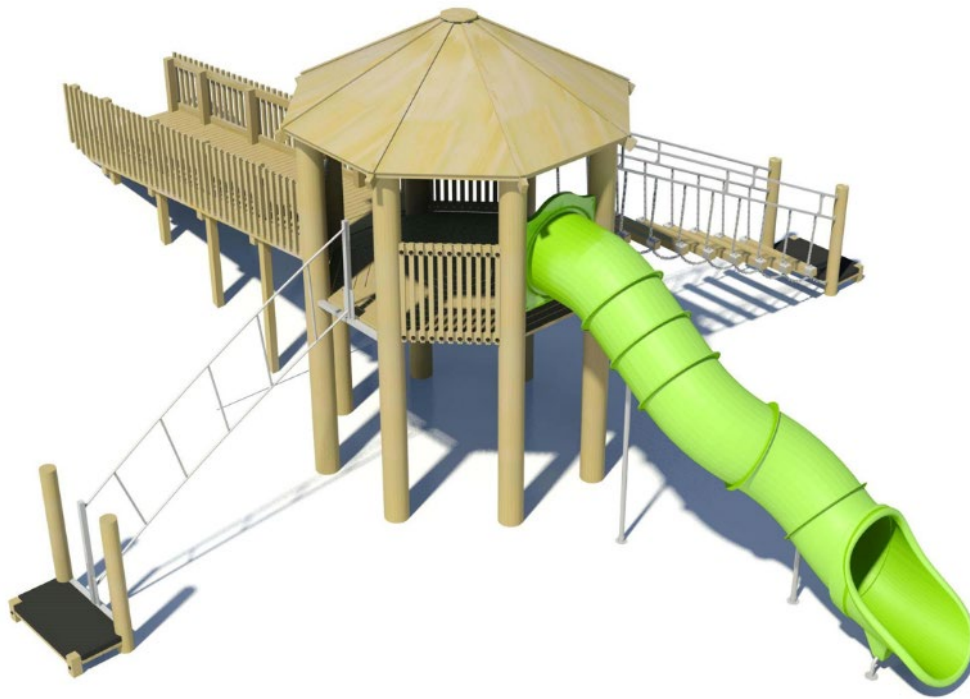


Figure 12. Rendering of the accessible play tower.



Figure 13. Gentle gradient ramp to the play tower.

- The play panel in the custom-built tower demonstrates how to sign 'Manurewa' which promotes inclusion for people with hearing impairment. Manurewa has a high population of Pacifica and Māori, appropriately the play panel features pictures and Te Reo (Māori language) words for plants and birds which can be seen in the area, encouraging bilingual learning. The local planting is of indigenous plants.



Figure 14. Play panels featuring both New Zealand Sign Language and Te Reo Māori.

- Colour to enhance wayfinding and to create a play circuit - colour was important and was used to enhance accessibility by guiding children with low vision and to also create a play circuit to assist children who have neurodiverse conditions.
- Wide accessible footpaths – smooth and step free surfaces and important for children and their caregivers to access all areas of the playground and connections to amenities including parking, toilets, seating and drinking fountain.
- Shared swinging options – the two-person swing, with caregiver and child, promotes social interaction as the swings face each other. This enhances enjoyment and communication for both children and their whānau (family). Opportunities for inter-generational play are important (Wilson, 2015).
- Play elements such as the maze ball board and abacus board provide stimulating cognitive activities. These are at a height to enable seated or standing use.



Figure 15. Caregiver and child swing.



Figure 16. Maze ball board and abacus board beneath the play tower.

- The talk tubes and the colourful samba drums offer the opportunity for expressive and sensory play. Children and whānau (family) can communicate and create music together. The drums also offer flexibility of choice, doubling as climbing equipment.



Figure 17. Samba drums with children climbing on top.

The resultant playground is one that welcomes all to play, which is a core tenet of child development, socialization and participation.

Construction

Once the co-design process had been completed it was up to the project team to ensure all of the learnings and goals were not overlooked during construction. During the tendering process it was important to include the purpose, aim of the project, and outline the criticalities for construction in all documentation to ensure the contractors

Te Pua/Keith Park

understood our goal and perhaps invoke them to provide additional advice. Te Pua Keith Park had the honour of having one of the best playground contractors in Aotearoa New Zealand who had won the contract. Prior to the commencement of works, the project team met the contractor to go over the design, the goal and construction hold points. From day one the contractor was part of the project team and reinforced all the intentions of the project.

The construction period commenced on 1 October 2019 and was completed by 18 December 2019, during this period the project manager and landscape architect attended site nearly every week to meet with the contractor and go over the site progress, issues, final levels and details. The team worked well together and ensured any needed changes would be measured against our new learnings and on occasion calling on our AAPG experts for advice.



Figure 18. Te Pua Keith Park after redevelopment. Pictured are the inclusive see-saw, basket swing, caregiver and child swing, in ground trampoline, slide with ramp access and step free slip resistant surfacing.

The contractor went above and beyond to ensure the playground would be a success and paid attention to the finest details. They hired a wheelchair during construction so that workers could double check the gradients, to help with correcting heights and reviewing the manoeuvring space. In future projects, members of the AAPG could be invited to visit the site during construction to assist with this process, whilst observing relevant health and safety protocols. The contractor also allowed for additional site surveys to measure the levels for accessibility and had organised suppliers to come to site and meet with us to ensure they were briefed on the project's purpose and potentially see what else they could offer the project to enhance accessibility.

Our play suppliers were also very accommodating to the accessible design by ensuring all equipment was ready for installation, was correctly painted and ensured continuous communication throughout the process. Our supplier who provided the customised 2m tower was one of the more thrilling play items as it would enable people using mobility equipment the opportunity to go up the top of the tower at 2m high which was often not the case in standard playground design. The supplier decided to build the accessible ramp onsite to guarantee the accessibility onto the tower.

The end result of Te Pua Keith Park demonstrated the ongoing commitment from the co-design process through to construction where it was consistently centred around the purpose of enabling people of all abilities to play.

Feedback from playground users

Developing a feedback loop is crucial in projects such as Te Pua Keith Park as the design operates in consideration of its relationship with users. Feedback allows problem identification and understanding of user experience that can aid positively in similar future projects (Hay et al., 2017). Feedback for Te Pua Keith Park was received as spontaneous feedback from a public Facebook page that was dedicated to Keith Park's development with articles, publication of awards won and online surveys.

Before and after the construction of Keith Park, the process was notified and documented on a Facebook page created by a Manurewa Board member. This page was followed by over 500 people who received news of the inception of the project, intention for its creation, its opening and ongoing events. Through this, users were able to leave feedback during the process. A total of 46 comments were collated from the page to February 2022 with approximately 90% positive feedback received. There were two recurring themes to the feedback: mokopuna (grandchild/ren) and the toilet.

The theme mokopuna (grandchild/ren) was interesting as it is a Māori word reserved for grandparents or elders and illustrates that people feel comfortable to take their grandchildren to the playground and be able to use it as well. The use of the word – mokopuna (grandchild/ren) is also important as it demonstrates that space has culturally diverse users and further strengthens the idea of inclusivity of the playground.

The theme toilet was selected as several respondents mentioned their disappointment that a Changing Place (Changing Places NZ, 2021) was not provided. During the design process consideration was given to the inclusion of a Changing Place facility that includes an adjustable adult sized changing table, ceiling hoist, adjustable height basin and shower facility. These well-designed facilities are built for people who are unable to use a standard accessible toilet and require greater assistance. The Changing Places facilities are typically centrally located such as sports centres, shopping centres, hospitals or city

centres (Changing Places NZ, 2021). However, it is understood that Changing Places NZ desires to be included in many more places to enable further accessibility options. The Changing Places facility was respectfully not opted for Te Pua Keith Park due to space required, ongoing maintenance costs and the requirement to use a lockable system. The decision was made to have two toilets instead of one fully accessible toilet. Some feedback on the large change table was that the fixed height was too high, however, a height adjustable change table would not be as vandal resistant and subject to higher maintenance costs. The toilet block was also praised due to its colourful and vibrant artwork and new location. Neighbours of the park expressed their pride in the toilet and were very supportive of its new location.

Since the opening of Te Pua Keith Park, it has been nationally celebrated and considered the gold standard when it comes to accessible play according to Radio New Zealand (Doyle, 2022). Te Pua Keith Park has also gone on to win the highly competitive 2020 National Playground of the Year award (Recreation Aotearoa Te Whai Oranga, 2020). The judges felt that the collaboration with AAPG and creation of a communication board template that could be implemented at other playgrounds demonstrated the true values of inclusiveness. One of the judge's comments on the playground was that "the amount of work carefully and thoughtfully managed by the passionate project manager has ensured engagement across all interested stakeholders and resulted in a playground designed entirely by and for those with accessibility needs and sensory disabilities" (Recreation Aotearoa Te Whai Oranga, 2020).

Local write ups about Te Pua Keith Park have been equally positive, such as the post by Auckland for Kids (2020) "The best thing is that siblings and friends can play together on all the playground equipment!" This demonstrates that the goal of inclusion has been successfully achieved.

Lastly, an online survey was created by the authors with questions designed to elicit feedback on the desirability, satisfaction/dissatisfaction, demand and attractiveness of the playground's features and facilities. The survey provided a brief description of its intentions with a visual aid of the playground that included alternative text for participants. The survey was conducted during a period of Covid 19 lockdown in Auckland, hence only a small sample size of responses (23) was achieved. Precedent survey questionnaires were researched; however, post occupancy evaluations of playgrounds and their surrounds did not appear to be widely available (Steinfeld, 1999). The online survey consisted of 5 questions providing both multiple choice and open-ended questions. The questions were as follows:

1. What suburb do you live in?
2. How often do you and your whānau /family use this playground or would like to use this playground?
 - a. Have not used it yet, but would like to
 - b. Have gone once or twice
 - c. Have gone 3~5 times
 - d. Have gone more than 5 times
3. What do you like about the playground and surrounds (for example, playground equipment, toilets, footpaths, parking, etc)?
4. What could be improved in the playground or surrounds?
5. Would you recommend this playground to others?
 - a. Yes, would highly recommend

- b. Yes, would recommend
- c. Would recommend if further changes are made
- d. Would not recommend at this time
- e. Comments

Survey respondents were largely from nearby suburbs in South Auckland (78%) with some playground users coming from as far away as Auckland's North Shore, nearly an hour's drive away. Many respondents were repeat visitors, with 52% having visited more than three times.

Positive feedback from respondents largely commented on the range of play equipment available (35%) accessibility/inclusivity of the playground (30%), and the security that the fencing provides (30%). One respondent commented that it was great to have "places to play for children who don't necessarily play on a playground". Other respondents commented on the vibrant and attractive colours, the use of Aotearoa New Zealand's two official languages Te Reo and New Zealand Sign Language, location of the toilets, availability of accessible parking and the provision of shade.

Constructive feedback included recommending a larger diameter or open slide so that parents, family or carers can go on the slide with a disabled child, inclusion of water play elements, more trees, more New Zealand sign language and ensuring that the gates are not too easy for toddlers to open.

The majority of respondents would recommend (15%) or highly recommend (55%) this playground to others. The remaining respondents would recommend if some changes were made.

Learning from the process

From design through to completion Te Pua Keith Park has provided a safe place of learning for everyone involved. Having both the landscape architect and project manager at each co-design workshop meant that all feedback was heard first hand. Working with the AAPG closely enabled robust discussions and discover some of the struggles that were unnecessary if good design is done. The project team managed to get a glimpse into the lives of disabled children and their whānau (family) with non-accessible design and how small details can make all the difference.

It was also a place of learning and challenged the project team to make continuous changes for future developments, so that many of the discussions and decisions could help become standard practice in the future.

Learnings for accessible play design

- Playgrounds are important and provide a fun space to learn, adapt and promote a story. Embedding the purpose of inclusive play for all abilities.
- Learning that accessible design can be done within a small budget and is not necessarily cost prohibitive.
- Using every opportunity to increase accessibility like colours and patterns.
- The small details matter for increased accessibility for example adding extra concrete beside seats, providing backrests, extra width of pathways, bilateral handrails, signage height and contrast.
- Providing clear vantage points and/or a circuit like layout.
- Promoting group play to increase opportunities for socialising.
- Accessibility standards are not built for children, go beyond the minimum.

Te Pua/Keith Park

- Integrating toilets and carpark into the design.
- Making the space fun for all abilities.
- Don't be afraid to ask for help. Disabled people and their whānau (family) are experts. Co-design adds significant value, particularly with a clear purpose and intention for the project.

Insight was gained into the lack of public toilet facilities offering adult-size change tables. This results in some children and adults being forced to change on public toilet floors which is unsafe, unsanitary and undignified. Consideration needs to be thought through the process if further accessible toilets could be procured to enable adult or larger children changing facilities. Since Te Pua Keith Park was completed, adult change facilities and different options for their provision are becoming increasingly available in Aotearoa New Zealand.

Influence on other playgrounds

As the project team consisted of council staff the learnings from working with the AAPG extended into other projects and has already been included into a variety of projects since Te Pua Keith Park was completed.

These learnings include that the current New Zealand accessibility standards are not built for children and are a minimum standard, when building playgrounds and parks for all it is crucial to go beyond the standards and think of the end users.



Figure 19. New playground users Emma and Israel with Manurewa Local Board Chair Joseph Allan at opening of the new playground at Te Pua Keith Park.

Since winning the Playground of the Year (2020), other surrounding councils including Hamilton and Whangārei have approached the project team requesting information on the playground design and have asked for advice on future playground development and lessons learnt. This demonstrates the impact that Te Pua Keith Park has had on other councils in Aotearoa New Zealand and how this project could influence inclusive spaces outside of Tāmaki Makaurau Auckland.

The MLB wore accessibility with pride and made the decision to use their local board funding to create a playground for all and have continued their efforts to include accessibility into all future projects within their area. These include:

1. Aronia Way Reserve, 2021
2. Kauri Heart Reserve, 2022
3. David Lange (future destination playground, first for South Auckland)

Te Pua Keith Park has influenced the board to commit to having all new Manurewa playground projects to include accessible play. The decision to prioritise accessibility is a testament to the local board's commitment, despite financial constraints both long standing due to past regional variations in funding, and current due to Covid 19's effect on decreasing budgets.

The bespoke communication boards have been well received and are easy to include within any playground in Aotearoa New Zealand. The planned David Lange Park will be the first destination playground to include the new communication boards within their accessible design.

Te Pua Keith Park helps set the standard that accessibility doesn't have to be cost prohibitive. Play equipment can be off the shelf and suppliers can offer customisation to provide more accessibility options. It is important to consider the space holistically and how the play space will interact with other assets in the surrounding area like toilets and parking.

Conclusion

Te Pua Keith Park can serve as a model, not only for the outcomes that it has been able to achieve, but also the process that was undertaken. Having strong support at a local level from key stakeholders both within the Council, Local Board and community ensured that the vision of an inclusive playground was at the forefront of design decisions. Engaging an All Abilities Project Group with a diversity of experiences and voices, ensured that a variety of views were considered and that robust discussions could occur to achieve good outcomes for as many different people as possible. Co-designing with AAPG from the preliminary design stage meant that a variety of options could be considered early in the design process, before significant re-design would be needed, saving both time and money. In some instances, "off-the-shelf" products can be slightly modified which is both cost and time efficient. Being creative and innovative can bring unique ideas to life such as the Communication Board, a first of its kind in Aotearoa New Zealand.

Continuing to engage with AAPG as the design developed meant that the details of the design, such as handrails, backrests, placement of concrete, would not be lost opportunities or become barriers if done incorrectly. Not all design decisions were considered 100% successful, such as the height of the fixed change table, which demonstrates the need to re-visit the design after construction is completed, to see if

further changes or enhancements can take place so that the design works for as many people as possible. Inviting and welcoming public feedback both immediately following construction, and at points in time in the future, can evoke further learnings in terms of material choices that were made. It is important to assess whether the design has been successful (Moore, Lynch & Boyle, 2020). Finally, it is imperative to communicate the design process and outcomes to ensure that other designers have a starting point to enable universal design in playgrounds, with the ultimate aim of creating inclusive places for all.

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