Creating Inclusive Playgrounds:

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A Playbook of Considerations and Strategies

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Acknowledgement

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1 Introduction

Introduction

The United Nations 1989 Convention on the Rights of the Child recognizes children's right to play; the United Nations 2006 Convention on the Rights of Persons with Disabilities supports the protection of the rights and dignity of persons with disabilities. Various governments have also passed accessibility legislation and standards (e.g., the United States' 1990 Americans with Disabilities Act) that prohibit discrimination against individuals with disabilities in public life to ensure they can enjoy equal access and opportunities. Given the international recognition of these rights, it is disconcerting that many (perhaps even most) playgrounds are largely or entirely inaccessible to some children and adults with disabilities. Inaccessible playgrounds and the marginalizing, exclusionary experiences they produce are especially troubling given the importance of play to children's health, development, and overall well-being. Play is the dominant activity (the primary occupation) in the daily lives of children (Pellegrini, 2009), and it has positive impacts on their cognitive, physical, and social-emotional health and development (Brussoni et al., 2015). All children must have ample opportunity to engage in playground play.

Despite progress regarding international human rights conventions and accessibility legislation and standards, the United Nations (2013) has indicated that the unique needs, interests, and rights of children with disabilities have continued to be overlooked, including those concerning equal access to play opportunities. Globally, an estimated 240 million children aged 0-17 years old experience disability (United Nations Children's Fund, 2021). Some of these children cannot access playground spaces and, for those who can, some cannot use the play equipment. Consequently, they are excluded from playgrounds and prevented (i.e., by playground designs) from gaining the social, physical, and emotional benefits associated with playground play.

The literature clearly shows that children (and adults) with disabilities regularly encounter exclusionary barriers when trying to access playgrounds and use playground equipment (Brown et al., 2021; Lynch et al., 2020; Moore et al., 2020; Fernelius & Christensen, 2017; Moore & Lynch, 2015). These encounters with barriers occur because, oftentimes, playground designs are informed by normative understandings of children's bodies, mobilities, and abilities that do not adequately account for

the diversity of disability. The resultant playground designs can create inequitable access to play opportunities and may cause children with disabilities to feel they are on the margins of play rather than part of it; indeed, in some cases, they may experience exclusion from the entire play environment.

Fortunately, the needs and barriers faced by children with disabilities, parents or other adults with disabilities, and their families are beginning to be recognized in playground design research and practice. The COVID-19 pandemic has accelerated this interest by underscoring the importance of outdoor spaces as safe places for people to be active and connect with their communities. This push to be outdoors and to maintain activity levels has amplified the value of playgrounds in supporting play for all children and adults.

1.1   Inclusive Playgrounds

Inclusive play and, correspondingly, inclusive playgrounds, are intended to remove physical and social barriers to participation through thoughtful designs and programming that create an environment where all children can play together. An inclusive playground is a space that welcomes children with and without disabilities of all ages, genders, and socioeconomic and cultural backgrounds to use the equipment and play together. It invites families to engage in play with their children (Brown et al., 2021; Woolley, 2012), which can benefit family relations and overall quality of life. Inclusive playgrounds aim to support equitable access to diverse play opportunities by providing various types of play equipment that enable children to challenge themselves at different levels, to enjoy quality play experiences and to have fun playing together. **Figure 1.1** displays examples of inclusive playgrounds and inclusive play components. Inclusive playground design goes beyond ensuring that playgrounds are physically accessible. It also creates a welcoming environment that fosters a sense of community, and offers rich play opportunities that meet the social and cognitive needs of all children (Cosco & Moore, 2019).

Language Matters

This playbook uses people-first language (e.g., "children with disabilities") to describe those who are living with disability. People-first language is intended to emphasize individuality and personhood, rather than disability. At the same time, we acknowledge and appreciate some people's preference for identity-first language (e.g., "disabled child"), an approach that views a person's disability as an integral part of their identity. For example, some within the autism community prefer to be called "autistic person/people." Ultimately, it is best to ask people their preference. For more information about disability and language, see Active Living Alliance for Canadians with a Disability, 2021; Ferrigon, 2019; Harpur, 2012; Ross, 2013; and Titchkosky, 2001.

1.2   About this Playbook

This playbook provides playground designers, developers and builders, municipalities (e.g., municipal planners, parks and recreation staff and managers), community groups and other interested people with an array of considerations and strategies for creating playgrounds and surrounding environments that are inclusive. In Canada, it may be of special interest to public recreation providers, who are guided by the Framework for Recreation in Canada developed by the Interprovincial Sport and Recreation Council and the Canadian Parks and Recreation Association (2015). This framework identifies increased inclusion and access as one of the five goals for enabling all Canadians to enjoy

recreation and outdoor experiences in supportive physical and social environments.

This playbook aims to give readers:

- insight into gaps and issues inherent in thinking about inclusive playground design and practice
- insight into how inclusive playgrounds and their surroundings are experienced together
- potential strategies that will contribute to project discussions, designs, budgets, and more
- a depth and breadth of 'how to' guidance for designing inclusive playgrounds
- ways to ensure that any inclusively designed playground and its surrounding environment are accessible and welcoming to children with disabilities and their families

It presents a comprehensive collection of considerations and strategies on topics that demand attention when creating an inclusive playground. This includes topics that sometimes get scoped out of playground design resources, such as community engagement, funding, programming, and the design of playground surroundings. Considering these things early on and throughout a playground design process is likely to enhance the inclusivity of the playground's design while preventing the need for costly accessibility retrofits later.

This playbook does not dissect specific playground regulations, safety standards, and/or measurements to identify specific best practices relating to technical aspects of inclusive playground design. This is because designers and builders of playground projects will always need to consider and account for the local environment; community cultures, goals, needs, and desires; municipal planning policies and regulations; and applicable safety standards.

Figure 1.1 | Inclusive Playgrounds and Inclusive Play Components

Image Sources (clockwise from top left): Landezine.com, recmanagement.com, Edmonton.ca, bciburke.com

1.3 Structure and Content

The next section (2) describes the methodology used to research and create this playbook. Sections 3, 4, 5 and 6 engage four questions, respectively:

1. How do we start?

2. Can I get there?

3. Can I play?

4. Can I stay?

Figure 1.2 offers an overview of this playbook in relation to these four questions and the topics engaged in relation to each. We acknowledge and thank the New South Wales Government (2019) for posing the last three questions in their useful report titled, *Everyone Can Play: A Guideline to Create Inclusive Playspaces.*

Section 7 provides the references cited in this playbook. Appendix A provides a table (A1) that lays out the materials reviewed and used to inform the playbook. Appendix B provides the KIDSS Inclusive Playground Evaluation Tool, which is discussed in Section 3.1.1.

Figure 1.2 | Inclusive Playground Playbook Overview

Inclusive Playground Playbook Overview

How Do We Start?
- Community Engagement
- Policy, Regulation, and Standards
- Institutional Leaders and Responsibilities
- Funding
- Playground Site Selection

Can I Get There?
- Communication
- Accessible Parking
- Pathways

Can I Play?
- Signage and Wayfinding
- Weather and Climate Considerations
- Play Programming
- Playground Surface
- Playground Component Selection
- Playground Safety

Can I Stay?
- Facilities and Amenities
- Landscaping and Safety Hazards
- Service and Maintenance

Created by Serena Sonnenberg

2 Methodology

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Methodology

The considerations and strategies discussed throughout this playbook have emerged from an international environmental scan of practice-oriented materials concerning inclusive playgrounds. To identify these materials, two researchers contacted a total of 23 practitioners experienced in designing, developing, and/or assessing inclusive playgrounds. An email was sent to these practitioners requesting that they send any materials that they regularly reference or use as part of their inclusive playground work, or that they think might be relevant to our scan. These communications occurred in Summer/Fall 2019.

Eighteen practitioners provided a total of 78 documents for consideration. Our team supplemented the practitioners' documents by conducting Google searches for practice-oriented inclusive playground materials. These searches yielded 70 additional documents. Finally, although the scoping review[1] conducted by Brown et al. (2021) focused on the academic literature on inclusive playgrounds, six practice-oriented documents emerged within scholarly databases and were added to the playbook resources list. In total, the practitioner input, Google searches, and the scoping review produced 154 records. After the removal of duplicate records and documents not written in English, there were 125 documents for review. The reviewed materials included, but were not limited to the following:

- Best practice reports
- Policy reports
- Accessible/inclusive design guidelines and guidebooks
- Regulatory standards
- Accessibility and inclusion plans
- Accessibility and inclusion toolkits
- Handbooks
- Graphics
- Maps
- Strategic plans/reports
- Research reports
- Programming reports
- Consultation reports.

[1] For the scoping review, see Brown et al., 2021. For more information about scoping reviews, see Arksey & O'Malley, 2005; Munn et al., 2018.

Table A.1 in Appendix A provides an overview of the reviewed materials (i.e., author, year, title, and document type).

Documents received multiple times (i.e., from different practitioners) were deemed to be especially useful and influential, and given extra review consideration. The analysis and writing of this playbook were not solely informed by the reviewed materials. To identify issues requiring consideration or strategies for improvement, the playbook's authors (T. Ross, K. Arbour-Nicitopoulos, I.M. Kanics, and J. Leo) were also able to draw on and leverage their knowledge about how inclusive playgrounds are designed and experienced. For context, at the time of preparing this playbook, some authors were simultaneously undertaking other studies concerning how inclusive playgrounds were being designed and experienced across Canada and the United States and therefore had useful analytical insights that could enhance the review of materials. In some cases, considerations and strategies discussed in the playbook also emerged from the authors' knowledge about other research topics, such as pedestrian safety/injury, health and fitness, transportation, community planning, inclusive design, and other relevant fields.

This playbook is not exhaustive and has some geographical gaps. For example, efforts to find practice-oriented inclusive playground materials yielded little content from Asia. However, we consider the repeated receipt of documents from practitioners (i.e., many of the same documents being received from multiple practitioners) as a sign of data saturation and thoroughness.

3 How Do We Start?

3

How Do We Start?

Initiating an inclusive playground demands a wide array of considerations and actions. Knowing where to begin can be challenging. This section considers three topics that warrant attention and action at the outset of an inclusive playground project. These are community engagement (Section 3.1); policy regulations, and standards (Section 3.2); institutional leaders and responsibilities (Section 3.3); funding (Section 3.4), and playground site selection (Section 3.5). Engaging in these topics early in the process will ensure ample time for the community to provide their input, for municipalities and institutions to fully acknowledge their responsibilities relating to inclusive play, and to raise necessary funds.

3.1 Community Engagement

Gaining community, institutional and financial support can improve the design of an inclusive playground and its surroundings and help to ensure timely development.

Inclusive playgrounds are spaces for all community members to enjoy and play freely. It is important to keep this in mind when initiating a playground project. It is equally important for playground designers and builders to acknowledge that they are likely unaware of what local community members of different abilities, ages, genders, cultures, and income levels want and need from a play space. Further, they likely do not fully understand the desires and needs of local advocacy groups (e.g., for children and disability groups) and institutions/organizations (e.g., schools, recreation centres, paediatric health care centres). As such, it is imperative to engage community members about the conceptual development, design, build, and sustainability of an inclusive playground. Learning about their experiences, needs, desires, and critical perspectives is likely to result in a more inclusive playground design. Plus, the engagement process itself can enhance inclusion by involving and welcoming people to voice their experiences and viewpoints.

Many best practice reports and toolkits for creating an inclusive play space emphasize consulting key individuals and groups, and even including them as part of a collaborative playground design team (Rick Hansen Foundation, 2019, n.d.; Christopher & Dana Reeve Foundation, n.d.; Touched by Olivia, 2021). Urban designers, planners, landscape architects, engineers, playground equipment

manufacturers, playground equipment installers, and local municipal officials are typically involved in creating a playground. Scholars have found that playground designers and builders often lack knowledge about experiences of childhood disability on the playground (Van Melik & Althuizen, 2020; Kerfield et al., 2018; Jeanes & Magee, 2012; Prellwitz et al., 2001; Prellwitz & Tamm, 1999).

Unfortunately, members of the community are at times not involved in the conceptual development and design of a playground. Or, in some cases, they are consulted in ways that are not particularly meaningful. Projects that do not meaningfully engage community members (e.g., children with and without disabilities, parents, and other caregivers) run the risk of missing opportunities to address local needs and desires and may produce play spaces that miss the mark and pose user experience problems.

Designing with playground users rather than for them is an invaluable practice for advancing the inclusivity of a playground's design. Having representation from individuals who are aware of the unique needs and interests of children with disabilities is a crucial step early on in a playground's design and development process. Gaining insight from children with disabilities and their families about their playground experiences can provide important input for future designs, as well as retroactive adaptations aiming to enhance playground inclusion (Van Melik & Althuizen, 2020).

In addition to children with disabilities and their families, consider involving:

- rehabilitation professionals working with children with disabilities, including occupational therapists, physiotherapists, speech language therapists, and therapeutic recreation specialists, and

- education professionals who work with students with disabilities (e.g., special education teachers, educational assistants) (Van Melik & Althuizen, 2020; Prellwitz & Tamm, 1999).

These professionals possess knowledge about different disabilities, the activities that occur within a playground and how they may be used for education and therapeutic interventions, as well as the design features, facilities/amenities, and programming supports that children might need.

When engaging the community, it is important to go beyond simply seeking families' playground experiences. Rather, children and their parents, along with professionals who work directly with families of children with disabilities, should be encouraged to offer their critical perspectives on proposed designs. They might be asked:

- What aspects of this playground design work for you/your child?

- What aspects of the surrounding environment work for you/your child?

- What aspects of the design need to be changed and why?

- How could we change the design to better suit your/your child's needs and desires?

This heightened level of engagement not only provides an opportunity to learn about practical ideas, user needs, community values, and cultural/historical landmarks, it also helps create a sense of community ownership and civic engagement regarding the playground (Rick Hansen, 2019; Touched by Olivia, 2021; Casey & Harbottle, 2018).

> *"[Create] the opportunity to have the people in the community be part of the conversation before [a playground] is built. That is the biggest suggestion, I would say."*
>
> *– Inclusion professional who works with children with disabilities*

Community engagement can vary along a continuum from informal, minimal work to more formal, contract-based or legally required work (e.g., via planning legislation relating to public consultation). Engagement may begin with informal discussions with families, education/rehabilitation staff, as well as local community groups and businesses. These discussions can help all parties learn about an inclusive playground. They also help create community discussion and identify individuals and groups who can be involved in community engagement activities going forward. Engagement can then become more formal by having families and local bodies join a playground planning/design task force or committee (Playworld, 2015). It may be practical to also involve consultants and hold formal events. Events and tools that give voice and provide agency in decision-making to local families, community groups, education/rehabilitation staff, and businesses ensure meaningful engagement and avoid tokenistic consultation. Incorporating multiple levels of engagement practices into an inclusive playground's design process will help to optimize the voice of children with disabilities and the collective group of their stakeholders (Amirav et al., 2017).

3.1.1 Community Engagement Events and Tools

Here are some ways to involve local children and families, education and rehabilitation professionals, businesses, non-profit groups, and accessibility experts in the planning and design of inclusive playgrounds:

Public Forums: Public forum events are practical and widely used for engaging communities in the fields of planning and development. Such events can be held at the start of a planning and design process to initiate public input, at strategic points during a project to ensure ongoing engagement, and post-build to allow community members to voice any issues and to keep them informed about events and programming at the playground. When holding public forums, it is important to:

- provide imagery of inclusive play spaces (e.g., photos, renderings, videos, and information sheets about barrier-free equipment).

- invite specific groups (e.g., families that have a member with a disability, education and paediatric rehabilitation professionals) and the general public, depending on the topics to be considered.

- make sure the forum venue and program are fully accessible (e.g., accessible entrances and washrooms, poster boards at accessible heights and with large fonts; accessible activities for children to provide input, such as drawing, clay,[2] LEGO® blocks, craft materials) (Rick Hansen Foundation, 2019, n.d.).

Some useful public forum formats include:

- **Town Hall:** Community leaders and those involved in creating an inclusive playground can invite members of the public to voice their ideas, concerns, and opinions about the project. Community leaders gain public input and respond in real-time.

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[2] Clay is noted here rather than play dough because some people are allergic to the latter.

- **Workshop:** Workshops can serve as a practical means of engaging community members early on about how they understand and value inclusive play and inclusive playgrounds. They can also be useful for obtaining stakeholder and/or public input on specific issues and decisions. For example, a workshop might be held to brainstorm ideas about an aspect of the playground and/or to conduct a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of certain parts of the playground (e.g., its theme, colour scheme, potential locations, design options).

- **Design Charrette:** A charrette is a meeting in which all stakeholders (often from multiple disciplines) participate in activities focused on identifying solutions. Holding a charrette focused on identifying playground design issues (e.g., via small group activities and large group discussions) can produce invaluable design insights that improve a project. A series of design charrettes may be desirable for an inclusive playground design/build process (e.g., to identify/resolve issues at the outset, midway through, and near the end).

- **Public Open House:** A public open house can be used to receive feedback on various topics. For example, a public open house could be held to present and receive feedback on potential playground site locations, different barrier-free playground components, playground layout options, or a selected playground design option (e.g., via a PowerPoint or video presentation and/or poster boards displayed around an event space). These events allow the public to provide feedback to community leaders, consultants, and playground developers (e.g., via conversation, comment boxes, online feedback/email options, or other feedback tools).

- **Virtual/Online Event (or Event Component):** Conducting an online event or integrating an online component into an in-person event, can help make participation convenient for those who might not be able to attend a public forum event in-person. Online components need to incorporate accessibility features (e.g., closed captioning, live transcription using AI-software, adding alternative text to images in presentations).

Surveys: The use of online surveys can be a practical and efficient means of soliciting input from the public and can be meaningful for those community members who cannot attend a public forum. When designing a survey, consideration could be given to including questions about individuals' preferred site location(s), barrier-free play components and their importance to children's play, safety issues, access to nearby amenities (e.g., washrooms, parking), and transport needs (Brown et al., 2021). Like hosting an online event, any online survey must incorporate accessibility features (e.g., strong colour contrast themes, simple and plain language, sans serif and larger font, image descriptions via alternative text (Canadian National Institute for the Blind, n.d.).

Accessibility Audits: In some cases, it may be helpful to ask individuals with disabilities (both children and adults), their family members, members of the public, and professionals who work with children with disabilities to do an accessibility audit of a community's existing playgrounds. This may help with site location decisions (e.g., by identifying geographic gaps in accessible play opportunities) while educating those involved in audits about the various accessibility and inclusion issues in some playground designs. Research has found that the involvement of children and youth in assessing environmental barriers is an efficacious practice (Pivik, 2010). Several tools are available for playground accessibility audit activities. See **Table 3.1** for some audit tools that were identified by playground experts or identified through this project's grey literature review. See also **Table B.1** in Appendix B for the KIDSS Inclusive Playground Evaluation Tool developed by one of this playbook's co-authors (I.M. Kanics).

Playground Planning/Design Task Force or Committee: Creating a playground planning/design task force or committee that collectively represents diverse expertise on accessible/inclusive design, play experiences of children with disabilities, and local needs and desires (e.g., of families, education/ rehabilitation professionals, businesses, and municipal staff/officials) can be integral to advancing a more inclusive playground design and its timely build. PlayWorld (2015) suggests aiming to have individuals with expertise that covers a range of disabilities on the committee, including visual, hearing, and mobility impairments; autism spectrum disorder/sensory processing disorder, and cognitive disabilities. Consider how children with and without disabilities can be included in the committee or contribute to its efforts. It is strongly recommended that a chair or co-chairs be appointed to lead the committee (Rick Hansen Foundation, 2019; Casey & Harbottle, 2018; Christopher & Dana Reeve Foundation, n.d.; KABOOM!, n.d.). Depending on the committee's goals and resources, you may want to create sub-committees (e.g., for communications, fundraising, construction, programming) (Rick Hansen Foundation, 2019; Playworld, 2015; KABOOM!, n.d.).

Community Advisory Board: In some cases, establishing a volunteer community advisory board may be more desirable for a community. This board would play an ongoing advising role from the project's initiation through to design and implementation, and possibly after the build (e.g., to advise on maintenance, budget, and programming).

Figure 3.1 provides a graphic representation of different actions that be taken to facilitate strong community engagement for inclusive playground projects.

Table 3.1 | Playground Accessibility Audit Tools

Audit Tool	Description	Areas of Focus
Community Health Environment Checklist (CHEC), Jessica Dashner (USA)	A tool that offers standardized measures of the usability of community sites for people with disabilities. The tool can support the work of disability advocates, independent living staff, occupational therapists, as well as rehabilitation, social work, and public health professionals.	Parking, entrances, restrooms, building usage, accessibility specifications
Design Principles Checklist, New South Wales, Everyone Can Play (Australia)	A tool that assists with determining priorities when designing a playspace. Items situated around six best practice design principles: Find, Fit, Choice, Join In, Thrive, Belong.	Location, layout and accessibility, signage and wayfinding, play experience, equipment and surfacing, landscape, safety, facilities
KIDSS Inclusive Playground Evaluation Tool (see Appendix B), Kanics Inclusive Design Services	An evaluation tool designed to help identify strengths and weaknesses within and around a park/playground environment.	Transportation, parking, amenities (safety, eating, resting, washrooms, drinking fountains), accessibility features, variety of play experiences (vestibular, proprioceptive, sensory, social), equipment maintenance and safety
Para NB – Sport & Recreation Playground Accessibility Checklist, Para New Brunswick Sport & Recreation, Canada	A brief checklist designed to assist organizations and park and recreation professionals in New Brunswick, Canada to work towards creating inclusive play environments for children with and without disabilities in schools, parks, childcare facilities, private recreation developments and other public use areas.	Parking and signage, surfacing, accessible routes, play components, group level play components, elevated play components, turning spaces, level landings & entrances, ramps, transfer stations & handrails, splashpad accessibility
Playability Toolkit (modified version available in Rick Hansen's Toolkit), Ontario Parks Association, Canada	A checklist that supports parks and playground designers with rebuilding parks and playgrounds. It emphasizes the removal of barriers and providing support and opportunities for all people.	Entrance to the play space, pathways, play equipment, surfacing, play space layout and amenities, social and natural features
Playspace Evaluation Checklist, New South Wales, Everyone Can Play (Australia)	An evaluation checklist designed to help ensure that more people can get to, play, and stay at existing playspaces. It can also be used to review inclusive playgrounds. It is framed around the questions: (1) Can I get there? (2) Can I play? and (3) Can I stay?	Location, layout, signage, access, play experience, wayfinding, access, equipment, surfacing, safety, facilities, landscape

Figure 3.1 | Community Engagement for Inclusive Playgrounds

Community Engagement for Inclusive Playgrounds

Engage community gatekeepers, key informants, and local champions to learn about community needs and issues and support local buy-in for a playground project

Create a comprehensive community engagement strategy that outlines individual/group roles, goals, key actions, and how public feedback and responses will be shared

Engage institutional leaders by helping them to understand the value of an inclusive playground, and to question if they have an institutional responsibility to support inclusive play

Hold public forums (e.g. town hall, workshop, design charrette, public open house, and/or virtual events) to learn about community perspectives, needs, and desires

Survey the community using online tools to provide feedback opportunities for those who cannot attend public events and to gain input on specific issues

Establish a playground planning/design task force comprising of individuals with diverse experiences and expertise on playground design, play experiences, and local needs

Establish a child advisory committee to ensure children's voices are heard and to help with designing child-friendly engagement activities

Conduct accessibility audits of existing playgrounds with community members to identify accessible design issues and geographic gaps in accessible play opportunities

Include child-friendly activities to obtain input from those who will use the playground most

Continue community engagement after completion to receive ongoing input on playground safety, maintenance, programming, and events

Note: community engagement processes will vary from one project to the next

3.1.2 Child-Friendly Activities

Incorporating child-friendly activities into community engagement events can help with collecting input from those who will use the playground most: children. Many children benefit from having an alternative means of communication, or something to reference (e.g., a photo, drawing, craft), when trying to communicate their ideas and feelings. Municipalities, playground designers/developers, and community groups are likely to benefit from using child-friendly activities that are tailored to local contexts and issues, as well as what they want to learn from children. When designing and carrying out any such activities, ensure that accessibility is considered (e.g., physically accessible activity tables, facilitators who are experienced in working with children with different types of disability).

Some child-friendly activities that can be considered for incorporation into community engagement events include:

Facilitated Table Activities: Having one or more tables set up where facilitators support children in activities that help them provide input on a playground project is a great way to ensure children's input is included. Some table activities, as shown in **Figure 3.2**, include:

- **Drawing and Building:** Provide table space with drawing and/or building materials (e.g., blocks, LEGO® bricks, clay), and have a facilitator present. Ask children to draw and/or build things they like and dislike about a playground they know, or about a proposed playground design. Alternatively, you can ask children to draw and/or build something to show a time when they had fun and did not have fun at a playground. Ask them to explain their drawings and built structures and take notes on their input.

- **Storytelling:** Have a table where a facilitator engages children by asking them to share stories about past playground experiences that were fun and not fun; about getting to and from the playground; and/or about a proposed inclusive playground design. Storytelling can be integrated into drawing and building activities.

- **Poster Boards for Drawings and Sticky Notes:** Adding a poster board specifically for children's input at a public open house event (e.g., where they can post drawings, put up sticky notes with their ideas) involves children and creates an opportunity for them to share their input with the public.

- **Mobile Activities:** In some cases, it may be practical to undergo mobile activities with some children. This may involve asking children questions while visiting existing playgrounds or a proposed playground site. Asking children to take photos of playground features they like and dislike, and then to discuss their photos is a great way for children to share their experiences and to get them interested in a new playground project.

Figure 3.2 | Child-Friendly Table Activities

Sources (left to right): lego.com, kaboom.org

- **Child Advisory Committee:** Creating a committee of local children and/or youth to provide ongoing input throughout a playground project helps to ensure their voices are regularly heard. Such a committee can also provide useful input regarding the design of child-friendly activities for a community engagement event.

3.1.3 Community Engagement Strategy

Establishing a comprehensive community engagement strategy early on can help to optimize engagement and to avoid excluding individuals and groups. Recognizing and valuing the input of families of children with disabilities, local community/advocacy groups, education and health care practitioners, and other stakeholders during the design process is important for creating community buy-in and advancing an inclusive playground that suits community needs and desires. At the same time, consideration must be given to the limited time and resources that some of these parties face, particularly families of children with disabilities. Crafting a community engagement strategy can help to ensure that families and other stakeholders have ample opportunity to provide input and help to prepare the team to consider and share input in a meaningful way.

When crafting a community engagement strategy, it is useful to consider and account for the following:

- **Who:** Identify the core individuals/groups who need to be involved in carrying out community engagement and providing, managing, and sharing input. This may involve identifying the roles and responsibilities of key individuals (e.g., members of a community engagement committee or a playground planning/design task force) and creating a list of stakeholders who should be invited to provide input.

- **What:** Clearly identify specific goals that the team (or specific committees) is trying to achieve through its community engagement strategy.

- **How:** Identify key actions (e.g., website, public forums, surveys to engage the community) and create a precise plan for carrying out these actions (Playworld, 2015). This plan needs to extend beyond the initial design phase to the build phase and perhaps even beyond (e.g., to engage stakeholders about specific design/build challenges, play programming, playground maintenance, scheduling of events, improving/ maintaining the surrounding environment). Different events and strategies will be more suitable for different stages of a project. For example, creating a task force may be useful for the design and build phases, while an advisory board may be the best option for playground programming and/or maintenance. Establishing an approximate timeline of events and actions will help guide your community engagement plan.

- **Sharing Community Feedback and Team Responses:** Consider how the team will share or report community input that is received via events or online feedback tools. Sharing community input, along with team responses to the input, supports transparency and allows the community to learn about the array of issues and concerns associated with creating an inclusive playground.

Partnerships are an essential part of a community engagement strategy. Such partnerships require a mutual understanding and respect of roles and expectations. Community partnerships are not formed overnight; rather, they often require a project team to invest time and resources for creating an authentic structure where ideas and criticisms can be shared freely without fear of judgment, which is invaluable to collaborative decision-making. Start thinking about and acting to establish partnerships early on. Some items to consider for creating community partnerships include:

- **Who You Know:** If the project team has existing relationships with local families of children with disabilities, professionals who work with children with disabilities, or relevant groups, (re-)connect with them early on about possibly being involved and/or providing input on an inclusive playground. You can also ask them about other individuals or parties they think should be involved.

- **Agency/Institutional Contacts Tied to Inclusive Play:** Reach out to local schools, not-for-profits, local rehabilitation clinic facilities, and/or recreation centres to ask them about personnel, families, or other individuals/groups who may be interested in being involved in the project. Representatives from these bodies can likely direct or connect you to individuals or groups who have an influence in the community.

- **Community Gatekeepers and Key Informants:** Reach out to leaders and gatekeepers who are respected and influential within the community, and who know the community and its issues (March of Dimes, 2017). They may be able to assist your team with community engagement events. Key informants have experience and knowledge of the community, its history, and people. They will be able to provide information on issues related to culture, relationships, and barriers (March of Dimes, 2017). Community gatekeepers and key informants may include business or civic leaders, people with high credibility (e.g., local athletes), parents, and child advocates.

- **Local Champion:** Consider identifying a well-known local resident who can serve as a local champion of inclusive playgrounds. This individual could be a community gatekeeper or someone who is well-known/well-liked among residents, and who is committed to improving their community. Ensure that the local champion is educated on the value of creating inclusive play opportunities in the community and consult them about when and where they can help with the community engagement strategy, events, and fundraising.

Initiating an inclusive playground project that involves community partnerships and provides numerous opportunities for community members to offer input will help to create community buy-in for a project and help to advance more inclusive play spaces for the community to enjoy (Brown et al., 2021).

3.2 Policy, Regulations and Standards

When starting an inclusive playground project, it is important to consider any land use/design policies and regulations that apply to the playground site. Pay attention to:

- any overarching provincial/territorial/state or municipal plans that provide policy directions on community land uses and goals

- policies detailed in secondary plans, heritage plans, community improvement and revitalization plans, subdivision plans, environment plans, or other applicable plans

- applicable zoning bylaw regulations that implement policy directions relating to community land uses and goals.

For example, consider in advance whether the zoning of a proposed playground site lists playgrounds as a permitted use (or if an amendment might be required), what parking provisions must be satisfied, and if the zoning of surrounding lands have permitted uses suitable for a nearby playground. Reaching out early to municipal planners and designers, and possibly to provincial/territorial/state officials is strongly recommended to help ensure that relevant policy and regulation are taken into account when designing a playground and its surroundings.

Consider applicable safety standards for playgrounds. Some examples of these standards include the sixth edition of the CSA Group's (2020) "CSA Z614:20 Standard, Children's Playground Equipment and Surfacing," the "ADA Standards for Accessible Design" (Department of Justice, 2010), as well as

Australian Standards "AS4685 Playground Equipment and Surfacing" and "AS1428 Design for Access and Mobility" (see Appendix A for more on these materials). Playground equipment manufacturers, vendors, and installers who are familiar with applicable safety standards will be helpful in ensuring a playground's surface, equipment, and layout satisfy or exceed applicable playground safety standards.

Engaging municipal planners/designers and playground companies early on to learn about applicable land use policy/regulation and playground safety standards can help prevent errors in the planning and design of a playground, and answer any related questions or concerns from community members. Reaching out to municipal planners (and even local developers) early may also present unique opportunities to create an inclusive playground. These individuals may know about development projects that could potentially include an inclusive playground project. For example, there may be an opportunity to incorporate an inclusive playground project into a subdivision plan or park plan, or there may be an opportunity to fund an inclusive playground through a community benefits exchange (i.e., a municipality could receive playground funding in exchange for permitting an increase in density/height for a development).

3.3 Institutional Leaders and Responsibilities

In addition to engaging professionals across institutions (e.g., government, health care, education) whose work directly affects families of children with disabilities, it is useful to reach out to leaders in these institutions (e.g., elected representatives, school board and school leaders, senior policymakers). Engaging institutional leaders can help them to question, understand, and acknowledge the value that an inclusive playground contributes to a community and to their institution's goals. It may also lead them to question their institutional responsibility to support inclusive play opportunities. In turn, this may lead to increased institutional support and new opportunities for an inclusive playground project.

Provide institutional leaders with information about the importance of inclusive play and the proposed inclusive playground. Informally ask them questions about the ties between their institution and inclusive play, and what, if anything, they are doing to create inclusive play opportunities. Asking leaders the five questions noted below may help them reflect on their institutional roles and responsibilities relating to inclusive play, if they are doing enough, and what they could do:

1. What play infrastructure is currently present across your institutional spaces and lands (e.g., schoolyards, public parks, paediatric health care environments, recreation/sports facility sites)?

2. To what extent does the existing play infrastructure account for the presence of individuals with disabilities (e.g., accessible playground surfaces, equipment, and surroundings; equipment supporting different types of play; inclusive programming)?

3. What responsibilities must families with members with disabilities take on to gain access to and use play infrastructure within (or beyond) their communities?

4. Are the responsibilities that some families living with disability take on equitable when compared to the responsibilities required of families of children without disabilities? If not, should your institution be offering supports to make access to play more equitable for these families?

5. Can your institution do more to support the creation of (or, increase access to) inclusive play environments? How can this be done (e.g., via policy, regulation, or standards; funding; programming opportunities; providing lands for inclusive play infrastructure; championing inclusive play within the institution)?

Having institutional leaders understand the importance of inclusive playgrounds and any responsibilities they have to support and advance equitable access to play opportunities can be beneficial. Their involvement may lead to new opportunities relating to playground sites, funding, and the identification of champions of inclusive playgrounds within institutions. Identifying institutional leaders willing to serve as champions may be particularly useful. Their presence and roles in decision-making processes combined with their influential social networks may yield important policy changes, funding and programming opportunities, and new collaborations with institutional bodies. An effective institutional champion will be in a senior-level position; be deeply engaged with their institution, the community, and children/disability groups; and be knowledgeable of inclusive play and its importance to families living with disability and the broader community.

3.4 Funding

Funding can be a key challenge for community groups, municipalities, and other bodies aiming to build an inclusive playground. The following subsections consider ways to fund inclusive playgrounds. Specifically, they consider the development of a grants strategy (Section 3.4.1), establishing partnerships (Section 3.4.2), and undertaking community fundraising activities (Section 3.4.3).

3.4.1 Grants Strategy

Applying for grants can be an effective way to obtain funds for an inclusive playground. It is practical to develop a grants strategy at the outset of an inclusive playground project. Creating a strategy as early as possible should be emphasized since it may take months to prepare a grant and to have it reviewed (Play Wales, 2016).

The following considerations may be useful when crafting a grants strategy:

- **Government grants:** Research relevant municipal, regional, provincial/state, and federal government grant opportunities. There may not be grants specifically for inclusive playgrounds, but an inclusive playground is likely well aligned with broadly scoped grants aimed toward improving parks and recreation; school environments; communities and neighbourhoods; accessibility; children's activity, play, and safety; health and wellness; and the inclusion of children with disabilities.

- **Private sector/corporate charity grants:** Some corporations have charitable foundations that offer community development grants that may support an inclusive playground project (e.g., American Express Grants, Canadian Tire Jumpstart Charities' Community Development Grants, Walmart Local Community Grants, RBC Learn to Play Project Grants, Lowes Foundation grants, Hasbro Children's Foundation Grants). For lists of corporate charity grant opportunities that could be applicable to inclusive playgrounds, see Charity Village (2019), Peaceful Playgrounds (2020), and Playworld (2020).

- **Non-profit organization grants:** Non-profits may have grants dedicated specifically to funding playgrounds or community improvement projects. When seeking out these grant opportunities, consider organizations with concerns and goals that are aligned with inclusive play (e.g., non-profits focused on childhood disability, children's play and activity, parks and recreation, and community improvement). The website of the non-profit 'Candid' (see candid.org) offers useful resources for finding non-profit grant opportunities.

- **Small grants:** While it is logical to seek grants that can cover a large portion of costs for an inclusive playground project, small grants (e.g., up to $10,000) can be used to cover costs of smaller projects relating to a playground's surrounding environment (e.g., pathway repairs, purchasing shade structures; supporting a programming project). Small grants for community projects may be available from governments,

private and non-profit sector organizations, and community foundations that award family endowments. For example, the Hine Memorial Fund in Youngstown, Ohio, USA provides annual grants that support community projects focused on advancing inclusion.

- **Building relationships:** Create and maintain relationships with potential partners, funding bodies, or influencing bodies (e.g., local councils, neighbourhood groups, local businesses, politicians, corporate charities) before grant competitions. Having relationships in place may help with identifying funding opportunities and make it easier to assemble project teams for grant applications (Office of the Deputy Prime Minister, 2003, p. 57).

- **'Ready to go' projects list:** Have a list of potential projects established so that applications can be quickly put together when funding opportunities arise. This can save time and help to avoid missing opportunities (Shackell et al., 2008, p. 29).

- **Grant opportunities timeline:** Having a clear timeline of grant opportunities (i.e., dates for announcement, registration, submission, and decision) can help to ensure adequate time for preparing applications and, more generally, to ensure a well-organized grants strategy (Shackell et al., 2008, p. 29).

If awarded funding, the funding body will likely require a report detailing the ways in which funds were distributed. Keeping clear, concise documentation as grant funding is spent can help to reduce work when preparing a funding report later.

Applying for grants can be an effective way to obtain funds for an inclusive playground. It is practical to develop a grants strategy at the outset of an inclusive playground project. Creating a strategy as early as possible should be emphasized since it may take months to prepare a grant and to have it reviewed (Play Wales, 2016).

3.4.1.1 Writing a Grant Application

Writing a grant application requires forethought, preparation, and careful writing. An application may consist of an introduction, project summary, a work plan and project schedule, a budget, an explanation of project team qualifications and experience, and the inclusion of required appendices. Emphasize clarity, concise writing, and the use of a professional voice when preparing an application. It is also extremely important to follow grant application instructions. This means that you must provide all required components within page limits and satisfy all formatting requirements (e.g., font size and style, margins). Failing to meet these requirements may, in some cases, lead to your application not being read. Attention to detail is imperative.

The 10 tips for writing grant applications below come from Landscape Structures Inc. (2021):

1. Understand the purpose of the grant and write to the grant requirements

2. Establish goals and activities that are clear

3. Before you begin writing, outline your playground proposal

4. Write clearly, concisely, and professionally

5. Write as if your playground project has already been funded and you are explaining what you will be doing

6. Be sure to consult with required stakeholders and get appropriate approvals to submit the grant early in the process

7. Use visuals of your playground plans when possible as the appearance of your proposal matters

8. Read and edit your complete proposal

9. When you finish a draft, double-check that your proposal meets all grant requirements

10. Have someone not familiar with your project review the proposal for clarity

When preparing an application for an inclusive playground, emphasize the importance of creating play opportunities for children with disabilities and acknowledge the importance of providing opportunities for parents with disabilities and grandparents to join and play with children on the playground. It is also practical to emphasize engagement with stakeholders from the disability community (e.g., children with disabilities, parents/ siblings, adults with disabilities, professionals in paediatric health care, education, and recreation), and to include visuals of disability in a playground setting.

3.4.2 Partnerships

Creating partnerships with corporations and their foundations, local businesses, non-profit organizations, community groups, and institutions is another way to produce funding and support for an inclusive playground. Establishing partnerships may also be necessary for some grant applications. When establishing partnerships, the following considerations may be useful:

- **Community partnerships:** Forming partnerships with municipal councils, neighbourhood groups, and/or local advocacy groups can be valuable in terms of finding ways to fund an inclusive playground project and to engage the community in the project's design and goals. These parties may be able to create important connections, identify and support fundraising opportunities, and contribute directly to funding (New South Wales (NSW) Government, 2019, p. 44).

- **Corporate/local business sponsorship:** Corporations, their charities, and local businesses may be interested in playground sponsorship. This may require some form of recognition (e.g., playground naming rights, plaques acknowledging patronage, acknowledgment of sponsorship in media and/or on-site signage). Partners may not require recognition, but it is helpful to establish ways to acknowledge their contributions to encourage sponsorship. Acknowledging donors through donor signage that shows different donor levels (e.g., platinum, gold, silver, bronze; see **Figures 3.3** and **3.4** for examples of signage acknowledging different donor levels), is preferable to the application of donor plaques to individual pieces of equipment. Placing donor plaques on individual pieces of equipment is more difficult to administer, can detract from a playground's visual appeal, and the plaques can be damaged or ripped off. Designing a donor board that allows for names to be added after the fact (e.g., for funding that supports playground service and maintenance, programming options,

Figure 3.3 | Signage Acknowledging Different Donor Levels

Source: Ingrid M. Kanics

Figure 3.4 | Buy-A-Brick Campaign Signage

Source: Ingrid M. Kanics

or improvements to playground surroundings) may simplify donor acknowledgments in the future. For example, **Figure 3.4** displays empty bricks that can have names inscribed later.

- **Corporate/local business in-kind contributions:** Corporations, their charities, and local businesses may also be interested in partnering on playground projects through in-kind contributions (i.e., the contribution of resources or a service). For example, a local construction company may donate the material and labour required to install sidewalks around a playground; a large firm may donate landscape design services. In-kind contributions can significantly reduce playground project costs.

- **Institutional sponsorship:** Schools, health centres and recreation facilities may be interested in sponsoring an inclusive playground in exchange for funding acknowledgment and/or having access to the playground space for programming.

- **Sponsorship beyond the playground:** Sponsorship can also be applied to the design and building of facilities and amenities around a playground (e.g., accessible washrooms, changing rooms, and picnic areas). Consider also finding partners to sponsor necessary servicing and maintenance, and programming.

- **Challenge/matching initiatives:** A partnering sponsor or donor's funding can be leveraged by setting up an initiative where the partner matches contributions made by other businesses and/or members of the community. The matching structure can be arranged to fit the partner's funding abilities and desires, as well as project needs. For example, the partner could match every dollar, or give two (or three) dollars for every dollar donated. They could also create a challenge for the community by stating that they will match donations if the community reaches a certain amount. These initiatives encourage donor generosity. This kind of initiative requires advanced planning, partnerships, promotion, event planning, and public outreach. Crowdsourcing tools can support and amplify a challenge/matching initiative.

3.4.3 Community Fundraising Activities

Community fundraising activities are a great way to raise funds for an inclusive playground while simultaneously increasing awareness of a project and engaging the community. When developing these activities, it is important to work collaboratively with partners, and to engage municipal council who may have funding to support a fundraising event. Other community organizations should also be consulted, as they may be able to offer financial or volunteer support for a fundraising event, or they may have ideas for integrating a fundraising campaign into their own events. Local businesses (e.g., grocery stores, cafés, restaurants, shops) might allow for an inclusive playground fundraising campaign/event to be advertised in their establishments. There are many different activities that can raise funds for an inclusive playground. Some options that warrant consideration are as follows:

- **Host a fundraising event:** A well-designed fundraising event that suits the community can be an efficient and effective way to obtain playground funds, while bolstering civic pride, community engagement, and buy-in. A few well-organized and thoughtfully promoted fundraising events can be more effective than consistently asking individuals or organizations for donations via telephone or mailing campaigns (Christopher and Dana Reeve Foundation, p. 13). Potential events include a local breakfast/dinner, a BBQ event at a park, or a speaker event. (Bi-)annual events, such as galas, wine tasting evenings, auctions, or 5K/10K walk/run events can continue long after a playground opens to support the playground service and maintenance, playground programs, and the building of surrounding facilities.

- **Engage civic pride:** Incorporate themes that are meaningful to the community (e.g., school colours, community symbols, local history) when designing fundraising campaigns and events. This helps people relate to and buy into your inclusive playground project.

- **Involve institutional and/or local champions:** Local champions of an inclusive playground project may identify existing fundraising opportunities or create new ones through their associations with institutions, corporate charities, local businesses, and other contacts.

- **Phone, email, and/or mail campaigns:** Reaching out to community members individually to educate them about an inclusive playground project and to request funding can help engage donors who might otherwise not know about the project or fundraising efforts. Indicating partnerships with local businesses or non-profits in communications for these campaigns may help to engage community members who may have a bond with the businesses or non-profits.

- **Crowdfunding campaign:** Creating a crowdfunding campaign (i.e., raising small amounts of money from a larger number of people, typically through the internet) can help reach donors beyond the local community who may be invested in advancing inclusive play. Noting involved partnerships and challenge/matching initiatives may help to enhance engagement among potential crowdsourcing donors.

- **Patronage of pieces program:** Encourage donations by having individuals or businesses fund specific pieces of a playground (e.g., individual swings or a swing set, a musical play component) and the surrounding environment (e.g., individual picnic tables or a picnic area, benches, a washroom/changing room facility). Donated funding for each piece does not need to reflect its actual cost. A percentage or set amount may be applicable, depending on the project, piece, and funding circumstances. Creating patronage for pieces can encourage donations. Offering the option to publicize patronage or 'ownership' of pieces through a newsletter, media, social media, and/or a plaque can further motivate donations (Playworld, 2015, p. 11). It is recommended that acknowledgment plaques not be placed on individual pieces of equipment because this can detract from a playground's visual appeal and the plaques may be damaged or ripped off. Acknowledgment via plaques or donor board signage nearby the playground is more suitable. See **Figure 3.5** for a sign acknowledging donors' support for individual pieces of equipment.

- **Permanent recognition of donations:** Providing permanent recognition for all donations of a certain amount may encourage donations. Two examples are:

  - *Buy-a-brick campaign:* Bricks (or pavers) are priced for individuals, families, and businesses, and then all donors are recognized through a brick wall or a paver walkway with donor names inscribed on the bricks or pavers. Local brick/paver-making businesses should be able to help with organizing the pricing and customization of imprinted bricks (Playworld, 2015, p. 11). See **Figure 3.4** above for an example of buy-a-brick signage.

  - *Buy-a-tile campaign:* A child can buy a tile for $5 to $10 and then put their handprint on it or paint it as they wish. The tiles are then integrated into wall. When the playground opens, children will search for their tile to show everyone. The tiles add a sensory element and create ties to community members.

Figure 3.5 | Sign Acknowledging Donor Support of Equipment Pieces

Source: Ingrid M. Kanics

3.5 Playground Site Selection

An inclusive playground's location has implications for its accessibility, usage, safety, sustainability/ longevity, programming opportunities, and more. Carefully analyzing the playground site is crucial. Considerations include land use policy directions and regulations (e.g., where playgrounds are a permitted use), safety hazards (e.g., open water, road traffic), proximity to neighbourhoods and/or institutional settings that serve children, and gaps in play opportunities across a geographical region.

When determining the site of an inclusive playground, pay attention to a municipality's policy and strategic directions, and the needs and desires of the public. If a municipality has identified gaps in play opportunities across its communities, it may be best to develop a number of strategically placed, smaller inclusive playgrounds to help address these gaps. Or, if a municipality wishes to provide play opportunities to its surrounding region, a large 'destination' playground with surrounding facilities may be most practical. A municipality may also wish to strategically situate an inclusive playground such that it can be readily accessed by a children's hospital or recreation centre so that the inclusive play infrastructure can be leveraged via programming (see Section 5.6). At the same time, public engagement is essential, as playgrounds are not always desirable in certain locations (e.g., in very close proximity to people's homes due to the potential for noise). Thoughtful engagement is invaluable for determining the location(s) and scale(s) of an inclusive playground that align with a municipality's vision and the needs and desires of the public.

Here are some considerations and strategies when determining the location of an inclusive playground:

- **Gaps in play opportunities:** Assessing gaps in play opportunities across a community, municipality, and/ or region can help with placing inclusive playgrounds in locations where they are needed. This can be done via online surveys, community planning public engagement events, community needs assessments, and/or through play opportunity assessments. For example, Play Wales (2012) crafted a Play Sufficiency Toolkit and Play Sufficiency Assessment Proforma to help with assessing and addressing barriers to play. This was done in response to the Welsh Government's introduction of the Play Sufficiency Duty, which places a responsibility on all local authorities to assess children's opportunities for play every three years and to respond accordingly where such opportunities are inadequate. Similarly, the 2019 Irish Play Policy supports City/County Development Board assessments of play facilities in each local authority to identify the accessibility, level, range, and standard of play facilities available to children of different ages (National Children's Office, 2019). The intent of these assessments is to prioritize the advancement of play opportunities for children who are disadvantaged and/or who have a disability. It may be practical to specifically assess inclusive play opportunities across a geographical area and to respond accordingly.

- **Soil tests:** Once a potential site has been identified, soil tests are needed to test the land for lead, arsenic, and other toxic materials. It can take 8-10 weeks to fix a site if lead or another heavy metal is present (KABOOM!, 2021). Depending on federal or state/province-level regulation, tests may need to be repeated. To reduce the risk of encountering soil issues, it is practical to consider the history and uses of potential sites and their surroundings. Sites that were previously used for industrial purposes, orchards or farm lands, or are nearby industrial sites or highways are more likely to have heavy metals present (KABOOM!, 2021).

- **Site proximity to:**
  - **Safety hazards:** Consider potential playground sites' proximity to hazards such as open water (e.g., rivers, ponds, drainage ditches), steep slopes and embankments, road traffic, or incompatible land uses

(e.g., lounges, taverns, industrial areas, adult-oriented retail). Proximity to a hazard does not necessarily make a site unsuitable for an inclusive playground, as the hazard can be mitigated via design interventions (e.g., fencing, signage) or, possibly, the removal of a hazard.

- **Floodplains:** It is important to check flood plain maps to avoid locating an inclusive playground within a floodplain. Flooding can cause damage to playground equipment, and severe damage to a playground's expensive poured-in-place rubber surfacing. Regular flooding may also lead to possible toxins from the environment being deposited on site.

- **Accessible public transit:** Being close to accessible public transit, especially subway/light rail transit stations or bus stops where vehicles stop frequently, can enhance a playground's accessibility and increase its usage. Having accessible transit options to go to and from an inclusive playground should be considered a high priority given how important these options are to providing equitable access to play opportunities.

- **Accessible parking:** An inclusive playground should be situated near an adequate number of accessible parking spaces for playground users and not users of an adjacent land use. If a playground must be situated away from accessible parking, the playground and parking must be connected by an accessible and serviced pathway (see Sections 4.2 and 4.3).

- **Neighbourhoods/housing:** Situating a playground within or near a neighbourhood can provide residents with easier access to play by reducing travel times to playgrounds. This proximity to playgrounds can be enhanced by safe, level, and wide community sidewalks that support access and inclusion within the surrounding neighbourhoods. Having convenient access to playgrounds may allow for playgrounds to serve as a 'third place' (i.e., a community space outside their homes and work/school; see Oldenburg, 1989) where children and caregivers can experience community interaction and cohesion.

- **Existing facilities:** Providing adequate accessible facilities surrounding an inclusive playground (see Section 6.1) enhances a playground's accessibility and inclusiveness. Assessing existing facilities (e.g., washrooms, changing rooms, picnic tables/spaces, water fountains) near the site could lead to cost savings and enhanced accessibility and inclusion. If these facilities do not exist, playground sites should be assessed and designed with the addition of any necessary accessible facilities in mind.

- **Institutional settings that serve children:** Situating an inclusive playground near schools, children's healthcare centres, and sports/recreation centres can help create opportunities for programming that leverages inclusive playground infrastructure. Situating an inclusive playground in proximity to these places could result in school outings that include all students, therapeutic play/recreation opportunities involving educational assistants and/or healthcare professionals, and inclusive play options for sports/recreation day camps (see Section 5.6 for more on play programming).

- **Institutional settings that serve individuals with disabilities:** Situating a playground near institutional settings that serve individuals with disabilities (e.g., veterans' facilities, healthcare centres that serve adults, assisted living facilities for older adults) can create opportunities for therapeutic interventions for adults with disabilities as well as opportunities for them to play with their children and grandchildren.

- **Level grassed spaces:** Nearby level grassed spaces provide opportunities for free play, organized games, and rests. These grassed spaces require proper drainage.

- **Site grading:** For the most part, the site should be level for easy access and reduced excavation/grading work costs. A slight grade (e.g., 1%) can improve drainage. Sites that are irregular in topography and/or have slopes will require a landscape architect as part of the design team to ensure that the design of the playground and its surroundings incorporates the land elements in such a way that they support access for all and do not act as barriers.

- **Site size:** Some playground equipment requires a great deal of playground surface area for their safety/fall zones (e.g., swings). Starting with a large surface area provides flexibility when designing a playground's layout.

- **Site visibility:** Situating a playground so that it is visible to passersby or people in their homes can prevent vandalism. Visibility can also serve as free advertising for a playground. For example, if people can view a playground from a highway or major street, this increases awareness and the number of visitors.

- **Trees:** Building a playground near trees presents several important benefits. Trees add shade and aesthetic to a playground. Their shading provides users and visitors with an immediate environment to cool off, which is particularly important for those with medical issues or medication side effects that impact their ability to regulate their body temperature. They also serve as excellent sensory features that can have calming effects. For example, trees offer light filtration, interesting textured surfaces, leaves that change colours (and thus change how the play environment feels at different times of year), and they allow for the sound of wind blowing through leaves. While proximity to trees is valuable, it is important to keep overhanging branches at least seven feet away from play equipment (Playworld, 2015, p. 14). Avoid proximity to fruit-bearing trees since the fruit they drop may stain and damage playground equipment and surfaces, thus increasing the need for cleaning and maintenance (Playworld, 2015, p. 14). Also avoid sitting a playground in proximity to thorned or poisonous plants to ensure children's safety. Robin Moore's (1993) Plants for Play: A Plant Selection Guide for Children's Outdoor Environments remains a useful resource for carefully selecting plants for playground environments.

4 Can I Get There?

4

Can I Get There?

Asking if children and their families can get to and from an inclusive playground without difficulty is critical to ensuring that an inclusive playground will be used. The following sections discuss topics that are important for determining whether families can get to and from an inclusive playground. Specifically, they look at creating a strategy for communicating with the public and ensuring people are aware of the playground (Section 4.1), as well as ensuring accessible parking (Section 4.2) and pathways (Section 4.3) that support easy, barrier-free transitions to and from a playground.

4.1 Communication

Ensuring community awareness of an inclusive playground and providing people with up-to-date playground information is imperative. If families of children with disabilities are unaware of an inclusive playground or its play programming options, it is unlikely they will participate. If they are unaware of a temporary issue affecting playground access (e.g., broken play components, an out-of-order washroom, scheduled maintenance of the playground or its surroundings), they may have a negative experience during a playground visit. A family contemplating a playground visit should be able to find information easily about how to access it (e.g., parking, transit routes, pathways), its accessible features (e.g., surface, play components), amenities (e.g., seating, washrooms), programming options, maintenance issues, and more. The following subsections consider accessible communication practices, as well as the use of webpages, social media, and on-site signage.

4.1.1 Accessible Communications

Keep accessibility in mind when sharing playground information through a website, social media, a handout, or on-site signage. The following practices for preparing and displaying information enhance the accessibility of playground communications:

- **Text over Non-Text:** Use text alternatives to images, videos, audio, GIFs, or other non-text content when possible (Association of Registered Graphic Designers, 2019; City of Calgary, 2010). When this is not possible, use captions and Alt Text that provide descriptions of non-text content.

- **Fonts:** Sans serif fonts (e.g., Helvetica, Verdana, Arial) are generally easier to read than those with serifs. Ensure that text in documents,

posters, and websites is large enough to read. The use of italics and uppercase is not recommended, as these style options can obscure legibility.

- **Colour Contrast:** Selecting the right colours and contrasts for text and backgrounds makes communications accessible for people who are colour blind or have sight loss. Use high contrast colours for text and background (e.g., black and white, dark blue and yellow) (Association of Registered Graphic Designers, 2019; City of Calgary, 2010). Other good practices include avoiding contrasting hues that are adjacent to one another on the colour spectrum (or, on the hue circle shown in **Figure 4.1**), ensuring a contrast in the lightness of colours; and using colour and another element (e.g., bold, size, patterns/shapes, highlights) to emphasize a point. The Lighthouse Guild (2002) and the Association of Registered Graphic Designers (2019) both provide useful guidance for colour contrast and other considerations in online communications.

Figure 4.1 | Colour Contrast Effectiveness
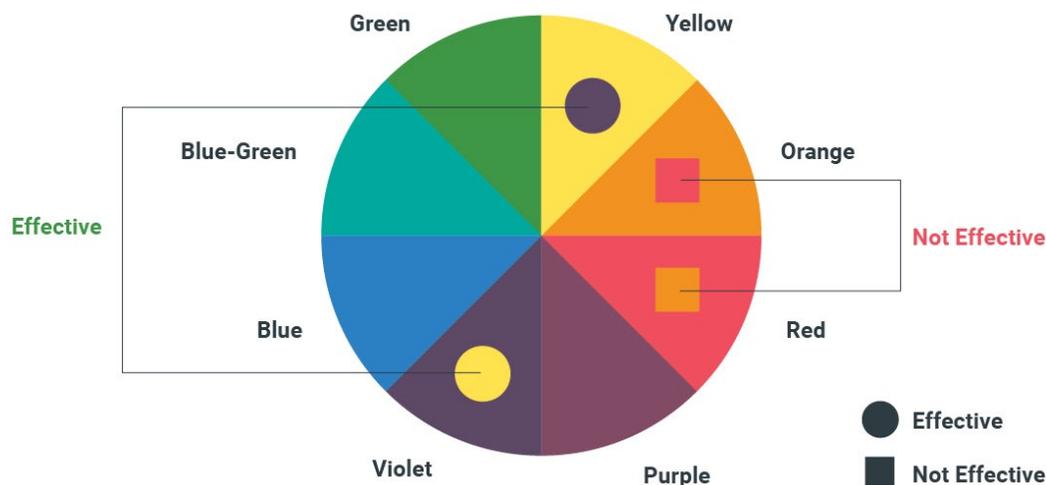
Source: Lighthouse International, 2002

- **Hyperlinks and Quick Response (QR) Codes:** Incorporate hyperlinks or QR codes to help keep communications concise while allowing those who desire additional information to access it quickly.

- **Inclusive Language and Representation:** Use plain language and avoid jargon. Show diversity in images or videos (i.e., include people of different races, genders, ages, and abilities). Incorporating children with disabilities into any imagery of children playing on a website, signage, or programming/promotion materials is particularly important, and can be profoundly meaningful for children with disabilities and their families.

- **Timely Communication:** Ensure timely communication of information about a playground, particularly any issues affecting its accessibility and use. If accessibility information is not communicated effectively and quickly, it may cause some families of children with disabilities to have negative playground experiences (e.g., visiting when accessible equipment is broken, when construction is underway, when a washroom is out of order). Consider communicating playground issues via a website, social media, and on-site signage (e.g., a message board).

- **Community Feedback:** Create opportunitwwies for community members to provide feedback about their playground experiences on all communication platforms (e.g., webpage, social media, on-site comment boxes).

4.1.2 Social Media

Creating social media accounts for playground communications on the following platforms can support timely playground communications and community awareness:

- **Twitter:** A useful tool for engaging and responding to community members, promoting the playground, and posting updates about any playground issues or news.

- **Facebook:** Creating a playground profile using Facebook business page or community group/agency page settings can create a centralized social media location to share the playground's philosophy, history, goals, location, and services. It is also a useful location to post notifications and to engage the community.

- **YouTube:** Other social media platforms can be easily linked to YouTube content. YouTube can serve as a centralized location for storing captioned promotional videos (e.g., walking tours of the playground and its surroundings), news stories, and community review videos.

- **Instagram:** This platform is useful for sharing promotional images and short videos about playground events.

When posting information on social media, enhance accessibility by incorporating text alternatives for images (e.g., transcripts and captions). When posting a video, make captions clear and concise, remove verbal filler words (i.e., saying 'um' or 'like'), and carefully align the pace of captions with the video (Queen's University, n.d., p. 7-8). Linking posts across platforms and a playground webpage can help to increase awareness of the options available for obtaining playground information.

Consider compiling posts from different social media platforms and sharing them through a weekly or monthly newsletter that is accessible (e.g., for screen-reader technologies). This can provide access to those who use text readers, but also to those who do not use social media.

Avoid interspersing hashtags throughout the body of a post, as this can make reading difficult and can be particularly confusing for anyone using screen/text-reading software. Instead, consider placing all hashtags at the end of a post (Queen's University, n.d., p. 5).

4.1.3 Webpage

In some cases, it may be practical to create a webpage that provides up-to-date information about an inclusive playground and serves as the home of all relevant playground information and communications. Content that should be considered for inclusion on a webpage dedicated to the playground includes:

- **Inclusive Play Philosophy:** Inclusive play adds value and play opportunities to a playground and should be communicated. Including an explanation of inclusive play in a highly visible webpage location can help to increase awareness of inclusive play and the significance of the playground's design among the community. Importantly, it lets families of children with disabilities know that the playground accounts for and welcomes their presence.

- **News/Updates:** Provide updates about any events or issues at or nearby the playground that may affect accessibility. This may include maintenance updates, road closures, and program schedule changes. An alternative option is to provide social media links on a webpage for all current playground news and updates.

- **Accessible/Inclusive Play Components:** Share and celebrate the specific playground design features and play components that support accessibility and inclusive play. This is useful for children with disabilities

and their families, and educational for webpage visitors. Consider sharing accessible design features incorporated into the playground's surrounding environment.

- **Frequently Asked Questions (FAQs):** Including an easy-to-find page dedicated to FAQs helps reduce the need to respond to questions from potential users. Make all responses clear and concise.

- **Navigation Information:** Consider providing navigation information at three levels: (1) getting to the playground (e.g., a map showing where the playground is in relation to its surrounding streets and spaces; public transit route/stop information; parking and pick-up/drop-off options); (2) getting around the playground (e.g., a wayfinding map showing the playground in relation to surrounding accessible pathways and facilities/amenities), and (3) using the playground (e.g., a map showing the playground's layouts, zones, and specific equipment).

- **Group Bookings:** It is highly recommended to use a group booking system, especially at destination playgrounds. A booking system will aid coordination and help avoid having too many summer groups or school groups and buses on site at once. You may also choose to use a booking system for surrounding amenities (e.g., access to any loose parts play equipment, shaded picnic tables, and event areas). This can be helpful for families whose visits require careful planning and for those wishing to use the playground for events (e.g., a birthday party). Incorporating bookings into an independent website is unnecessary if park websites offer an adequate booking system, which is often the case. In these cases, a playground webpage should provide a link to the park's bookings webpage. If bookings by phone are preferable, provide the necessary phone number and email.

- **Feedback:** Provide a feedback page where people can enter text into a box and click 'submit' to share their experiences and input. In addition to inviting both positive and negative feedback about people's experiences, it may be useful to explicitly request information about inaccessibility, safety issues, cleaning/maintenance, and the surroundings. Creating a 'response requested' tick box on the feedback page can aid the management of communications.

- **Email/SMS Notification Sign-Up:** Provide an option where community members can sign up for notifications about playground news or issues by providing their email addresses and/or cell phone numbers. Also, include social media links and handles so people can receive notifications via social media if they wish.

- **Acknowledgments:** Acknowledge donors, community partners, play programming partners, and other parties involved in creating and operating the playground.

- **Crosslinking:** Consider other webpages where a link to the playground webpage would be useful and request to create a link on that webpage to ease navigation and increase playground webpage traffic. Similarly, consider what links to other webpages you could incorporate into your playground webpage.

- **Budget for Webpage Management:** Managing a playground webpage and providing communications about playground accessibility and other issues in a timely manner requires budget support each year (i.e., time, money, staff). Failing to account for this may lead to communication failures.

- **Playground Directory:** Add your inclusive playground and its webpage URL to local or regional playground directories. If no directory exists, consider creating one and incorporating accessibility information about playgrounds into this directory. The Anchorage Park Foundation's map and list of inclusive playgrounds is a good example of this (Anchorage Park Foundation, n.d.,)

- **Shared Reviews/Experiences:** Consider asking community members (including children) if they would be willing to have their playground reviews and experiences posted on the webpage. Their input can be useful and inspiring for webpage visitors.

4.1.4 On-Site Playground Communications

While it is crucial for users to have access to online playground information before they arrive, it is also important to have information available on site. Handouts communicating updates can be drafted in a similar way to online communications, with user friendly language, accessible formatting, and strong colour contrast. There are different forms of announcements and updates that should be communicated at the playground site. Consider the following:

- **Handouts and Message Board Postings:** Playground updates (e.g., upcoming construction, closures) should be available in close physical proximity to the playground. Such updates can be posted or made available as takeaway handouts at a nearby community message board, as well as a playground's entrance or around its perimeter. The updates should be clearly dated and past updates that are no longer relevant should be removed from the site to avoid confusion. In addition to updates, postings and handouts can be used to inform the community about any play programming and scheduled events at or nearby the playground. Place postings and handouts at an accessible height for people who use mobility devices.

- **Quick Response (QR) Codes:** QR codes can be placed on play components so that users can scan them using their mobile phones and be taken to a webpage that offers information about each component's accessibility features. For example, a QR code could be placed on a roller slide. Users using the code could learn that it is a static free slide that is safe for children with cochlear implants and other external electronic devices. Since accessibility features are not always readily apparent, QR codes can serve as an excellent tool to help the community learn about the playground's accessibility. QR codes can also be added to equipment or on-site signage to create an easy-to-use option for providing feedback on playground maintenance (e.g., see **Figure 4.2**) and checking in to support contact-tracing during a pandemic. They can also be designed to take the QR code user to a site with different types of games or challenges tailored to the playground's equipment, features, and/or surroundings.

- **Site Maps:** Playground maps are desirable features. They help families understand specific features of play components and surroundings, and how they can facilitate play for their children. You may want to produce a single map that clearly shows all playground features and the surrounding environment (e.g., see **Figure 4.3**). In other cases, it may be best to produce a single map focused on the playground itself, and a second map showing the playground in relation to its surrounding facilities, amenities, and pathways.

Figure 4.2 | QR Code on Play Equipment

Source: blog.oevae.com

Figure 4.3 | Playground Site Maps

Source: tangelocreative.com.au

Figure 4.4 | Braille/Tactile Playground Maps
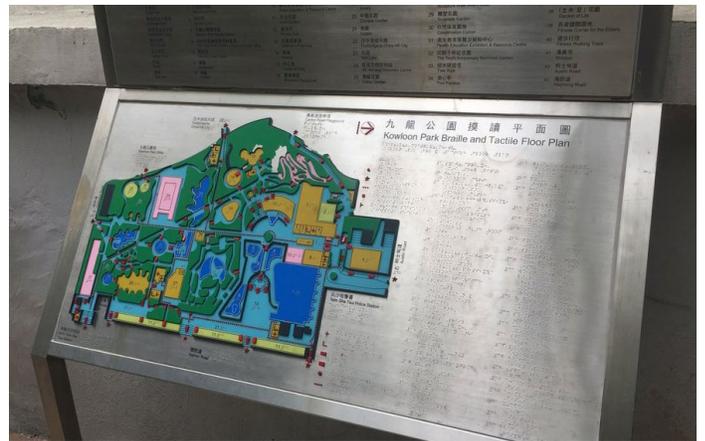
Sources (clockwise from top left): Pinterest.com, illawarramercury.com.au, inspectionsada.com, tr.pinterest.com

- **Relief/Tactile Maps:** Providing three-dimensional relief/tactile site maps in addition to a typical site map is strongly encouraged. These maps, as shown in **Figure 4.4**, offer useful information about the playground landscape (e.g., elevations and depressions, central features, facilities and their connecting pathways) to people with sight loss and people using mobility devices. Relief/tactile maps also help playground users anticipate, prepare for, and plan out how they will navigate the playground and its surroundings.

- **Signage and Wayfinding:** Offering signage and wayfinding tools in multiple formats (e.g., photos/diagrams, tactile components, braille descriptions of play components' usage and accessibility) helps meet the diverse needs of children with disabilities and assists parents in supporting their child as they navigate the playground space. See Section 5.4 of this playbook for more on signage and wayfinding.

4.2 Accessible Parking

For many families with disabilities, parking is their first and last interaction with a visit to an inclusive playground. Providing adequate accessible parking that is easy to use and safe, and supports straightforward transitions into and out of vehicles, helps to create a welcoming environment for families with disabilities. It helps to make playground visits easy and can reduce the need for advanced trip planning. Unfortunately, many guidelines and reports concerning inclusive playground design merely note that inclusive playgrounds require accessible parking spaces but give little to no attention to their design and configuration. This is particularly problematic since community play spaces often have little to no accessible parking (Olsen & Dieser, 2012).

While some technical measures are discussed in the following subsections, local technical measures and specifications for accessible parking must always be consulted (e.g., accessible parking space locations, dimensions, signage, and ratios). Planners and designers responsible for making decisions about accessible parking (e.g., how many spaces to create, where they should be located, and how they should be designed) are strongly encouraged (and may be required) to consult with persons with disabilities, the public, and relevant accessibility groups about their proposed parking designs (see Section 3.1 for more on community engagement). Users can contribute unique insights that help to improve parking designs and how they are experienced.

4.2.1 Accessible Parking Spaces

The requirements of municipal accessible parking provisions are at times inadequate for ensuring enough accessible parking for an inclusive playground. For example, a municipally regulated minimum accessible parking space ratio or percentage (e.g., requiring one accessible parking space for every 25 parking spaces in a parking lot, or 4%) may not account for an inclusive playground's need for a more-than-typical number of accessible parking spaces. For this reason, any minimum accessible parking ratio requirement must be treated as such (i.e., as a minimum), and not as a fixed standard. Carefully consider who is going to use a parking lot with respect to the use it serves, and engage accessible parking space ratio regulations with that information in mind. In the case of inclusive playgrounds, minimum accessible parking space ratio requirements may need to be exceeded to suit their unique accessible parking needs. Exceeding minimum requirements also sends a strong message that your playground is welcoming to all, and that disability-related experiences and needs have been taken into consideration.

To account for the presence of individuals living with disabilities, municipalities need to consider developing and implementing accessible parking ratio provisions specific to inclusive playgrounds that support the creation of more accessible spaces. For example, while it is not a municipal zoning bylaw parking regulation, the Americans with Disabilities Act (ADA) requires 10% and 20% of parking spaces to be accessible for hospital outpatient facilities and mobility/physical therapy-related rehabilitation facilities, respectively (ADA National Network, 2017). This is not to say that these percentages need to be matched for an inclusive playground; rather, consideration could be given to requiring more accessible parking spaces given the intent to have inclusive playgrounds offer play opportunities to children with disabilities. Alternatively, municipalities could enhance the inclusion experienced at inclusive playgrounds via explicit policy directions that support minimum accessible parking ratios being exceeded in order to acknowledge and serve the parking needs associated with an inclusive playground.

In cases where inclusive playgrounds are built adjacent to another use (e.g., a recreation centre or school) and the intent is for the two uses to share a parking lot, the number of accessible parking spaces provided to serve one use should not be counted toward the number of accessible spaces serving the other. For example, if two accessible parking spaces are provided to serve a school (and are therefore located nearby a school's main entrance), then these two spaces should not be viewed as the accessible parking spaces for an inclusive playground that shares the parking lot. Viewing the two accessible spaces as serving both uses could prevent the availability of accessible playground parking options during school hours since the spaces may be occupied all day by school users.

Further, accessible parking spaces located close to a school's main entrance may not be ideally located to offer access to the inclusive playground. Using school entrance-adjacent accessible parking spaces may require children and caregivers to traverse along unsafe, vehicle-oriented parking routes and pass behind parked vehicles.

While it has been recommended that an inclusive play space have at least one parking space designated for people with disabilities when parking is provided (see Rick Hansen Foundation, 2019), more accessible parking spaces should be considered, given the intent of an inclusive playground. It is better to provide at least two (and preferably three) accessible parking spaces (and at least one sized for accessible van parking) for an inclusive playground to ensure that at least two families requiring the spaces can visit the playground simultaneously. If there is no parking lot adjacent to a playground, consider providing at least two accessible on-street (or, parallel) parking spaces (with at least one sized for accessible van parking). On-street parking options need to have direct connections to accessible pathways to avoid loading and unloading into the street or grass, which presents serious safety issues. Offering more accessible parking than required suits the intent of inclusive playgrounds to offer play opportunities to all children, encourages repeat parkers/visitors, and may lead to more families of children with disabilities visiting the playground (Canadian Parking Association, 2019).

Local municipal accessible parking requirements, whether they pertain to the number of accessible spaces or their dimensions, are generally minimal and often inadequate to suit the unique accessibility needs of an inclusive playground. Municipalities can support more inclusive communities by producing policy definitions for 'inclusive playground' and encouraging their implementation via policy direction (e.g., in official plans or municipal plans). They can also develop parking provisions that satisfy these playgrounds' unique accessible parking needs. Exceeding local minimum accessibility requirements for parking is practical, if not necessary, to enable adequate access to inclusive playgrounds.

4.2.2 Accessible Parking Space Location

An accessible parking space that is poorly located produces challenging and unsafe experiences when transitioning to and from an inclusive playground. This may deter people with disabilities from visiting a playground.

Some strategies and considerations for determining the location of accessible parking spaces for inclusive playgrounds include:

- Locate accessible parking spaces closest to the inclusive playground or the primary pathway to the playground. Accessible parking spaces located elsewhere in a parking lot (e.g., at the end opposite from an inclusive playground entrance) that serve another use (e.g., a school or recreation centre) should not be viewed or counted as the accessible parking spaces for the playground.

- Make the spaces visible from a distance to enhance safety. Avoid locating accessible parking spaces where they only become visible to drivers after a turn (e.g., after turning at the end of a parking row).

- If a parking lot cannot be situated near an inclusive playground, accessible parking spaces can be separated from the parking lot so that they can be closer to the play space (Playworld, 2015).

- Locate accessible parking spaces near curb cut ramps that offer access to the playground or pathway to the playground to prevent the need for pedestrian travel within vehicle-oriented parking lot routes. It is preferable for curb cut ramps to be accessed via access aisles adjacent to parking spaces. An alternative is

to place accessible spaces adjacent to a seamless transition sidewalk that is bordered by wheel-stops (i.e., concrete barriers that keep cars from infringing into sidewalk space). This alternative does not require one to search for a curb cut; instead, they can simply pass between wheel-stops and seamlessly transition onto a sidewalk. **Figure 4.5** displays an example of this seamless transition parking.

Figure 4.5 | Seamless Transition Parking

Source: playlsi.com

- If a 'kiss and ride' pick-up/drop-off area is incorporated into an inclusive playground's surrounding environment, consider designating a portion of this area as accessible via clearly painted surface markings and appropriate signage. Ensure that any such designated space meets (or exceeds) accessible van parking design requirements and is adjacent to curb cut ramps, as needed. Any designated space should be widened into the curb/sidewalk side, and not into the vehicle route of other 'kiss and ride' users. Any family using the designated accessible area should be able to do so without blocking other vehicles so that they can perform unrushed, safe transitions to and from vehicles without worrying about making other users wait. Installing seating near (un)loading/waiting areas can ease parking-to-playground transitions.

- Provide designated parking areas for buses, RVs, or other large vehicles away from primary entrances and accessible parking. If these designated areas are not provided, large vehicles, buses in particular, may conduct pick-ups and drop-offs near the entrance. This may in turn block access to accessible parking spaces (for more on buses blocking accessible parking, see Ross & Buliung, 2019).

- Locate any transit stops away from other vehicle loading/unloading zones in front of a playground entrance (Playworld, 2015).

- Ensure that accessible parking spaces offer a clear line of sight to the playground so that a caregiver can easily observe a child's trips to and from the playground during their transitions (Playworld, 2015).

4.2.3 Accessible Parking Space Design

The design of an accessible parking space is just as important as its location to ensuring safe and comfortable transitions to and from a vehicle. Consult and satisfy municipal parking provisions (or, provincial/state or federal requirements) when designing an accessible parking space. Then carefully consider the need to exceed minimum requirements for the design of accessible parking spaces to better suit the unique accessible parking needs of an inclusive playground.

The ADA requires accessible parking spaces and accessible van parking spaces to be 2440 mm (96") and 3350 mm (132") wide, respectively. Similarly, in Ontario, Canada, the Design of Public Spaces Standard requires accessible parking spaces and accessible van parking spaces to be 2400 mm (94.5") and 3400 mm (134") wide, respectively. See **Figure 4.6** for a diagram showing accessible parking spaces with these measurements.

Each accessible parking space should have an adjacent level access aisle leading to a pedestrian pathway to the inclusive playground. The access aisle must be clearly marked (e.g., with painted hatch marks and 'no parking' message) to discourage people from parking in them. If the surface is not paved, signs should be posted to mark access aisles and to indicate that they cannot be used for parking. The ADA requires that access aisles be at least 1525 mm (60"). The curb cut ramp from the access aisle to the pathway should be inset within the sidewalk (i.e., it should not protrude into the access aisle). Providing direct access from each access aisle to a pedestrian pathway (e.g., see **Figure 4.6** below) enhances safety by preventing people from having to traverse along automobile-oriented parking lot surfaces and, in turn, the need to pass behind parked vehicles (Global Alliance on Accessible Technologies & Environments (GAATES), 2019).

On-street (or, parallel) parking spaces must be wider (e.g., 4600mm) to support safe transitions out of the way of passing vehicles. These spaces require adequate accessible parking signage, and direct access to a curb cut. **Figure 4.7** provides a diagram of an accessible on-street parking space.

The above access aisle and accessible (van) parking dimensions, or any location-specific accessible parking measurements, should generally be approached as the bare minimum that can be done. Playworld (2015) suggests that local standards for spacing between accessible van parking be exceeded by 20% to ensure ample space for transitions. This is proposed because

Figure 4.6 | Van Accessible and Accessible Parking Spaces with Access Aisle
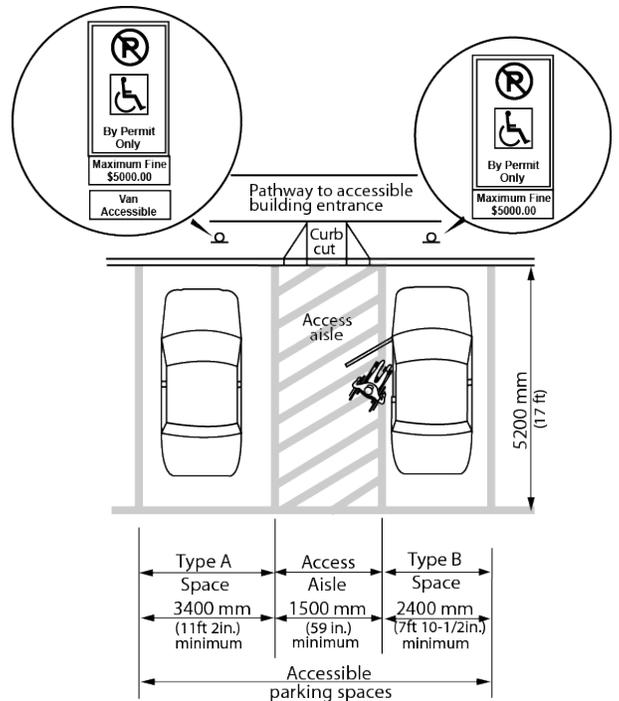
Source: City of Mississauga, 2015

Figure 4.7 | Accessible On-Street (or, Parallel) Parking Space
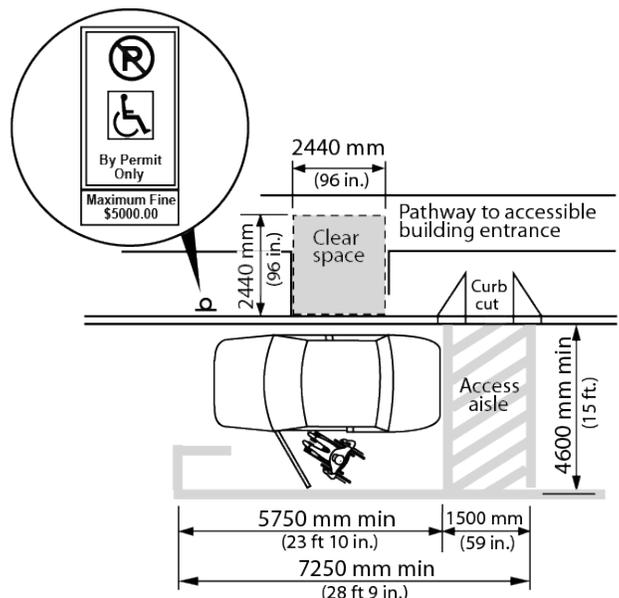
Source: City of Mississauga, 2015

users of accessible van parking often do not have enough space between vehicles, even though the space technically complies with accessibility requirements. Designers need to be open to considering consultation feedback from people with disabilities about accessible parking and to assess if they should exceed requirements to ensure parking that is both technically and functionally accessible.

Some strategies and considerations for the design of accessible parking spaces include:

- Make accessible parking space surfaces firm, slip-resistant, and sloped to allow for drainage (ideally 1:50; never steeper than 1:25) (GAATES, 2019).

- Clearly mark the spaces via surface painting (i.e., blue surface with an accessible parking pictogram) and signage satisfying local requirements (e.g., font/pictogram/sign size, sign-posting height). Align accessible parking pictograms on parking space surfaces with the entrance end of a parking space so that drivers can see them easily. Post signage indicating what vehicles and lift types each accessible parking space serves (e.g., van or car, rear-entry or side-entry lifts). If applicable, add information about fines for using accessible parking without a permit.

- Regularly inspect curb cut ramps to ensure transitions are seamless and in good condition. Ramps should have flared sides (1:10 maximum slope) or have returned curbs to prevent tripping hazards and to aid navigation.

- Provide signage at parking lot entrances that directs drivers to accessible spaces, in addition to clear signage that marks accessible parking spaces.

- Incorporate tactile and colour/tonal contrast markings to mark curb cut ramps.

Other strategies that support safe and accessible parking spaces, and parking lots in general, include:

- Separate vehicular and pedestrian travel routes in the parking lot by incorporating dedicated pedestrian pathways within the lot and/or configuring the lot so that it allows pedestrians ample opportunity to quickly exit via curb cut ramps and travel along sidewalks around the lot's perimeter (i.e., out of the way of vehicles).

- Prevent encroachments into pedestrian sidewalks that are within/adjacent to parking lots by using wheel-stops (i.e., barriers to keep vehicles from overhanging into sidewalk spaces), strategically placing bicycle parking racks (i.e., so that rear tires or handlebars are not within the pedestrian sidewalk space), and maintaining vegetation (e.g., trimming branches so that branches are kept above 8 feet). This is particularly important for any section of sidewalk that must be used to travel between accessible parking spaces and the inclusive playground.

4.3 Pathways

Pathways to and from an inclusive playground that are not carefully designed, built, and maintained may make the experience of getting to and from the playground difficult, dangerous, or impossible for some families and children with disabilities. This applies to pathways between the playground and parking or pedestrian access points, but also between the playground and surrounding facilities, such as washrooms, changing rooms, picnic areas, water fountains, shade/shelter/seating areas, and other nearby recreation amenities (e.g., other play areas, sports courts/fields, splashpads, pools, and/or recreation centre buildings). Building and maintaining pathways to the environment immediately surrounding a playground further enhances playground access and creates an accessible, walkable community.

The following subsections discuss key issues that require consideration when designing and developing pathways to, from, and around inclusive playgrounds. These issues include their widths, slopes, surfaces, and transitions. The final subsection discusses opportunities to enhance inclusion and play along pathways.

4.3.1 Pathway Widths

The widths of pathways to, from, and around a playground can directly affect the accessibility and inclusion felt by children with disabilities and their families. Make pathways wide enough for two wheelchair/scooter users to travel alongside or pass by one another comfortably without either having to veer off or backtrack.

- Annex H to the Canadian Standards Association (CSA)'s (2007) CAN/CSA Z164-07 standard for children's play spaces and equipment requires pathways to be a minimum of 1524 mm (60"), (CCAP, ND).

- The ADA Standards for Accessible Design require pathway entries and exits be 1525 mm (60") (Department of Justice, 2010). However, this standard should be recognized and treated as the bare minimum as it does not necessarily allow for easy passing by two wheelchair/scooter users.

- The City of Toronto (2021) in Ontario, Canada recommends that its sidewalks have a minimum 2100 mm (83") width on local roads that can be reduced to 1800 mm (71") on roads with low pedestrian volumes and low vehicle speeds and volumes. It recommends that trails, pathways, boardwalks, and beach access routes have minimums of 3600 mm (142"), 3000 mm (118"), and 2700 mm (106") widths for high capacity, primary, and secondary trails, respectively. These widths should be clear of obstructions and protrusions.

- The U.S. Access Board (2005, p. 20) notes that pathways may narrow down to 915 mm (36") for a distance of 1525mm (60") in order to offer some flexibility to work around site design features (e.g., trees and their roots).

- Playworld (2015) recommends exceeding the ADA standard by 305 mm (12") by creating pathways with 1829 mm (72") widths, which allow for easy, comfortable passing. Providing pathways that are 1829 mm (72") wide is important for areas surrounding inclusive playgrounds, where children may enjoy healthy risk-taking behaviours testing their speed and mobility.

- Where logical (e.g., in high pedestrian traffic areas) and feasible, designers are strongly encouraged to exceed minimum pathway width requirements.

Where a sidewalk cannot be at least 1525 mm (60") wide and, in turn, can only support one wheelchair/scooter user at a time, the ADA requires the incorporation of widened passing spaces (e.g., see **Figure 4.8**) no less than 1525 mm (60") wide at intervals along the sidewalk no greater than 60.96 m (200 ft). For pathways to, from, and around an inclusive playground that cannot be at least 1525 mm (60") wide, it would be logical to incorporate any such widened passing spaces at shorter intervals (e.g., every 30.5 m, or 100 ft) to advance the playground's accessibility. These widened passing spaces would help to keep wheelchair/scooter users

Figure 4.8 | Widened Passing Spaces along Pathway
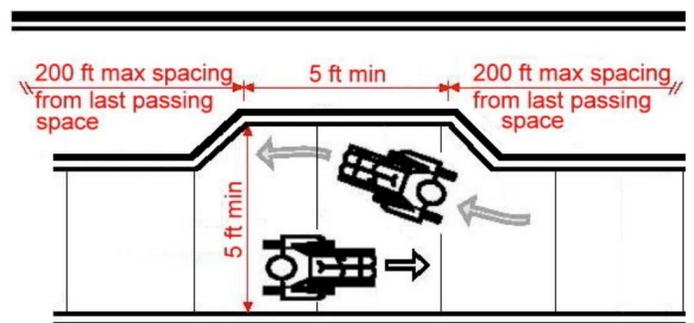
Source: wsdot.wa.gov

from backtracking in reverse along a pathway for long distances. Further, it could prevent individuals from trying to turnaround or pass people when it is unsafe to do so.

Widened passing spaces along pathways can be designed to serve other purposes. For example, they can serve as locations for water fountains, wayfinding maps/information centres, seating or shelter areas, charging stations (e.g., for mobile and mobility devices), or accessible, off-playground play components (see Section 6.1.1), such as play walls. If a widened passing space along a pathway is used for these other purposes, the pathway should be widened beyond the minimum requirement to allow for both passing and the other purpose(s) (see Section 4.3.5).

4.3.2 Pathway Slopes

Ensure that pathways to, from, and around inclusive playgrounds all have safe slopes (i.e., running slopes and cross slopes[3]). Unsafe slopes may lead to travel at unsafe speeds or accidents (e.g., collisions, tipping), or cause some people to feel anxious or unsafe before or during their use.

The U.S. Access Board (2005) allows a maximum running slope of 1:16 (6.25%) for ground-level accessible routes. The City of Toronto (2021) recommends a maximum 1:20 (5%) running slope for its sidewalks, trails, and pathways. Accounting for pathway slopes at the outset of a playground site's design can help identify opportunities for grading work (e.g., the creation of berms) that can reduce slopes and prevent the need for ramps. Ramps meeting local regulations are necessary for pathways with a running slope greater than 1:20 (U.S. Access Board, 2005; CCAP, ND). Where ramps are required, local technical specifications must be considered. Where pathways on top of berming have drop-offs along their edges, designers need to consider appropriate edge protection measures and handrails.

The ADA requires that sidewalk cross slopes not exceed a 1:50 (2%) ratio. The City of Toronto (2021) recommends the same cross slope ratio. Applying this standard to all pathways in proximity to an inclusive playground is good practice, particularly in areas where there are curves, turns, or high traffic. A cross slope of 1% is generally required to allow for sidewalk drainage.

4.3.3 Pathway Surfaces

The following recommendations apply to all pathway surfaces:

- All pathway surfaces should be firm (e.g., asphalt, concrete, interlocking pavers, or well-maintained compacted crushed stone). No pathway surface should use loose gravel, sand, dirt, grass, or any other loose material that may deteriorate in inclement weather (Brown et al., 2021).

- Sidewalk, trail, or pathway surfaces should be level, firm, stable, and slip-resistant (City of Toronto, 2021). They should also have openings that are situated outside of an accessible path of travel, allow for drainage, and have a perpendicular orientation to the direction of travel where elongated (e.g., to prevent uncomfortable vibrations and slips associated with traveling over grates) (City of Toronto, 2021). Grates should be placed to one side of the accessible path of travel where possible so that it is not necessary to travel over them.

- Pathway surfaces should be implemented with attention to their edges. If the surface has a sharp drop off (e.g., a paver's edge that drops off sharply to the abutting ground surface), edge protection work should be undertaken to ensure that veering off the pathway would not cause an accident (e.g., a wheel dropping sharply off a pathway's edge could cause harsh jostling or tipping).

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[3] A running slope is parallel to the direction of travel (e.g., along the length of a sidewalk). A cross slope is perpendicular to the direction of travel (e.g., across the width of a sidewalk).

- Pathway surfaces should be routinely inspected. During these inspections, pay attention to surface material quality, surface joint heights/gaps, and surface edges, and ensure there are no hazardous protrusions (e.g., branches, thorns). Objects cannot protrude into the route of accessible pathways up to or below the height of 2032 mm (80") (CCAP, ND). Incorporate the trimming of trees and bushes near pathways into site maintenance operations.

4.3.4 Pathway Transitions

It is generally best to have all pathways ending at a playground's perimeter to do so at the same height. Where this is not possible, a 1:12 ratio can be used to accommodate a height change between the pathway and the play surface (CCAP, ND). Rubber safety tiles, preferably with tactile markings and colour/tonal contrasts, are practical for creating such pathway-to-playground sloping transitions.

Use colour/tonal contrasts and tactile markings to indicate pathway termini, curb cuts, ramp landings, pathway intersections, and pathway transitions into car-oriented spaces (e.g., a parking lot) to enhance pathway safety and accessibility for all.

4.3.5 Pathway Opportunities for Inclusion and Play

While the primary function of pathways to, from, and around inclusive playgrounds is to provide people with easy and safe access and movement, pathways can also provide unique opportunities to enhance the inclusion and play aspects of inclusive playgrounds. For example, certain amenities (e.g., water fountains/water bottle fill stations, public washrooms; see Section 6.1 for a longer list of examples) may be suitably placed adjacent to pathways at varying distances from the playground. Similarly, off-playground play components (e.g., sensory walls, game walls) can also be placed alongside pathways (see Section 6.1.1 for more about off-playground play opportunities). Placing play components along pathways can help to mitigate overcrowding on playgrounds during peak times and peak seasons (e.g., weekends, summer). Further, children with developmental disabilities may benefit from having options for quieter play away from the playground.

Pathways may be widened, or an alternative surface can be created adjacent to a pathway, to allow for the implementation of amenities and/or off-playground play components. These widenings must take into account the space that children will use to play at features. For example, if a child who uses a wheelchair stops to play at a sensory wall, they will easily take up 2 ft of pathway space and thus interrupt the flow of pedestrian traffic. So, the sensory wall must be set back, and the pathway widened to account for the child's presence. Widened pathway surfaces that allow for the placement of off-playground play components or amenities can also serve as passing/turn-around spaces on pathways less than 1524 mm (60") in width.

In certain circumstances, a pathway itself can be used to support play through the use of directional or activity-themed markings, or a variety of clearly marked (e.g., via tactile or colour/tonal contrast markings) bumps, dips, and level changes. Incorporate these to one side of pathways that are at least 1524 mm (60") wide so that anybody not wishing to interact with bumps, dips, and level changes need not do so. The surfaces of widened spots in pathways may also be painted as large game boards (e.g., tic-tac-toe, snakes and ladders, checkers) or with educational games/references that support learning about mathematics, literacy, or geography (e.g., a map of the country and its states/provinces; a map of the world). This will present additional opportunities for play and learning around an inclusive playground.
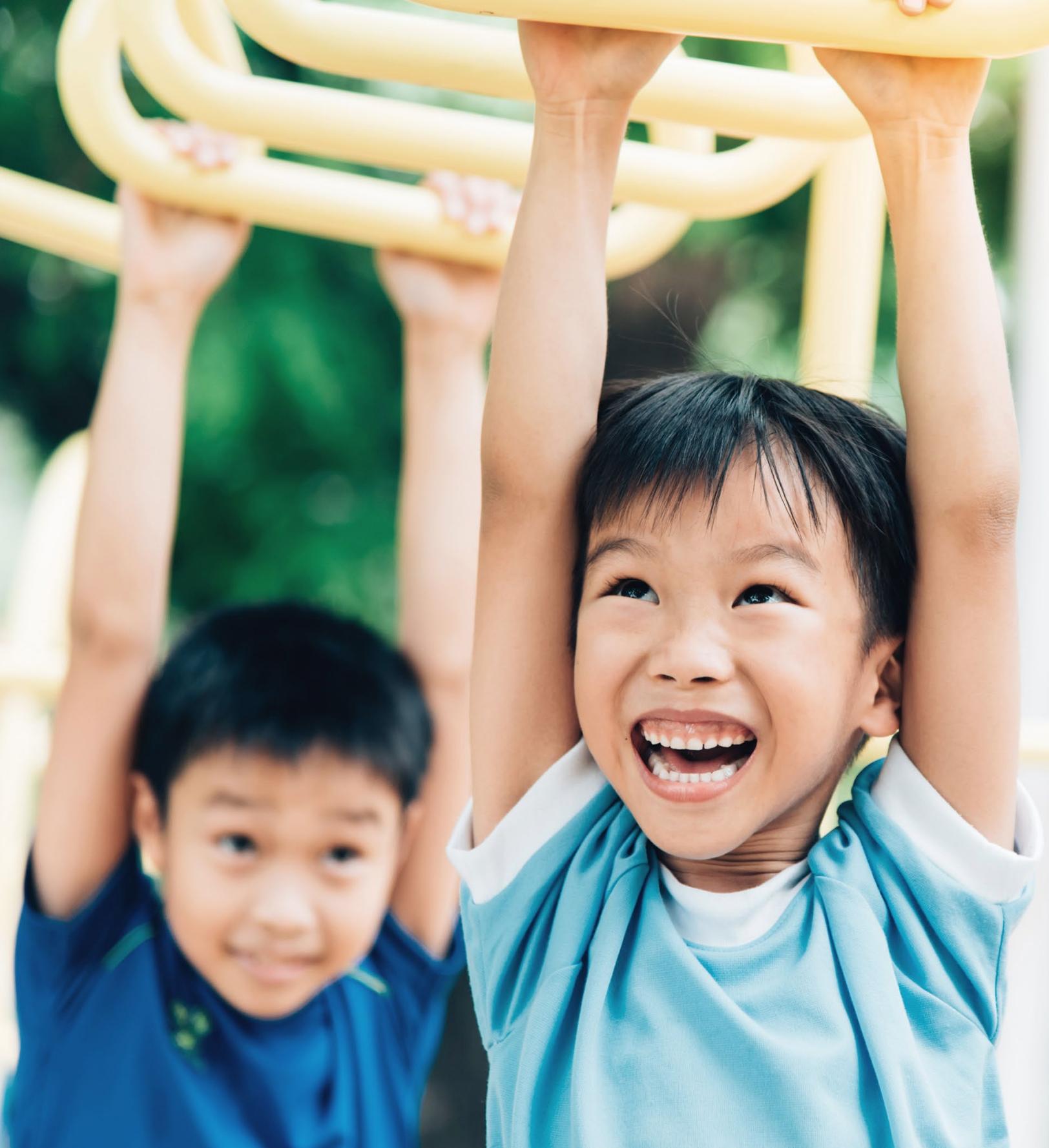
5 Can I Play?

5

Can I Play?

Asking who can and cannot play is critical for analyzing and making decisions relating to a playground's design. Design considerations include but are not limited to the playground surface (Section 5.1), play component selection (Section 5.2), playground safety (Section 5.3), signage and wayfinding (Section 5.4), weather and climate (Section 5.5), and play programming (Section 5.6). The design issues discussed in this section, pertain solely to the playground itself and not its surrounding environment. Design considerations concerning a playground's surrounding environment are discussed in Sections 4.0 and 6.0. Information about playground service and maintenance is in Section 6.3.

Figure 5.1 presents an infographic that offers a snapshot of considerations and strategies for designing an inclusive playground. See **Figure 6.1** for a similar infographic that is focused on designing inclusive surroundings for a playground.

5.1 Playground Surface

A playground's surface material and design are integral to the accessibility, inclusion, and enjoyment experienced by playground users. Given that users typically interact with a playground's surface (e.g., via walking, running, wheeling, standing, sitting, crawling, falling) more than any one play component, decisions about the surface are of great importance. If the surface presents a barrier, it can cause all play components to be inaccessible. For example, if a child who requires the use of a mobility device comes across a playground with an unstable surface (e.g., pea gravel), the child may not be able to access any play components whatsoever and, consequently, experience exclusion from play. At the same time, an unstable surface may prevent adult caregivers with disabilities from engaging in play with their children or responding to their child's needs on a playground.

5.1.1 Surface Material

There is a range of playground surface materials. Drawing on the work of the U.S. Access Board and the National Center for Accessibility (2014), four common materials are: poured-in-place rubber, rubber tiles, engineered wood fibre, and hybrid surface systems (for a more comprehensive review of these surfaces, see Greenwell & Skulski, 2013). An additional system that is increasing in popularity and warrants attention is accessible turf (Kaboom!, 2021a; ForeverLawn, 2021). **Table 5.1** provides a description of

Figure 5.1 | What Makes a Playground Inclusive?

LEGEND

1. Entry Points
1.1 Entrance to the playground space is wide and free of obstacles
1.2 Wide, flat and firm pathways from the entrance to the playground
1.3 Enclosing the playground to prevent children from straying

2. Surfacing and Paths
2.1 A flat uniform surface made of moderately firm and stable material
2.2 Ramps that provide access to and between elevated play components

3. Features to Foster Inclusive Play
3.1 Play equipment accessible to all children
3.2 Variety of play equipment to provide appropriate challenges for children of all ages and abilities
3.3 Different types of sensory play components that are spread out within the play space to reduce overstimulation

3.4 Solitary play components for escaping overstimulation
3.5 Play components shaped in recognizable designs that allow for creative and imaginative pursuits
3.6 Informational features to aid with spatial orientation, communication and guidance on proper use of equipment
3.7 Shaded spaces to aid with temperature regulation

4. Staffing/Supervision
4.1 Trained staff present in the play space to support play for all children

5. Design Process
5.1 User involvement (families of children with disabilities and representatives from disability organizations) in the design process

Created by Megan Cheung. Informed by Brown et al., 2021.

these five surface materials/systems, information about their installation and repair, and accessibility concerns. **Figure 5.2** shows examples of some of these surface materials. **Figure 5.3** shows a cross-section of a hybrid surface system.

Table 5.1 | Playground Surface Materials

Description	Installation & Repair	Accessibility Concerns
Poured-in-Place Rubber		
A wear layer with larger rubber particles that is finished with a custom top layer of granular particles. A binding agent is applied, and the material is poured out on site (or, 'in place').	Must be done by someone who is trained or certified by the manufacturer.	The top layer can crack or flake, which can result in divots greater than ½ inch. Top layer deficiencies can occur in higher use areas (e.g., around swings, entrances to play structures, bases of slides). Inadequate curing or the use of an improper bonding agent ratio can cause deficiencies. Deterioration may occur over years due to exposure to the elements. Surface cracking may also occur where two different colours of surfacing meet and where surfacing meets a pathway.
Rubber Tiles		
Bonded rubber typically constructed in 2 ft x 2 ft squares that have interlocking sides.	Can be done by a contractor or park/facility staff.	Puncture holes in tiles and shifting/separated seams between tiles can create openings and changes in surface level. Particles can get caught in openings from punctures or separated seams and cause tiles to lift from the subsurface adhesive. Cracking in tiles may occur over time. The settling of the subsurface may affect the integrity of individual tiles. Temperature changes can also cause tiles to heave and then settle in different ways, leading to uneven tiles.
Engineered Wood Fibre (EWF)		
Processed wood that is ground to a fibrous consistency and randomly sized, approximately 10 times longer than wide with a maximum of 2". EWF is free of hazardous substances and should not be confused with wood chips.	Can be done by a contractor or park/facility staff.	If improperly installed or poorly maintained, EWF can result in an undulating surface that may produce unsafe running slopes, cross slopes, and changes in level. EWF should be installed in layers and compacted to achieve an accessible route. Surface material is likely to displace in higher use areas (e.g., around swings, entrances to play structures, bases of slides). Displaced materials should be levelled via raking and compacted before adding more fill.

Description	Installation & Repair	Accessibility Concerns
Hybrid Surface System		
A multi-layer system. The base layer may consist of contained or loose particles (e.g., shredded rubber or carpet pad). Top layers may consist of rubber top mat, outdoor carpeting, or artificial turf.	Must be done by someone who is trained/certified by the manufacturer	Seams may separate or detach from the border creating openings or changes in level. Shifts in loose fill in the base layer may affect running and cross slopes in the playground surface. If using an artificial turf top layer, an anti-static solution may be required to reduce static electricity build-up.
Accessible Turf		
This material is available from companies such as Envylawn, Zeager Brothers (RecGrass, RecRug), and ForeverLawn (Playground Grass). As an example, ForeverLawn's Playground Grass is made of recycled materials, designed specifically for playground use, and comes in anti-static and anti-microbial options, making it practical for hospital and daycare contexts. It is ADA-compliant and designed for safety. It has been certified to meet and exceed the ASTM 1292 fall height requirements for up to 15 ft (ForeverLawn, 2021).	Playground Grass is installed on top of a layer of safety foam and can be installed over rolling or undulating surfaces. The turf is less expensive and easier to install than poured-in-place rubber (KABOOM!, 2021a). Playground Grass and its seaming system has been designed to be resistant to reduce the need for surface repairs (ForeverLawn, 2021)	Accessible turf was not part of the research (i.e., U.S. Access Board and the National Center for Accessibility, 2014; Greenwell & Skulski, 2013) that identified the other surfaces' accessibility issues noted above. Playground Grass resists up to four times more traffic than other synthetic grasses (ForeverLawn, 2021). Some accessible turf surfaces do not absorb falls from levels as high as poured-in-place rubber surfaces so this must be checked with manufacturers (KABOOM!, 2021a).

Figure 5.2 | Playground Surface Materials

Poured-in-Place Rubber

Engineered Wood Fibre

Rubber Tiles

Accessible Turf

Sources: Row 1: marathonsurfaces.com; Row 2: trassig.com, diamond-safety.com; Row 3: adventureplaysystems.com; Row 4: foreverlawn.com

Figure 5.3 | Playground Surface Materials

Source: unknown

In their 2008-2012 longitudinal study of the accessibility of playground surfaces, the National Center on Accessibility (Greenwell and Skulski, 2013) found that there is no perfect playground surface. Within 12 months, each surface material they studied had some issues, such as impact attenuation problems (poured-in-place rubber), surface punctures and separated seams (rubber tiles), as well as undulating surfaces and unsafe running/cross slopes (EWF). This means that regular surface assessments and maintenance work needs to be a key commitment and incorporated into playground servicing and maintenance budgets. The frequency needed for playground assessments and maintenance varies. Some only require seasonal maintenance, while others may need weekly maintenance, or even daily, depending on the surface material and the number of playground users.

While no surface is perfect, some require less maintenance than others. In their longitudinal study of playground surfaces, the U.S. Access Board and the National Center for Accessibility (2014) found that poured-in-place rubber required the fewest instances of maintenance; however, accessible turf was not part of this study and is generally regarded as durable. Although poured-in-place rubber surfaces had fewer instances where maintenance was required, repairs need to be done by the original installer or a professional trained/certified by the manufacturer and can be expensive. While hybrid surface systems were also found to have minimal deficiencies, one issue that did arise was seam separations that create openings and changes in level greater than ½ inch. EWF and rubber tiles required more maintenance. EWF was found to require maintenance the soonest after installation and most frequently over time, as EWF surfaces eventually begin to have undulating mounds that can become more drastic over time if not maintained. Rubber tiles were found to have the highest number of locations where maintenance was required (e.g., due to punctured tiles and separated/shifting seams). Where playground surfaces included both rubber tiles and EWF (e.g., tiles as primary accessible routes to points of entry and egress, and EWF to fill play zones), the loose fill particles scattered across rubber tiles and sometimes lodged into them creating seam separations, sometimes to the point where tiles pulled away from their adhesive subsurface.

Here are some considerations and strategies that help inform playground surface material decisions:

- Consult with playground equipment company representatives and/or surface material manufacturers about site preparation, installation, warranties, and life expectancies of different surface materials in relation to the site's local weather conditions, surface testing, and how much maintenance each surface requires. Compare costs of materials, installation, and maintenance, and ask about the experience of surface installers.

- Consult with owners of properties where local playgrounds are situated to learn about their surface material choices and costs, how the local climate/weather affects surfacing over time, and how they approach surface maintenance.

- Research surface characteristics and testing results (e.g., the American Society for Testing Materials (ASTM) F1292-99/04 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment). Consider testing the force required to push an individual in a manual wheelchair, and surface firmness and stability (for more, see U.S. Access Board and the National Center for Accessibility, 2014; Playworld, 2015). Surface materials must be compliant with ASTM F-1292/99/04 testing standards.

- Ensure that the person or team installing or maintaining a playground surface is trained in accessibility standards. When installing poured-in-place rubber surfacing or a hybrid surface system, ensure that the person/team is also properly trained/certified by the manufacturer. Poor installation can lead to surface issues and increased maintenance costs.

5.1.2 Surface Design

The surface design can contribute to or detract from a playground's accessibility, wayfinding, safety, and opportunities for play and interaction. While a playground's surface design must align with decisions about play components and their layout, this section focuses primarily on the design aspects of the surface itself (e.g., the application of colour, tactile markings, surface games). Sections 5.2 and 5.3 discuss play component selection and playground safety.

Considerations and strategies for designing a safe, inclusive playground surface that adds opportunities for play and social interaction include:

- **Surface colour changes:** The strategic application of colours can help children safely navigate a playground and create additional play opportunities. Some examples include:

  - **Safety/fall zones:** Using one colour to mark safety/fall zones (e.g., around swings, at the base of slides) across a playground can allow for intuitive avoidance/ awareness of these zones, as well as easy caregiver instructions (e.g., "don't stay inside the red areas", or "be careful when you are inside a red area").

  - **Surface/equipment distinction:** Ensure a good colour contrast between the playground's surface and equipment so that decks and play equipment can be distinguished.

  - **Transition spaces:** Using a colour contrast on surfaces near transition spaces (e.g., playground edges/ fences, steps and ramps to elevated structures, slide bases) can help children intuitively slow down when in proximity to these spaces.

  - **Orientation path:** Applying a certain colour or pattern to indicate an orientation path is encouraged. An orientation path allows children to loop around or walk in between play components so that they may survey and familiarize themselves with play components prior to playing. Paths can also serve as a safe space where children can go if they feel stress/anxious and need to remove themselves from a play component. Making an orientation path barrier-free and 1.8 m wide allows two people using mobility

aids to pass or travel alongside one another without difficulty. An orientation path can be designed as loop around play zones or as a central spine out from which play zones stem.

- **Play zones/pods:** If playground equipment is laid out in play zones/pods, surface colours can be used to help define the zones/pods (e.g., quiet play, active play, toddler play, loose parts play, imaginative play). These colours can also be useful for playground mapping and wayfinding.

- **Colour choice:** While some may assume that brighter colours and/or more colours support a playful environment, this may not be the case for children with autism, sensory processing disorder, or visual perception issues. For these individuals, a playground surface that is extremely bright and/or includes many colours can be over-stimulating. For this reason, the surface colour should not be overly bright or consist of too many colours. Also avoid dark colours since they absorb more heat from the sun and can, in turn, increase the temperature of playground environments and contribute to surface material deterioration.

- **Colour contrast:** Use distinctly contrasting colours for effective wayfinding and safety. Avoid colours that are close to one another on the colour spectrum to ensure adequate contrasts (e.g., avoid the use of blue/purple or orange/yellow contrasts, see **Figure 4.1**). Effective colour contrasts can help all children but may be especially necessary for children with sight loss. Children generally find surface markings and colour variation interesting and inviting for active play (Willenberg et al., 2010).

- **Flush/seamless transitions:** A playground's surface level should be flush/seamless with any abutting surfaces (e.g., at entry points or around the playground's border) to ensure simple and easy transitions across surfaces.

- **Tactile floor markings:** In addition to using surface colour changes to mark safety/fall zones, flush tactile floor markings can also be used. They can help children with sight loss to navigate a playground without entering unsafe spaces (e.g., swings area).

- **Playground themes:** A playground surface design can contribute to the playground's theme (e.g., if the theme is trains, an orientation path could look like railway tracks; if the theme is zoo, images of animals could be integrated into the surface). Consider engaging the public to identify a playground theme and to develop ideas for how the surface can contribute to it. This can be a good way to initiate community engagement and project buy-in (see Section 3.1 for more on community engagement). **Figure 5.4** shows examples of two surfaces designed to support pirate ship and baseball themes.

- **Surface games:** Integrating game boards (e.g., four-square, checkerboard, maze) into open playground surface areas (i.e., away from transition spaces and fall/safe zones) can add fun, interactive play features to the playground without adding play components. It is recommended that game boards be integrated into hard surfaces around a playground. This is because the game boards may create too many seams in the playground's unitary surfacing that become weak points for separation and gaps, and thus contribute to broken surfaces and more maintenance in the future.

Figure 5.4 | Examples of Surface Designs Supporting Playground Themes

Sources (top to bottom): whirlix.com, playlsi.com

- **Educational activities:** Integrating educational activities (e.g., a compass rose, clock face, math games, country or world map) into hard surfaces around a playground can add fun, interactive components with little cost. **Figure 5.5** displays examples of surfaces that support both game play and educational activities.

Figure 5.5 | Surface Designs to Support Play and Learning

Source: abacuspg.co.uk

5.2 Play Component Selection

Selecting an inclusive playground's play components requires careful attention to the community's needs and desires. This section presents considerations and strategies to help ensure that a playground provides adequate play richness, which Playworld (2015, p. 32) defines as, "the quantity, quality, diversity and inter-relationships of play events on the playground," through play components that offer opportunities for physical, sensory, and social play. This section also looks at imaginative, constructive, and loose parts play; accessible play component features, and weather/climate issues. Other matters to consider in play component selection processes and decisions include community input (see Section 3.1), playground safety (see Section 5.3), and programming options (see Section 5.6).

5.2.1 Physical Play

When selecting physical play components, it is desirable to choose pieces that will, together, offer a range of opportunities for children to develop and use the two internal senses (vestibular and proprioceptive senses) that are key to physical development for every child. The vestibular sense allows us to know how our body is moving in space. Its receptors, located in the inner ear, detect when we are moving linearly, rotationally, or spinning on an axis in space. It lets us know when we are upright or upside down and generally where our head is in space. The proprioceptive sense allows us to know how we are using our muscles as we move in our world. Its receptors, located in our muscles and joints, detect how much muscle activation we use when we pull, push, climb and do other physical things. Proprioception helps us build muscle memory so we can successfully coordinate our movement in a specific environment. Incorporating equipment that offers opportunities to physically engage these two internal senses helps to ensure that children can develop their movement on the playground and beyond.

The vestibular system is highly activated during play on the playground through a child's interactions with various play components. Providing vestibular play options that offer a variety of motions (i.e., from simple linear motion to more complex rotational and spinning motions) is recommended. It is

also important that a child be able to control their vestibular play experiences and be able to stop/leave the play component when they feel they have had enough of the experience. While most play components engage both vestibular and proprioceptive sensory systems, some play experiences clearly activate the vestibular system, including:

- **Rocking/gliding:** These motions engage children's vestibular system in a linear fashion. It is preferable to include (1) components that offer forward-backward and side-to-side rocking motions, and (2) components that allow for the rocking motion to be experienced in different positions (e.g., standing, sitting, lying down) (Playworld, 2015, p. 34). Include single user rockers that allow a child to control their rocking experience, as well as paired or group rockers that require coordination and cooperation between those using them. Including rockers with larger seats that allow an adult to accompany a child can help to offer rocking experiences to children who require support. For group rocking experiences, consider equipment designs that allow children to have control/options regarding the motion they feel. Some may seek more motion while others can only tolerate a little.

  - **Examples:** single user rockers and spring riders, multiple user rockers and spring riders, inclusive see-saws (possibly with central platforms that offer a less intensive rocking experience), and group gliders that can be accessed with a mobility device that encourage group interaction to create the gliding motion.

- **Sliding:** Sliding components allow children to experience vestibular stimulation and the pull of gravity as they quickly slide down to the ground below. A basic straight slide is the simplest for the vestibular system to process. Slides with waves, turns, and spirals are a greater challenge to the vestibular system. Include slides of different heights and types, and at least one static-free slide (e.g., a roller slide or stainless-steel slide) that does not negatively affect those with external medical devices (e.g., cochlear implants, insulin pumps). Consider incorporating slides that allow for adult accompaniment, slides that are accessible via wheelchair accessible elevated structures, and slides that have transfer benches at their base.

  - **Examples:** straight, curvy, hilly, tube, and spiral slides; wider slides, static-free roller or stainless steel slides; and slides with transfer seating at the top and bottom.

- **Rotation and Spinning:** Include rotation and spinning components that provide the vestibular system with more of a challenge than linear motion. Rotation involves moving around the axis of a play component while spinning involves moving with axis that runs through the child's body. For example, if there is a group of children using a dish merry-go-round, those sitting on the outer edge are experiencing rotation while the child sitting in the middle is experiencing spinning. Children need to experience both rotation and spinning in different positions (e.g., sitting, standing, lying, or while in dynamic movement) in individual and group playground components. A playground component that allows someone to experience rotation or spinning directly from their mobility device (e.g., wheelchair) with their peers is strongly encouraged.

  - **Examples:** Individual seat and standing spinners, inclusive dish spinners, spinning/rotating climbers, and fully inclusive merry-go-rounds/carousels that children using wheelchairs can independently access via wide entries and flush/seamless surface transitions.

- **Swinging:** Swings are a popular play component on playgrounds. They offer a variety of vestibular experiences from linear to rotatory to spinning. It is important to offer an array of swing types, including those that are accessible, to ensure swinging opportunities are presented to everyone.

  - **Examples:** Belt swings, toddler bucket swings, tire swings (allow for rotational swinging), bird nest swings (i.e., saucer-like swings that allow a child who may not be able to sit upright to swing safely while lying down), swings that allow two users to swing together, accessible plastic-moulded harness swings for children (or adults) who need physical support while swinging, and accessible wheel-on swings that allow children to experience swinging from their mobility device.

Figure 5.6 | Play Components that Engage the Vestibular System

Rocking/Gliding

Sliding

Rotating/Spinning

Swinging

Sources: Row 1: playlsi.com, moonshotrecreation.com; Row 2: citypa.ca, playlsi.com, calgaryplaygroundreview.com; Row 3: facilityexecutive.com, playlsi.com; Row 4: playlsi.com; blueimp.com

Figure 5.6 displays equipment that fully engages the vestibular system by supporting the play experiences discussed above. Many of them also support the development of the proprioceptive system. Some playground components are more focused on proprioceptive sense development. These are play components that present opportunities to children to develop muscle strength and endurance, motor coordination, hand-eye coordination, balance, and motor planning skills. These are all important to being able to move in the physical world beyond the playground. The following play components/activities are particularly useful in activating the proprioceptive system:

- **Crawling:** Crawling components can include tunnels and smaller play structures designed with the development of younger children in mind.

  - **Examples:** Small crawl tunnels starting at ground level for younger children; a collection of play decks that allow children to crawl from deck to deck, including adjacent multi-sensory panels that encourage children to pull themselves up to stand as they crawl; and pretend play structures that encourage infants and toddlers to crawl and to pull up to stand.

- **Climbing:** Climbing is typically integrated into the design of many play components on the playground. It is important that the collection of climbing experiences follows a developmental sequence that allows children to develop motor coordination skills and to always find another level of climbing experience to tackle. Typically, climbing experiences will go from solid surfaces with clearly defined hand and foot placement (an assortment of ladder type climbers) to more flexible climbers that have a high level of movement (typically some sort of net climber). Consider the direction of climbing, moving from simple up and down climbers, to climbers that require a child to move vertically and then horizontally to get to deck level, to climbers that require diagonal movement. Bridges requiring children to move laterally provide an entirely different motor planning experience. This challenges children to cross midline, encouraging the integration of motor pattern on both sides of the brain. Be sure to include climbers or bridges that require children to move back and forth from ground level to deck, or deck to deck somewhere within the playground.

  - **Examples:** Starters: simple ladders with solid rungs, rope ladders with solid rungs or boards, transitioning to solid climbers that have handholds/footholds that allow children to move laterally and diagonally. More advanced/challenging: climbers made of net materials that link from the ground to a playground deck or playground feature (rock). Most advanced/challenging: climbers that are solid and/or net materials that require children to change their body position in space as they climb (i.e., children must move vertically, diagonally and horizontally in space before they get to the next deck or next level of the climber).

- **Overhead Events:** Overhead events offer a different proprioceptive experience that primarily benefits the upper body and trunk muscles. The U.S. Consumer Product Safety Commission (2015) recommends simple overhead events, such as overhead ladders with rungs that are parallel and evenly spaced, and no more than 60" in height, as appropriate for children aged 4-5 years. Overhead events for school-aged children should be no more than 84" in height with rungs spaced no more than 15" apart. Overhead events for this group can have multiple directions and be made of solid rungs or net. Overhead rings and track rides are also appropriate for this group.

  - **Examples:** For 4-5-year-olds: a solid overhead ladder that links decks, possibly in parallel to a ramp or lower body pathway. This provides a way to move from deck to deck for all children and allows those who have not developed the upper body strength to move to the next deck. For school-aged children: different types of overhead events that link decks. They can be put in sequence to create an upper body circuit. This circuit might include arching overhead ladders, overhead rung patterns that require different motor patterns, and an event that requires a child to change directions or to adjust to different rung sizes and materials.

- **Balancing:** The development of balance skills involves both vestibular and proprioceptive senses. Include components that offer opportunities to engage dynamic balance, build core strength, and to develop risk perception. Consider selecting components that offer different experiences and levels of challenge. For example, include a balance component that allows a child to use one hand for support, and another that allows them to use both. Challenge can also be varied by having balance components low to (or, even designed into) the surface or raised from it (e.g., to aid the development of risk perception), or by having components that are static (e.g., a balance beam) or dynamic (e.g., a rope walk). Ideally, an inclusive playground will include multiple play components that engage balance.

  - **Examples:** Disc challenges, balance beam (straight, curvy, with/without hand support, high or low, variation in width), and tight rope walks (with guiding rope hand supports). Ideally, children will be able to access balance components at the surface level and from elevated play structures.

- **Walking, Running, and Rolling:** Providing ample space for movement throughout a playground will allow children to move for prolonged periods using their typical mode of mobility so they can build up endurance, muscle tone, and enhance their balance. Incorporating an elevated play structure that has a looped, double-wide pathway (i.e., a path that is wide enough for two wheelchair users to pass by one another comfortably) can create additional space for walking, running, and rolling, from a heightened vantage point.

  - **Examples:** Incorporation of a track into a playground's surface and/or a pathway component that undulates; wide, clear pathways to and from the playground and between equipment pieces; surface mazes or obstacle courses, designed so that a child using a mobility device can participate.

Figure 5.7 displays physical play experiences that engage children's (and adults') vestibular and proprioceptive systems.

Figure 5.7 | Vestibular and Proprioceptive Play Experiences

VESTIBULAR

SWINGING

SLIDING

SPINNING + ROTATING

ROCKING

CLIMBING

WALKING
ROLLING
RUNNING

BALANCING

GRIPPING + HANGING + SWINGING

PROPRIOCEPTIVE

Created by Megan Cheung

5.2.2 Sensory Play

Sensory play components offer children opportunities to engage and develop their external senses of sight, hearing, touch, and smell. While taste and smell are typically left out of sensory play components, scent and food focused gardens can be incorporated into playground surroundings to help provide opportunities to engage all senses. The following subsections present considerations and strategies for designing a playground that engages children's visual, auditory, and touch senses. While some children may view sensory play components as a secondary interest, others may find these components to be most interesting. Plus, these components can be used for self-regulation for children who might get overwhelmed with all the sights and sounds at the playground and may become a favourite part of their playground visit. Including sensory play components helps to ensure all children feel included within a playground environment.

5.2.2.1 Tactile Play

Tactile play components offer children a variety of different textures to touch and manipulate. Consider the following textures identified by Playworld (2015) when determining which textures to provide:

- **Smooth:** Material is even and without projections (e.g., metal poles and slides, mirrors)
- **Soft:** Material yields to touch (e.g., some rubber or foam components)
- **Hard:** Material is solid and unyielding to touch (e.g., durable, thick plastic components)
- **Rough:** Coarse material that may include projections or irregularities (e.g., rocks, textured plastic, rope)
- **Grainy:** Material that feels (or is) granular (e.g., sand, pebbles, rocks, plastic texturized to feel granular)
- **Uneven:** Material that is bumpy and/or includes projections (e.g., plastic moulded to have dips, bumps, ridges, decorations, and so on).

While the following items are not solid tactile surfaces, they still engage the sense of touch and could be incorporated into the play components or surroundings of playgrounds:

- **Liquid:** Water play opportunities, such as water play tables or splash pads, can help children familiarize themselves with the touch of water, its movement, and how it can be manipulated.
- **Wind:** Opportunities to create and feel wind (e.g., via fanning, bellow-like tools, waving, parachute play) present unique tactile play opportunities that could also help with temperature regulation.
- **Pressure:** Water and wind play components can potentially incorporate pressure mechanisms so that children can feel water and wind at different pressures.
- **Temperature:** Shading and/or surface colours (e.g., light colours reflect light and are cooler, dark colours absorb light and are warmer) can be used to engage children's touch and help them learn about temperature. Similarly, different materials (e.g., rocks, wood) can help children learn about how materials retain the sun's heat differently.
- **Vibration:** Vibration represents yet another way in which children's sense of touch can be engaged. It can also engage hearing, as children may put their ear to a vibrating chime or drum and hear sound via bone conduction. It can be incorporated into musical play components via signage that encourages people to safely touch and feel chime or drum play components that provide long-lasting sounds.

Tactile play components can be integrated into many play components and elevated accessible play

Figure 5.8 | Plastic Moulded Sensory Panel

Source: playlsi.com

Figure 5.9 | Static-Free Roller Slide

Source: miracle-recreation.com

structures via panels or decorations that invite touching. Tactile play components can function as valued standalone pieces, including elevated, wheelchair accessible tables that serve as water play stations or sandboxes for fossil digs, and plastic moulded sensory play centres (e.g., see **Figure 5.8**). Consider providing full body touch opportunities (e.g., a static-free roller slide; see **Figure 5.9**) when identifying tactile play options.

Implementing sensory/touch walls can be a space-efficient way to provide children with tactile play opportunities. These walls can engage tactile play alone or be mixed with visual and auditory play components. If a playground is fenced in or has a fenced side, a sensory touch wall can be placed on the fencing so that less used space around a playground's edge can serve as a play component.

5.2.2.2 Visual Play

Visual play components engage sight and support the development of visual processing. They present opportunities to manipulate and visually process moving parts, colours, images, and text. Some considerations and strategies for selecting visual play components include:

- **Range of visual activities:** Ensure that visual play activities engage different visual processing activities by incorporating many, most, or all of these activities: tracking motion (e.g., kaleidoscope, colour wheels), focusing (e.g., periscope, telescopes), reading (e.g., panels focusing on language development), understanding visual information (e.g., diagrams, puzzles, mazes), and distinguishing objects (e.g., panel games involving matching).

- **Integrated or standalone visual play components:** Visual play components can be integrated into play structures (e.g., as interactive panels on other equipment) or as standalone features (e.g., plastic moulded sensory play centres with mazes, tracing/tracking, matching games, colour wheels, periscopes, kaleidoscopes).

- **Sensory wall option:** Incorporating visual play components/panels into a sensory wall can be a space-efficient way to provide visual play opportunities. Sensory walls can engage just visual play or be mixed with tactile and auditory play components.

5.2.2.3 Auditory Play

Auditory play components allow children to engage in sound exploration and to develop their auditory systems. They offer children opportunities to process acoustic information (e.g., compare and distinguish noises, localize sound sources), and develop understanding about volume, echoes, and

other aspects of sound. Consider the following strategies when selecting auditory play components:

- **Sound range:** Include auditory play components that offer a range of sounds as children may be drawn to certain sounds more than others, or they may wish to sample the various sounds they can create. Sounds could include, among other things, tones (e.g., from chimes or a xylophone), percussion (e.g., from drums), noisemakers (e.g., rain stick noises, rattle noises), and voice echoes/communications (e.g., via echo-making items, talking/telephone tubes).

- **Different actions to produce sounds:** Include auditory play components that produce sounds via different actions (e.g., pushing a button, pulling a lever, hitting a drum/chime, stepping/wheeling onto a surface, or using your voice). Make the vast majority of auditory play components accessible (e.g., drums/chimes that can be reached by children using mobility devices, talking/telephone tubes situated at the height of a child using a wheelchair).

- **Integrated or standalone components:** Auditory play components can be integrated into play structures (e.g., panels with drums or bells, talking tubes). However, consider separating auditory play components (especially those that can be particularly loud) from certain areas (e.g., spaces intended for quiet play or calming).

- **Sensory wall option:** Incorporating auditory play components/panels into a sensory wall can be space-efficient way to provide children with auditory play opportunities. Sensory walls can engage auditory play alone or be mixed with tactile and visual play components.

Figure 5.10 displays some sensory play experiences that support tactile, visual and auditory play.

Figure 5.10 | Sensory Play Activities

Created by Megan Cheung

5.2.3 Social Play

Playgrounds are valued for the opportunities they offer children to socially interact and develop their social skills. Children engage in social play in different ways that may align with their stage of development and how they are feeling at the time of play. Accounting for different types of social play during the design of an inclusive playground can help to ensure that there are social play opportunities for all children. Mildred Parten's (1932) social stages of play are still commonly referenced today and are useful to consider when designing playgrounds. Below, we draw on some of Parten's thinking as well as a helpful 'Stages of Development in Play' document prepared by the Markham Stouffville Hospital Child Development Program (2020) to explain social stages of play and to suggest some strategies for encouraging social play for each stage:

- **Onlooker play** involves a child watching others at play and reflecting on their play activities, but not joining the play activities. Similarly, quiet play can involve children taking time to reflect on their own play activities and to plan what they want to do next. Locating play components in pods and providing an orientation path around or through them can help children observe others at play and then join in when they feel comfortable and ready to do so.

- **Solitary play** is when children play alone with toys and/or equipment without getting close to or interacting with other children. Children may desire or need some time to explore a playground, assess opportunities and others, or play alone. Solitary play can help children build skills for working independently. The incorporation of loose parts play or constructive play options can create opportunities for solitary play.

- **Parallel play** is when children play independently, but next to one another. They may play with the same toys and/or play equipment. This play can lead to associative and cooperative play opportunities. Swings can be useful in terms of facilitating parallel play opportunities. Elevated play structures with various side-by-side play components can present children with an array of opportunities to engage in parallel play. Loose parts and constructive play options can also facilitate parallel play.

- **Associative play** is when children are playing together and sharing play materials and equipment, but they may be following their own stories/play rules. This is where they begin to socialize and learn social cues. For example, a double-slide allows children to follow their own play rules and plans, but also create opportunities to begin playing on the play component (and socializing) with another child.

- **Cooperative play** occurs when children negotiate, take turns, or change roles in play, and collaborate to achieve goals or produce play stories/plots. Providing play equipment that invites pairs/group play (e.g., talk tubes, see-saws, group spinners) or has real-life themes (e.g., equipment that resembles a truck, plane, or house) that support imaginative/dramatic play can help to create opportunities for cooperative play. The incorporation of an accessible group glider is an excellent way to facilitate inclusive cooperative play, as children and adults can work together to make the glider move. Ensuring these play components are accessible will facilitate inclusive cooperative play opportunities. For example, make spaces under and around play structures and any play structure panels supporting imaginative play wheelchair accessible.

- **Games with rules** are where there are child-controlled rules and winners and losers. They allow children to show and develop their cultural understanding of social rules. These games should not be confused with sports. Integrating game opportunities (e.g., four square grids, hopscotch) into the hard surfaces surrounding a playground or game instructions (e.g., for different tag games) on play component panels helps create opportunities for children to engage in games with rules. Incorporating signage showing strategies for inclusive games (e.g., within the rules of hopscotch or tag) can be a great way to get children playing versions of familiar games that can include everyone.

Remaining aware of the different types of social play can help create social play opportunities for children at different development stages and/or who may prefer a certain type of social play depending on how they feel that day.

5.2.4 Loose Parts Play

Incorporating loose parts play into playgrounds or a nearby play area is an exciting way to create opportunities for social, collaborative, creative, and constructive play that go beyond traditional playground opportunities. Loose parts play can be understood as when children engage in unstructured play using freely chosen materials that they themselves can move, carry, combine, and then deconstruct and reconstruct as they wish. Loose parts play can be facilitated by providing a range of materials that can be human-made (e.g., wooden blocks, crates) and/or natural (e.g., twigs, leaves), and a space for these materials to be used for play. While more research is needed on the topic of loose parts play and its benefits (Gibson et al., 2017), Spencer et al. (2019) have suggested that this type of play can create valuable opportunities for children to take risks, build relationships, and to engage and advance their creativity, problem-solving, independence, and leadership. Children may engage in loose parts play independently or collaboratively, and this type of play may lead to the construction of structures, imaginary play opportunities, and games with rules.

Consider the following factors and strategies for incorporating loose parts play into a playground's design:

- **Dedicated accessible space:** Allocate space for loose parts play through playground surface markings and/or signage. Consider situating this space near the playground's edge where there is (1) less traffic and (2) proximity to storage for loose parts equipment. In some cases, it may be practical to situate a loose parts play area off of, but nearby the playground surface. In such cases, ensure the loose parts play area has a level, accessible surface and can be accessed easily from the playground via an accessible pathway. Providing some accessible tables in a loose parts play space can enhance accessibility to loose parts play.

- **Loose parts play materials:** There is a wide range of human-made and natural objects and materials that can be used for loose parts play. Some examples include: wood planks, cardboard boxes, ropes, containers, blocks, tables, chairs, rings, blankets, fabric, safe scrap materials, safe/lightweight tools (building materials); sticks, twigs, straw, acorns, leaves, plants, shells (natural elements); and model cars, dolls/figurines, books and other toys children bring from home (Casey & Robertson, 2019; Play Wales, 2017). For a useful list of potential loose parts play materials, see Casey and Robertson's (2019) "Loose Parts Play: A Toolkit, Second Edition." When selecting materials, pay attention to their durability and if they could damage playground surfaces. Avoid natural materials if loose parts play is to occur on the playground given their potential to damage playground surfaces. To help ensure the inclusivity of the materials, provide a range of objects that take into consideration the 12 questions noted in **Figure 5.11**.

Figure 5.11 | 12 Questions for Inclusive Loose Parts Play

- Can object(s) be held and/or manipulated in one hand?

- Can object(s) be lifted by a child with reduced limb function or upper body strength?

- Are there objects that a child with poor fine motor skills can grip and manipulate?

- Is there a mix of large and small objects?

- Is there a wide variety of pieces that offer a range of challenges in how they are handled and manipulated?

- Do the materials have different textures, colours, and patterns that offer a range of tactile and visual experiences?

- Do the materials have different scents or make different noises that offer a range of olfactory and auditory experiences?

- Have you incorporated accessible tables, seating, and elevated, wheeled loose parts storage options to aid access to objects?

- Have you received input from children with disabilities, their families, special educators, and/or occupational therapists on what objects to include and what adaptations may be needed?

- Does the mix of objects satisfy the needs and desires across the age range (e.g., from young children to youth)?

- Could programming/support staff enhance loose parts play (e.g., via non-prescriptive facilitation; assisting with lifting/manipulating objects; having staff to inspect, distribute, clean, and store play objects)?

- Is the availability of loose parts play objects and any related programming clearly communicated via on-site signage and a playground website?

- **Accessible, elevated table play:** Providing accessible, elevated play tables allows children who use wheelchairs and other mobility devices to be included in loose parts play. At the same time, some children prefer to stand while engaged with loose parts and manipulatives, which suggests the incorporation of accessible tables into loose parts play options is beneficial to all. It is also useful to provide a shelving unit or cart to store materials during play time so that all children can access materials easily. If loose parts play materials are left on the ground, retrieving them may be difficult or impossible for some children.

- **Programming:** Programming for loose parts play allows for the provision, cleaning and storage of materials, as well as some facilitation and support for children's play with loose parts. You can have trained playworker staff support loose parts play during clearly communicated scheduled hours or integrate it into community recreation programs, educational outings, and/or children's health programs (see Section 5.6 for further details on playground programming). For more on playworker staff training, see Pop-Up Adventure Play (2021).

- **Storage:** Have secure, dry storage for all loose parts play materials, play tables, and supplies for regularly cleaning the materials in close proximity to the loose parts play area. Materials can be stored on carts/shelving with wheels so they can be easily moved back and forth between the play area and storage location. Ensuring that storage is secure prevents loose parts play materials from being carried away and lost.

Figure 5.12 | Loose Parts Play Systems

Sources (left to right): Imaginationplayground.com, Playandleisureservices.co.uk, ultraplay.com, Kidstimeplaygrounds.com

- **Budget:** If loose parts play is to be incorporated into an inclusive playground's design, discussions about budgeting for and acquiring materials should be held early in the design process. You may want to purchase loose parts play systems/kits, such as Ultraplay's SnugPlay system or Imagination Playground's Big Blue Blocks system, both of which are shown in **Figure 5.12**. Low budget options include the purchasing and/or donation of used play, sports, craft, and building materials. Storage options for loose parts play systems may be provided by manufacturers (e.g., Imagination Playground's Big Blue Blocks system).

- **Cleanliness:** Incorporating the regular cleaning of loose parts play materials into your playground's service and maintenance plan is essential to ensuring a safe environment for all playground users.

- **Alternative constructive play options:** If a loose parts play area is not feasible (e.g., due to challenges relating to programming, cost, or storage requirements), consider implementing alternative constructive play options that may be easier to manage (e.g., providing accessible, elevated tables/stations that support water play, sand play, blocks, or LEGO® play. Consider placing any such tables nearby the playground rather than on it to avoid having water, sand, blocks, or LEGO® causing harm to the playground's surface.

5.3 Playground Safety

A playground's layout can help to prevent injury. If a child feels safe while playing and can take risks when they desire, they will get more out of their playground experiences and may be encouraged to engage in more social interaction. Similarly, a playground layout can help a caregiver to feel that their child is safe and can allow them to easily supervise their play. A playground visit can also provide caregivers with rest – or at least a less stressful period during their day – that may allow them to engage in social interactions as well. The following layout considerations and strategies can help enhance playground safety:

- **Safety/fall zones:** Ensure that all play components are adequately spaced so that they satisfy necessary safety/fall zone standards. Critically assessing if safety/fall zone requirements should be exceeded in certain places will further enhance safety. The placement of swings, which typically have a large safety/fall zone, is particularly important. Locating swings along a playground's perimeter rather than in a central location may help reduce the number of children passing through a swings area, which can in turn help to reduce injury risk.

- **Accessible paths:** Make sure play components and their safety/fall zones do not infringe on accessible paths within the playground. This will prevent collisions between play component users and those passing along the paths.

- **Lift/transition spaces:** Where children may require lifts onto and off play components (e.g., a slide), ensure there is ample space (e.g., at the top and bottom where it would be preferable to have a transition bench) for caregivers to maneuver as they undergo lifts and transfers. Ensure these transition spaces are not in high traffic areas where playing children are likely to interrupt transitions and create dangerous circumstances for children being lifted and caregivers doing the lifting. For example, avoid placing play

panels in areas where transitions are happening so that (1) if a wheelchair is left within the transition space it is not blocking a play experience, and (2) if a child is playing at the panel, they are not blocking access to the transition space.

- **Sun protection/heat prevention:** Play components can and should be strategically placed and positioned to reduce sun exposure (and the resultant heating of) their surfaces. For example, a metal slide could be placed so that it is protected from the sun by a shade structure or adjacent tree shade at the time of day when the slide would be most exposed to the sun. A slide could also be positioned facing away from the sun with less direct sun exposure (i.e., to the north in northern hemisphere, to the south in the southern hemisphere). Positioning and its importance vary by geographic location.

- **Perimeters:** Creating a playground perimeter (e.g., via fencing, landscaping, or topography, and not water) so that there is only one or two entry points can help to ease supervision and prevent children from wandering to nearby hazards (Brown et al., 2021). A playground layout should keep perimeter and entry points in mind (e.g., leaving ample space at entry points for children to familiarize and orient themselves to the playground and to support easy transitions into and out of the playground). Perimeter walls can also be integrated and used as play features (e.g., sensory play walls). Providing seating along the inside of the perimeter can make supervision easier for caregivers and provide areas for children to remove themselves from play if desired. Perimeters should be highly visible (i.e., they should not be demarcated by dangerous cables or wires hanging between posts).

- **Lines of sight:** Play components can be laid out to enable lines of sight that support supervision. For example, by not situating large play components that obstruct sightlines directly in front of seating around a playground's perimeter, designers can avoid obstructing the vantage point from the seating (i.e., so that a larger area can be supervised from the seating). To maintain lines of sight for supervision, avoid the use of high walls to differentiate spaces or play zones and place components that are easy to see through (e.g., rope climbing components) in central locations.

- **Reach range:** Pay attention to the reach ranges of children of different ages and abilities when selecting and implementing play components. In many cases, these reach ranges will be determined by regulations that playground manufacturers must satisfy. Even small variations from the prescribed distances and heights of play components' different pieces may make it unsafe or unusable for some. For example, if a play component is positioned too low, a child using a wheelchair may not be able to roll underneath it and interact with it in a safe, forward-facing position. Or, if a play component is built too high (or if its pieces are too far apart from one another), it may cause children to stretch to engage it in unsafe ways.

- **Grips/handles:** The design and placement of grips and handles will also, in many cases, be determined by regulations that playground manufacturers must satisfy. It is also good practice to question how children of different ages and abilities will go about accessing and engaging play structures and components. This exercise can help you identify locations on play structures and components where grips/handles can help children safely move around and transition to and from play components.

- **Static electricity and magnets:** If there are pieces of equipment that are known to build up static electricity or involve the use of magnets, this should be clearly indicated. This is because static electricity can cause issues for children with cochlear implants and children with programmable shunts (inserted internal drains to remove excess fluid from the brain) may not be able to come into direct contact with magnets.

5.4 Signage and Wayfinding

Incorporating accessible and intuitive signage and wayfinding tools into an inclusive playground and its surroundings can ease access and enhance users' experiences, especially if the playground and park are large. Signage and wayfinding can help children and caregivers know where they are and where others are, as well as where they are going and where they can go. This knowledge may

encourage children to be more active and to take more calculated risks since they know they can return to their caregiver at any moment. It can also help caregivers feel more comfortable about letting their children play independently. Some considerations and strategies for crafting an accessible and intuitive wayfinding system for inclusive playground surroundings include:

- **Wayfinding system:** A comprehensive and consistent wayfinding system helps playground/park users gain familiarity with what signage, markings, and landmarks they should seek for orientation and navigation purposes (e.g., what colours, materials, fonts, and pictograms they should seek). A wayfinding system can integrate with and contribute to place-making efforts (e.g., via alignment with park branding or themes, or with local identity features), and support smooth transitions to and from an inclusive playground (e.g., via alignment/integration with a playground's theme and mapping). While larger parks and playgrounds will typically require a wayfinding system, smaller parks and playgrounds may not need one. Determine early on whether a wayfinding system needs to be developed.

- **Accessible signage at park entrances:** Accessible signage at park entrances provides visitors with a description of the playground and its purpose. This can help educate all park visitors about childhood disability and inclusive play. It is practical to have this signage also provide a wayfinding map to the playground and its surrounding facilities (e.g., washrooms, changing facilities, water fountains, parking lot, etc.). This signage can help children familiarize themselves with the park and playground, and prepare them for transitioning into playground activities, which also eases transitions for caregivers.

- **Accessible signage at the playground's entrance(s):** It is good practice to provide accessible signage at a playground's entrance. This may include celebratory artwork, an explanation of the playground's inclusion purposes/goals, a detailed map of the playground and its features, a code of conduct, contact information for emergency/maintenance matters, and possibly a comment box and/or QR code for comments.

- **Accessible signage features:** Consider incorporating large colour- or tonal-contrasted text, Braille, graphics, pictograms, and/or raised line maps into signage (Rick Hansen Foundation, 2019: 41). Use simple, straightforward language and consider providing signage in multiple languages if a playground serves a community where multiple predominant languages are spoken. See Section 4.1 for further information about accessible communications and on-site playground communications.

- **Communication boards for non-verbal children:** Incorporating a communication board into a playground is an excellent way to make play more inclusive for children, youth, and adults who use non-verbal forms of communication. These communication boards (see **Figure 5.13** for examples) serve as an augmentative or alternative communication (AAC) device that allow those who use alternative forms of non-verbal communication to express their needs and desires by pointing at symbols. When designing a communication board, it is practical to consult a local speech-language pathologist to aid the selection

Figure 5.13 | Playground Communication Boards

Sources (left to right): Patch.com, playlsi.com

of words and symbols, and where they are located on the board. It is good practice to emphasize core vocabulary terms (e.g., I, me, you, yes, no, who, where) and to include some fringe vocabulary terms specific to the playground environment (e.g., slide, climb, swing, see-saw, tag, hopscotch). These communication boards can help with improving confidence, communication, and relationships, and with creating more opportunities for inclusive play.

- **Representation in signage imagery:** Ensure that imagery on signs (e.g., images of children playing) adequately represents disability and other forms of diversity (e.g., age, race, ethnicity, gender). Where standard accessibility pictograms are required (e.g., to indicate accessible parking, routes, or washrooms), consider using active accessibility pictograms rather than the International Organization for Standardization's (ISO) international symbol for access. **Figure 5.14** shows the ISO pictogram next to a pictogram developed by the Accessible Icon Project. The latter depicts the person as the "driver" or decision maker, and symbolically suggests that the chair user is mobile and active.

- **Signage height:** Place signage at a height that is easy to read for all playground users (adults, children, and those using wheelchairs). Make sure all playground users can approach and interact with the signage without difficulty (i.e., it is within reach from a stable, accessible surface).

- **Accessible route signage:** Clearly mark accessible routes with directional signage along pathways. If a pathway is not accessible due to slope, surface quality, steps, or other reasons, include signage indicating its inaccessibility so that people do not travel along a pathway only to find out that they must turn around and seek an alternative route. Ideally, there will be no inaccessible pathways around an inclusive playground.

- **Signage concerning dogs:** The presence of dogs on a playground may cause some children discomfort and, in turn, discourage them from using the playground. Dog waste may cause damage to a playground's surface and decks. On the other hand, service dogs are essential to the health and well-being of some individuals with disabilities. These dogs help with everyday tasks and navigation, alert individuals to prevent injury (e.g., before a seizure), and provide emotional support. Post clear signage indicating that dogs must be on leads and should stay off playground surfaces, noting that service dogs are an exception.

- **Landmarking:** Consider incorporating tall/large public art at the ends of any view corridors to serve as wayfinding landmarks and meeting locations. For example, one landmarking piece could be placed at a safe distance from a parking lot and another could be placed near an inclusive playground to help with parking lot-to-playground transitions. **Figure 5.15** displays an example of interactive public art nearby (but safely distanced from) a parking lot that can serve as a landmark that aids parking lot-to-playground transitions.

Figure 5.14 | Active vs Accessible Icon Project Pictogram

Source : eyeondesign.aiga.org

Figure 5.15 | Public Art Wayfinding Landmark by Playground Parking Lot

Source: Ingrid M. Kanics

- **Consult signage requirements:** Review and satisfy any relevant federal, provincial/state, or local requirements for signage. Consult applicable accessibility requirements.

- **Audio information buttons:** Consider incorporating audio information buttons into signage at playground entrances.

- **Waste receptacle signage:** Provide up-to-date signage for waste, recycling, and compost receptacles that clearly indicates what materials should go in each receptacle. This signage must be aligned with local/contracted collection practice.

When designing a wayfinding system, consider how sensory cues can be incorporated. Some ways to use sensory cues to support wayfinding include:

- **Visual cues:** Colour applied to a playground's surface and pathways support wayfinding. For example, a coloured line with washroom symbols and arrows can be applied to a pathway between a playground and a washroom. Similarly, a differently coloured line with food symbols and arrows can be applied to a pathway between a playground and picnic area. Coloured lines along pathways, however, can become visually overwhelming so they should be used sparingly or not at all. Ensure clear sightlines between the playground and its surrounding spaces (e.g., parking, picnic area, washrooms). Provide clear signage and relief/tactile maps at key locations to aid navigation (see Section 4.1.4).

- **Tactile/texture cues:** Provide tactile/texture cues to help children (and others) with sight loss navigate. These cues may include a tactile map, tactile cues at entry points (e.g., a change in material, or the application of a tactile paver tile), and even using different materials and textures for pathways (or, at the ends of each pathway) (Brown et al., 2021). Carefully select and install tactile paver tiles for pathways because some may create barriers for individuals using wheelchairs. For example, a tile with truncated domes installed into a sidewalk may cause difficulties, as the front wheels of a wheelchair may get stuck between two truncated domes.

- **Olfactory cues:** One's sense of smell can create strong associations with places and, in turn, help with orientation and navigation. Strategically placing a limited number of scented plants/flowers within or around a playground may help some children know where they are and where they wish to go. These plants/flowers can also serve as a visual cue. Carefully consider if the flowers/plants attract bees and where to locate the flowers/plants in order to prevent bee stings, which can be extremely dangerous for those with allergies. Robin Moore's (1993) Plants for Play: A Plant Selection Guide for Children's Outdoor Environments remains a useful resource for carefully selecting plants for playground environments.

- **Auditory cues:** Distinct auditory experiences across a playground's different play zones can aid orientation. These experiences may emerge at a playground's borders (e.g., nearby running water, traffic in the distance, a school/daycare), or from the play components themselves (e.g., a musical play section, a megaphone play component in another section). When using auditory cues to aid playground orientation and navigation, do not produce these cues in close proximity to quiet spaces or play components intended to help children calm down.

When a wayfinding system is deemed necessary for an inclusive playground, treat the system as an integral part of the playground and its design. Consider incorporating wayfinding into public engagement events about the design of an inclusive playground and its surroundings (see Section 3.1 for more on community engagement). When you ask children with disabilities, their families, the public, and stakeholders about what they would like to see communicated via signage and how, and what they want from wayfinding tools, you are far more likely to produce an inclusive wayfinding system that aligns with community desires. Also, talk to the community about designing a wayfinding system that aligns with a park's existing branding/theme, a playground's theme, a local historical

theme, a local geographic feature, a design motif within the municipality, and/or an existing municipal/park colour scheme. Wayfinding landmarks can be tied to one of these local features or themes. Engaging the public about wayfinding can help to enrich people's playground visits, celebrate a municipality or park's features or history, and create playground project buy-in from the community.

5.5 Weather and Climate Considerations

While climate and weather patterns impact the service and maintenance of a playground, they also affect a playground's inclusivity. The following subsections discuss how to consider and account for sunlight and heat, precipitation, and wind within an inclusive playground design.

5.5.1 Sunlight and Heat

Sunlight can be both an enjoyable and potentially dangerous aspect of a playground visit. The ultraviolet rays in sunlight can be a serious concern to those who are susceptible to sunburn, sun poisoning, skin aging, and skin cancer. The heat generated by sunlight can also pose a serious risk for those who, due to a medical condition or medications, have issues with body temperature regulation (i.e., thermoregulation) and thus also with long periods in sunlight or high temperatures. The following considerations and strategies can help to provide protection from sun exposure on a playground:

- **Central shade structure(s):** Consideration should be given to strategically implementing a large, central shade structure (or multiple) within a playground that is either free-standing or integrated into a play structure. Consider where natural shading from trees may occur, the playground's geographic orientation to the sun, and the structure's material (e.g., fabric, plastic, or metal) and their maintenance requirements. **Figure 5.16** displays examples of central shade structures.

Figure 5.16 | Central Shade Structures

Sources (left to right): shadesystemsinc.com, inclusiveplaygrounds.net

- **Other shade structures:** Consider the strategic use of additional shade structures for play components not covered by a central shade structure, entry point/waiting spaces, and on-playground furniture (e.g., for benches within the playground borders). When providing shade for on-playground furniture, include shade areas adjacent to benches where wheelchair users can position themselves when resting with people using benches. Also consider shade structures for spaces surrounding a playground (e.g., picnic areas), and integrating misting elements into shade structures. Upon pushing a button on the shade structure post, a cool mist is released. This is not a water play feature; rather, a quick mist of water can cool off an individual and drop the surrounding air temperature. **Figure 5.17** displays examples of other shade structures.

Figure 5.17 | Other Shade Structures

Sources: Row 1: Littletikescommercial.com, playlsi.com; Row 2: Pacificplayinc.com; Shadesystemsinc.com;

- **Natural shade:** Depending on a playground's geographic location and positioning, existing trees may provide sun protection. Where this is not the case, consider planting trees strategically adjacent to or possibly within a playground to offer natural shading. When planting trees, consider how their branches, root systems, leaves, and fruit may impact a playground across seasons and years.

- **Albedo effect:** Avoiding the use of dark colours for equipment and surface can keep material cooler for longer and may help to reduce the temperature on a playground.

- **Water play components:** In humid and/or hot climates, integrating water play components on or nearby a playground can help children and caregivers cool down on hot days.

5.5.2 Precipitation

Rain, snow, and other forms of precipitation represent another important weather and climate consideration when designing an inclusive playground. Strategies for providing protection from precipitation and ensuring safe playground use after precipitation events include:

- **Shade structures doubling as precipitation shelters:** Depending on how shade structures are built and the materials they use, they can also serve as shelters from precipitation, and sudden rain or hail. Build fully accessible shade structures that double as precipitation shelters and ensure that no one is excluded from shelter during a weather event.

- **Surface accessibility during and after precipitation:** Playground surfaces and pathways to and from any shelter spaces on and off the playground, must be easy for all to access and maneuver during weather events. Ensure playground and pathway surfaces have adequate slopes, crowns, and/or drains to ensure water does not accumulate and pose safety risks during and after precipitation. For more on pathway slopes, see Section 4.3.2.

- **Surface materials:** Consider using surface materials that are slip-resistant when wet for the playground and surrounding pathways. However, even the most slip-resistant surface materials can still be slick when there is a high volume of rain, snow, and ice. Enhance safety by providing signage and warnings about this.

- **Surface and pathway maintenance:** If the surfaces of a playground and its interior and surrounding pathways are maintained during winter months, this maintenance must be done carefully with tools that will not damage the surface materials. Damage to playground surfaces (e.g., punctures, separation of surface materials) may be exacerbated by precipitation (e.g., water getting beneath and lifting surfaces). Any materials or solutions applied to the playground surface or surrounding areas for snow removal (e.g., salt) should be vetted by the surfacing manufacturer to ensure they can be used without causing damage.

- **Furniture use during and after precipitation:** Protect furniture on or near a playground with shades that double as precipitation shelter. If this is not feasible, ensure that the furniture's materials and/or angles support drainage so that furniture can dry and be used shortly after weather events. This is an important aspect to making playgrounds accessible to children with disabilities, their caregivers, and older people.

5.5.3 Wind

If a playground is in an environment with high winds (e.g., a coastal environment), mitigating wind is important for inclusion. For children with hearing devices, strong winds can produce hearing interference that creates a barrier to their communication with other children and may prevent them from detecting potential threats around them (e.g., hearing a warning from another child or a caregiver) (Office of the Deputy Prime Minister, 2003). The following considerations and strategies are useful if high winds are a concern:

- **Land alteration:** A playground's surrounding landscape can be altered to serve as a wind barrier (City of Calgary, 2010). For example, this can be done by creating a landscaped berm or embankment on the wind source side of the playground.

- **Planting trees and shrubs:** Planting two to three staggered rows of evergreen trees and/or shrubs can help to create an all-season windbreak. Avoid the use of deciduous trees and/or shrubs since they lose leaves in the fall, are leafless during the winter, and may only have buds in the spring. Staggering the planting rows will help to provide more thorough coverage and create a more natural appearance.

- **Windscreen or wall:** In some cases, erecting a fence with windscreening or a wall may be most practical for mitigating high winds. These windscreen fences and walls can be colourful and/or incorporate educational games or sensory play walls into their surfaces on the playground side. Be sure that any play factors integrated into a windscreen fence or wall are accessible to all children.

- **In-playground wind breaks/shelters:** Access to small spaces (e.g., recesses, alcoves, walled space) within the playground itself can provide users with relief from high winds without having to leave the playground. This may help to enhance play pace and continuity in a high wind environment. When creating these spaces, pay attention to distributing horizontally (i.e., across a playground surface) and vertically (i.e., at ground level and within elevated structures). Ensure that children using mobility devices can easily access these spaces and can turn themselves around within the shelter.

5.6 Play Programming

> *"I don't think the physical [playground] space is the sole factor to promote interactions. The social and emotional environment needs to be set in collaboration with the physical environment to make it inclusive."*
>
> *– Parent of a child with autism spectrum disorder*

An inclusive playground can serve as an excellent space for intentional program delivery. That is, an inclusive playground's accessible design and various play components, combined with proximity to accessible facilities and amenities, can provide children (and adults) with opportunities to socialize, engage, and participate in meaningful group and individual play. This section focuses on considerations and strategies for creating program options that can enhance all children's involvement in play. Topics include strategies for fostering quality playground experiences, the need for programming ideas, and capacity-building for play programming.

5.6.1 Building Blocks for Fostering Quality Play Experiences

We know that children's early play experiences are important to their long-term health and well-being (Ginsburg, 2007), and that children who have enjoyable play experiences are more likely to want to continue engaging and participating. Therefore, it is important to identify strategies and implement programming options that help to ensure that all children enjoy quality participation within playground spaces. Quality participation entails the self-perception that satisfying, enjoyable and personally valued outcomes are achieved through one's involvement in play (Evans et al., 2018).

The Blueprint for Building Quality Participation in Sport for Children, Youth, and Adults with a Disability (Canadian Disability Participation Project, 2020) is an evidence-based tool that provides guidance on how to enhance quality participation in sport and physical activity for people experiencing disability. This resource was developed through the Canadian Disability Participation Project, an alliance of university, public, private and government sector partners working together to enhance community participation among Canadians with physical disabilities. Although the Blueprint was created with sport participation in mind, many of its principles can be applied to play and play spaces. Specifically, this Blueprint uses six building blocks for quality participation within parasport and physical activity:

1. **Autonomy** refers to having the ability to make choices. This principle focuses on having independence, control, and options that allow participants to navigate the environment confidently and securely.

2. **Belongingness** refers to one feeling like they are part of a group. This principle depends on connections, individually suited roles, group composition, support, consideration of participant abilities, and access to mentorship or role modelling.

3. **Challenge** refers to one engaging in activities with an appropriate level of difficulty. This principle intersects with safety, being able to push oneself inside the environment and on appropriate equipment, as well as having choice and adaptable difficulty.

4. **Engagement** refers to feeling focused on and involved in activities. Supporting engagement means providing a wide range of options, reducing distractions around safety and accessibility.

5. **Mastery** refers to experiencing success. It is determined by being able to explore personal limits, access to variations of movement and multiple options outside/within individual comfort zones.

6. **Meaning** refers to personal relevance. The meaning one ascribes to play activities is cultivated by having connections and building relationships, working toward collective goals and problem solving, having appropriate instruction, and feeling valued within the space.

These six building blocks can help to guide the achievement of positive, enjoyable experiences for all children involved in a playground space and play programming. Not every part of a program needs to achieve all six building blocks. However, the playground and play programming can, as a whole, aim to address them fully. The six building blocks also serve as a helpful reminder that, through play, children need to:

- Feel autonomous and in control of their play experiences

- Feel a sense of belonging in play

- Feel appropriately challenged and engaged

- Experience mastery

- Find meaning and feel valued in play settings.

An inclusive playground's physical and social environments, along with integrated programming, can serve as an excellent foundation for these building blocks.

5.6.2 The Need for Programming

While researching and preparing this playbook, the authors heard an important message from families of children with disabilities: inclusion or feelings of belonging do not just happen because a setting is described as accessible or inclusive. During one stakeholder engagement session, a parent shared the following when describing the past experiences of their child at community playgrounds:

> *"Inclusion doesn't exist from what I've seen and what we've experienced. Inclusion is about no child feeling less, or different, or left out. It's not simply about creating a setting where the neurodivergent children interact with neurotypical."*

Intentional, inclusive play programming is one way to facilitate more experiences of inclusion and belonging for kids of all abilities. In addition to enhancing quality play experiences for children living with (and without) disability, play programming may foster an increased awareness of diversity for young people who do not experience or have much exposure to disability. According to one parent of a child with a disability, this may be a critical step to inclusion:

> *"Kids have no idea ... that there are kids who cannot respond [to them]. So how can inclusive play happen, if the kids don't know how to play with other kids?"*

Beyond the invaluable opportunities that intentional, inclusive play programming presents for enhancing understanding of disability and its diversity contributions (which may extend into adulthood), programming leverages inclusive playground infrastructure. That is, utilizing an inclusive playground for inclusive programming can afford more children the opportunity to socialize, engage, and participate in meaningful play.

Communities investing in this infrastructure can implement programming to help ensure that families living with disability can enjoy the play opportunities that this infrastructure presents. School day play programming, drop-in community sport/activity programs, and structured summer camp programs are all options to consider.

5.6.3 Play Programming Ideas

Intentional, inclusive play programming in an inclusive playground environment does not have to mean structured, registered, or adult-led activities (although it can be, if that works for your community). Play programming is best approached as an opportunity to be creative and to think about how play can be enhanced or facilitated to encourage participation among all who are interested.

Given the emphasis on free play in playground environments, a practical programming option to consider is the introduction of trained Play Leaders (or, Playworkers) who can be available to welcome and engage children as they arrive at the playground. Play Leaders can support entry to play, offer activity ideas (e.g., hide-and-go-seek, see **Figure 5.18**), facilitate connections between children, and be available to assist as needed. Play Leaders do not have to be adults! These roles can be taken on by youth or young adults in the community.

Figure 5.18 | Play Leader facilitating a game of hide-and-go-seek

Source: The Steadward Centre for Personal & Physical Activity

Play clubs are another desirable programming option. Play clubs can enhance children's inclusive play experiences, strengthen peer relationships, and improve community outreach. For example, Inclusion Matters by Shane's Inspiration (a network of 75 inclusive, sensory- and literacy-rich playgrounds throughout the world) offers a program titled My PlayClub® that brings together families with different backgrounds and abilities on the playground through playdate events (see inclusionmatters.org for more).

Drop-in programming (e.g., via municipal recreation programs) is another programming option for connecting children within a community and encouraging child-led game choices. This programming can be integrated with Play Leader programming. For example, in Edmonton, Canada, the Green Shack program (City of Edmonton, 2021) ensures trained Play Leaders are available at community parks to supervise and facilitate drop-in play activities. The City of Edmonton has placed Green Shacks (i.e., sheds) next to playgrounds across the city and filled them with equipment for active and creative play. Green Shacks, now symbolic of play in Edmonton, typically post scheduled activities for families to plan visits in advance. Play Leaders hired and trained by the city work with local children to choose activities that are active, creative, cooperative, safe, and fun. The Play Leaders are certified in first aid training and are committed to creating safe play environments for everyone who joins during each activity period.

There is an array of other ways to offer intentional programmed activities that is both inclusive for children with a wide range of abilities and flexible enough to meet the desired focus on free play. Some considerations and strategies for play programming include:

- **Getting to know the playground activities:** Designing activities oriented toward getting to know the playground can be valuable to any child (or adult) who has not previously used the playground – and even to those who have. Such activities may involve learning about any unique/local features, how different play components can be used, types of games that can be played in relation to different equipment, and safety considerations (e.g., learning about how different playground surface colours or tactile markings support safety). Such activities can take the form of tours, scavenger hunts (e.g., "find play equipment that you can slide/climb on," or "find equipment that makes noise"), or can be led by children's curiosity (e.g., "What play components would you like to learn about?"). These activities can also serve as disability education opportunities at inclusive playgrounds (e.g., by discussing accessible play components and any disability education panels/games on play structures).

- **Finding new ways to play:** Collaborate with children to learn more about how different play components can be used. Play Leaders (or others) can challenge children to create new ways to use familiar pieces and list all the ways that unfamiliar equipment could be used as part of well-known playground games. Emphasize safety when discussing creative ways to use play equipment.

- **Finding ways to make play more inclusive:** Explore the playground equipment and spaces with children with the aim of finding ways to make play more inclusive and offer suggestions and guiding questions to help them think critically about inclusion. For example, participants can work together to create an obstacle course that everyone can complete or find unique ways to include children with disabilities in play components that they may not typically be able to access and use (e.g., via games that do not require the child to access the equipment). Emphasize safety when undergoing any such activities.

- **Theme activities:** Integrating themes (e.g., holidays, animals, foods) into activities can foster and enhance children's imaginative and creative play.

- **Instruction language:** When conducting activities, it can be inclusive and fun to use instructions that use general movement terms such as "move" or "travel", rather than specific terms like "walk", "run", or "hop". This promotes choice-making and encourages diversity of movement for participants, as they can choose their preferred way of moving. Descriptive terms can also be integrated for fun (e.g., "travel in a silly way", "travel very slowly"). This encourages children to be creative, allows for individual choice according to ability and skill, and can present opportunities to have fun while moving in between play components.

- **Entry to Play:** Introduce games that help children get to know one another as a strategy that supports entry to play. Such games can help to foster a sense of belonging and may lead to friendships or more

spontaneous play on other occasions. For example, if during a non-programmed playground visit a child encounters other children they previously met during intentional play programming, they may engage in play together outside of programming.

Intentional play programming for an inclusive playground will have different goals from those typically pursued via traditional programming for physical activity/education and sports. Local municipalities, recreational organizations, and other bodies involved in play programming are encouraged to reflect on quality participation and its building blocks, principles of inclusion, and giving children agency through child-led activities. Through this reflection, along with consideration of local needs and desires, play programming can be used to leverage inclusive playground infrastructure and to create opportunities for children to be creative, build relationships, and experience enhanced play.

5.6.4 Capacity-Building for Play Programming

As discussed in the previous section, Play Leaders have an important role in creating quality participation for all children and fostering an inclusive play environment. They can also help communities enhance the inclusion experienced by children and their families at existing playgrounds not designed specifically for inclusion. This can be important when funding may not be available to alter the physical structure of a playground.

The training and preparation of Play Leaders is key. In research that the authors were conducting at the time of this playbook's preparation, parents indicated that many Play Leaders lack the knowledge, awareness, and skills required to be inclusive in their play instruction/facilitation at playgrounds. One parent of a child living with disability noted that, "The facilitator doesn't have a clue about special needs". This has influenced their child's unsuccessful participation in a playground drop-in program. Ensuring that Play Leaders are adequately trained and prepared to offer inclusive programming that accounts for childhood disability is critical to success. Online Play Leader training programs are available (e.g., see Pop-Up Adventure Play, 2021).

5.6.4.1 Roles and Responsibilities

In addition to leading fun and active games, Play Leaders, such as those involved in the Green Shack program in Edmonton, can act as liaisons to help children make connections with others on the playground. This facilitation role is important for children who may be unsure about how to gain entry to play with others. As one parent of a child living with disability shared, initiating play with other children was the most challenging part for their child:

> *"Another big thing for our kids is initiation. People think they don't want to play because they don't know how to initiate. The problem is it's very hard for them to initiate ... for my son it's been so hard because no one is initiating with him. Nobody is initiating that play, so it's difficult for him to play. So, if the other kids are willing to come, look at him, say hi, you know, tell him, "Come let's go slide," he's going to come and go play with them! "*
>
> *– Parent of a child living with disability*

Play Leaders need to be fully aware of the various roles and responsibilities they have in terms of supporting inclusive play. By providing Play Leaders with training and support, they will be better prepared for this meaningful work.

5.6.4.2   Training

Many potential Play Leaders are familiar with facilitating games and activities or have already received training in this area. To ensure they are prepared to facilitate inclusive play among children with and without disabilities, it is recommended that they receive additional training relating to disability and inclusion. This may involve training relating to various communication strategies, how to foster interactions among children with different abilities, and how to support entry to play. There are various resources available around the world that may inspire play programming in your community. For example, Play Scotland (2021) offers a variety of play programming ideas that could be used to support inclusive play facilitation training for Play Leaders. Specific programs that warrant consideration include, but are not limited to, the 'Together, We Are Able®" program from Inclusion Matters by Shane's Inspiration (2021), and the "Playworker Development Course" from Pop-Up Adventure Play (2021). Another training option, which is geared specifically toward youth, is the Inclusive Play Leadership Certificate:

Inclusive Play Leadership Certificate

Developed in partnership with Canadian Tire Jumpstart Charities, the Inclusive Play Leadership Certificate is an online learning tool that aims to equip people with the knowledge and tools needed to make play and games more inclusive so that all children can experience quality participation. Further information about this training opportunity is available at The Steadward Centre for Personal & Physical Achievement. Contact Dr. Jennifer Leo (co-author of this playbook) for further details on this certificate.

THE STEADWARD CENTRE
for Personal & Physical Achievement

6 Can I Stay?

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Can I Stay?

In addition to asking if families with members with disabilities can get to and play on a playground, it is equally important to ask if they can stay at the playground as long as they would like. To help families stay as long as they would like, it is important to design an inclusive playground's surroundings with the same care and attention given to the playground itself. An inadequate surrounding environment may render the playground inaccessible to some, cause playground experiences to be cut short, or deter some children and caregivers from visiting the playground in the first place. For example, if there is no accessible washroom nearby (or, if the pathway to an accessible washroom is unsafe/inaccessible), children with disabilities may not be able to stay as long as they would like.

The following subsections discuss elements within the surrounding environments that warrant consideration when designing and developing inclusive playgrounds. Any technical measures are solely for consideration, as technical specifications for any inclusive playground will need to meet local policies, regulations, and safety standards. Topics considered in this section are facilities and amenities (Section 6.1), landscaping and safety hazards (Section 6.2), and service and maintenance (Section 6.3). Topics relating to the design of a playground's surrounding environment also can be found elsewhere in this playbook. For information about parking and pathways, see Sections 4.2 and 4.3. For information about signage and wayfinding, see Section 5.4.

Figure 6.1 presents an infographic that offers a snapshot of considerations and strategies for designing inclusive surroundings for a playground. See **Figure 5.1** for a similar infographic that shows elements of an inclusive playground.

6.1 Facilities and Amenities

The absence of a nearby accessible washroom or changing station can make playing at an inclusive playground a worrisome or anxious experience for some children and their families. It may take away from children's play experiences or prevent them (or caregivers) from wanting to visit an inclusive playground. A recent survey in Australia found that nearly three-quarters of 482 respondents said accessible washrooms would deliver the biggest improvement to their inclusive play space experiences (followed

Figure 6.1 | Elements of Inclusive Playground Surroundings

FEATURES

1. Accessible washrooms/change rooms
2. Accessible parking
3. Accessible pathways
4. Picnic area
5. Wayfinding
6. Safety fencing/barriers
7. Water fountain/bottle refill station
8. Accessible waste and recycling receptacles
9. Gazebo or structured shelter for shade and/or inclement weather
10. Locked storage facility
11. Emergency call box
12. Light posts
13. Trees for natural shade/windbreak
14. Off-playground play opportunities
15. Green space for play and sport programming
16. Bike racks
17. Playground entrance

Created by Megan Cheung

by swings for all abilities, 68%, and more shade, trees, and nature, 66%) (Australian Local Government Association, 2020).

The absence of facilities and amenities can cause visits to an inclusive playground to be cut short, long before a child or family wishes to leave. Needing to use the washroom, drink water, or change clothing should not end a playground experience. For this reason, facilities and amenities should consistently be incorporated into the scope of an inclusive playground's initial design process, community engagement activities, project development budgets, as well as future playground service/maintenance budgets. Some specific facilities and amenities to consider include:

- **Water fountains and bottle fill stations** that are easy for all playground users to access and use. It is preferable to locate these fountains/stations along an accessible pathway and in a shaded space. See **Figure 6.2** for examples of accessible water fountains and bottle fill stations.

- **Water troughs/basins for pets and service animals** that are easy for all playground users to access and use. It is practical to locate these nearby water fountains/water bottle fill stations. See **Figure 6.2** for an example of an animal water basin.

Figure 6.2 | Accessible Water Fountains, Bottle Fills, and Animal Basins

Sources (left to right): Touringplans.com, Elkay.com, mostdependable.com, thprd.org

- **Automated, no-touch hand sanitization stations** located outside washrooms, near water fountains/water bottle fill stations, and/or around the perimeter of a playground.

- **Accessible public washrooms** (i.e., with accessible entrances, toilet stalls, toilets, grab bars, sinks, door-locking mechanisms, and turning radii). Consider exceeding minimum turning radius requirements for wheelchair users, as minimum requirements do not typically allow for easy navigation and movement within a washroom.

- **Changing stations/facilities for babies, children and adults** within accessible washrooms. Casey & Harbottle (2018) call for the provision of Changing Places toilets, which differ from typical accessible toilets. Changing Places toilets provide a height-adjustable, adult sized changing bench and a tracking hoist. They also provide ample space for a person living with disability and up to two caregivers, a centrally located toilet with room on either side, and a privacy screen/curtain. They are also safe and clean (Casey & Harbottle, 2018, p. 44). A universal changing bench that has no moving parts (and thus does not break) and can be used by various family members can serve as an alternative to a height-adjustable changing bench. **Figure 6.3** displays a universal changing bench without moving parts.

Figure 6.3 | Universal Changing Bench

Source: kjzz.org

- **Accessible changing rooms** (e.g., if changing rooms are provided for water play).

- **Emergency call boxes** that are clearly marked, centrally located nearby the playground, and accessible to all playground users (i.e., adults and children with and without disabilities). Not everyone has a cell phone (and cell phone batteries die), so having these call boxes is necessary for medical emergencies on or nearby an inclusive playground. Placing a map showing ambulance arrival locations on or nearby the emergency call box may help in the case of an emergency.

- **Picnic space with accessible picnic tables**. The space and number of tables should correspond to the scale and use of the playground and any other nearby amenities that may attract people to the picnic space (e.g., sports courts/fields, adjacent cycling/hiking trails, etc.).

- **Barbeques or outdoor park grills** near picnic space.

- **Refreshment facilities** (e.g., a canteen, restaurant, or café).

- **Bicycle racks** that are carefully placed so that bicycle handlebars and rear tires do not encroach into accessible routes.

- **'Parking lot' for mobility devices** just inside/outside a playground entrance. This space could allow playground users to park/store wheelchairs, walkers, canes, and strollers as they wish.

- **Waste/recycling receptacles** that are suitably located (e.g., at exits/edges of picnic areas, along an accessible route) and usable for all. Receptacles should be usable with only one hand (e.g., open top, slot, push door) (Playworld, 2015). Receptacles should not be located in clear spaces next to benches since those spaces may be needed by wheelchair users in order to be close to people using the bench (Playworld, 2015). Consider the use of in-ground waste receptacles given their ability to store more waste, prevent unpleasant odours that can attract animals, and reduce the frequency and cost of receptacle-servicing.

- **Animal waste receptacle** for disposing of pet and service animal waste. The receptacle should be placed adjacent to an accessible route and should be usable with one hand (e.g., open top, slot, push door).

- **Varied seating types with backs/armrests around a playground's perimeter**, as well as nearby facilities/amenities and off-playground play components. This seating allows caregivers to comfortably supervise children. Seating types without backrests may be unusable for some children and caregivers requiring backrest support.

- **Varied seating types with backs/armrests at regular intervals along pathways** to, from, and around the playground so that people can rest as needed. Providing space for wheelchair/scooter/stroller parking next to seating is a good practice that allows those using mobility devices to be next to seating without blocking pedestrian flows. Adding seating may also make park spaces around an inclusive playground more welcoming to older adults.

- **Sheltered information boards** offering a wayfinding map of the playground's surrounding park space, a map of the playground itself, information about the playground's accessibility features, website links, contact information for playground site problems, and/or other necessary communications. See Section 4.1.1 for more on accessible communication practices. Necessary communications may include service hours (e.g., locking/unlocking of washrooms, changing rooms, etc.), service issues (e.g., broken equipment, repair timing, and/or associated website links), and the dates/times of any programming associated with the inclusive playground.

- **Weather-proofed charging stations** (e.g., for mobile devices, mobility devices). incorporated into other facilities and amenities (e.g., sheltered information boards or picnic spaces). Consider implementing solar-powered charging technologies. See **Figure 6.4** for examples of charging stations.

- **Adequate lighting** provided for pathways and spaces around the playground to help ensure that the play space is visible and feels safe at different times of day.

Figure 6.4 | Charging Stations

Sources (left to right): eastoregonian.com, whirlix.com, gosunbolt.com

- **Tree-shaded or structure-sheltered spaces** (e.g., gazebos, pavilions) where people can get out of the sun (or, in the case of structure-sheltered space, wait out inclement weather). Shaded spaces are required both on and off the playground for adults and children with sun allergies and those who are susceptible to sunburn/sun poisoning (Playworld, 2015).

- **Cooling devices** (e.g., water mister, water spray pad, splash pad) that are usable by a child or adult regardless of their mobility device (Playworld, 2015). See Section 5.5.1 for more information about water misters.

- **Storage space structures** that can be used to support programming options for inclusive playgrounds (e.g., a loose parts play program, see Section 5.2.4). For example, locked storage structures can be used by health or inclusive education groups to store mobile lifts (i.e., to help with transfers to playground equipment), portable changing stations, or medical equipment needed to support institution/organization visits to the playground. Storage to support playground programming could be built into/added on to other nearby structures.

These facilities and amenities are by no means exhaustive. Localized issues, needs, and desires will often demand facilities and amenities specific to local contexts and programming. In all cases, an inclusive playground's design process, community engagement events, and associated budgets should consider necessary nearby facilities and amenities since these may be essential to enabling children with disabilities and their families to play and stay on the playground.

6.1.1 Off-Playground Play Opportunities

Off-playground play components (i.e., around/nearby a playground) add to the inclusionary play aspects of an inclusive playground. Placing certain play components short distances away from an inclusive playground can help mitigate overcrowding on playgrounds during peak play periods (e.g., summer weekends). Further, some children (e.g., those with developmental disabilities) may benefit from having options for quieter play away from the playground. While it is preferable that off-playground play components be directly adjacent to pathways to support accessibility, it may be wise to not situate them along main pathways between the playground and parking or pedestrian entry points. This is because reduced visual or auditory stimuli along these pathways is preferred to ease children's transitions to and from inclusive playgrounds by giving them opportunity to orient themselves before being thrust into the excitement of playground activities (Playworld, 2015).

Examples of off-playground play components that warrant consideration include, but are not limited to:

- **Reading nook structures** that offer comfortable, shaded areas for reading, possibly with a community-supported 'Little Free Library' box.

- **Accessible sensory play walls** that can include an array of sensory play components, including finger mazes, tactile panels, water play, noise makers, musical play, and more. **Figure 6.5** shows examples of play walls.

Figure 6.5 | Off-Playground Sensory Play Walls

Source: senteqdirect.co.uk, lpda.net

- **Accessible activity tables:**
  - Families can sign out keys to access nearby locked LEGO® to use on a table with a LEGO® surface (or, any table). Communities can create LEGO® donation programs/bins to support the LEGO® supply. The same can be done with blocks.
  - Puzzle, games, and art tables where children can bring their own puzzles, games, and art materials to use during playground breaks.
  - Sand play tables that can be used by all playground users. Because the sand from sand play tables can cause playground surface problems, they are best kept separate. Accessible sand play tables next to pathways present opportunities for children to build and be creative.

- **Snoezelen multi-sensory rooms** help to reduce agitation and anxiety, as well as delight and stimulate the user. A locked Snoezelen room could be developed to support local programming, and Snoezelen components can be incorporated into outdoor structures on and nearby the playground (e.g., a sensory play wall).

- **Game walls** with spinning pieces, such as tic-tac-toe, or connect four.

These off-playground play options can be designed in tandem and in alignment with an inclusive playground, or independently after a playground is built for cost-saving purposes. For example, a community (group) could potentially build a simple accessible building blocks table and/or sensory play wall next to a pathway at low cost if they found there was a need for such play components after an inclusive playground was built. If an inclusive playground does not support a certain type of play

(e.g., constructive play), an off-playground play component (e.g., an accessible sand table or blocks table) that offers the identified type of play, can serve as a practical, cost-effective way to enhance play and inclusion.

The off-playground (or 'satellite') play components considered here do not represent an exhaustive list. Rather, they draw attention to some options that designers, builders, and communities may wish to consider to help children play and stay on an inclusive playground. Practitioners should be encouraged to consider these and other options that might suit local issues, needs, and desires. Play components do not necessarily have to be limited to a playground's main surface. In fact, adding play components off of, but in close proximity to a playground, may help children with sensory sensitivities more fully engage in play. Adding play components may help to add desired opportunities for building or sensory play, and present quieter less crowded play spaces, while also mitigating crowding on an inclusive playground.

6.2 Landscaping and Safety Hazards

Carefully designing the landscape surrounding an inclusive playground can offer playground users sun protection (e.g., using trees to shade a playground or picnic space), deter children from nearby safety hazards, and help children to connect with and appreciate their local environment.

Some considerations and strategies that help to ensure the surrounding landscape contributes positively to inclusive playground experiences include:

- **Consult a landscape architect** about the placement of an inclusive playground, maintaining/creating key views, and leveraging existing landscape elements (e.g., trees, berms, boulders, etc.) for protection from sun and safety hazards. Consider also how the placement can be used to create a strong sense of place and to mitigate safety hazards. This consultation is especially important for large playground projects.

- **Strategically plant trees** around playground surface edges and facilities and amenities (e.g., picnic spaces) to provide or prevent shade during peak sun hours. Plant trees that do not bear fruit nearby the playground to prevent messes on playground surfaces.

- **Maintain view corridors:** When deciding about the location of plants and trees, avoid obstructing view corridors between the playground and its key access points (e.g., sidewalk access, parking lot access) to allow for caregiver supervision during transitions. Similarly, locate plants and trees so that the playground can be passively observed by passersby or nearby homes and buildings.

- **Nearby green space:** Locate the playground nearby level, well-drained open grassed space that allows for unstructured play and connection to the local environment. If grassed space must be provided at a distance from the playground, ensure that there is a clear sightline to allow for adult supervision.

- **Planting palette:** Establish a well-considered planting palette specific to the local environment and playground context (i.e., its orientation, shade, wind, and precipitation). This will help to account for seasonal variation and allow for year-round enjoyment. For more information about planting around a playground, see Moore (1993).

- **Avoid planting thorned plants/bushes**, even if their intent is to deter access to hazardous spaces. While they may deter access, they can cause injury during the retrieval of balls or frisbees. Dense bushes that are difficult to pass through can serve as natural deterrents from accessing potentially hazardous spaces (e.g., fast-moving water, steep slopes, street traffic).

- **Avoid bee-attracting plants/flowers**, such as lavender (for more, see Moore, 1993).

- **Shade structures:** If planting trees is not a viable option for an area that requires shade (e.g., due to surface materials), provide durable shade structures.

- **Avoid using boulders to block/deter access to hazards**, as some children may choose to climb them and be further exposed to hazards. While boulders can be used to support engagement with the natural landscape, they should not be used as tools to deter access to natural or human-made hazards (e.g., fast-moving water, steep slopes, road traffic).

- **Avoid hanging cable/wire signage:** Hanging cable/wire between posts with signage affixed can cause accidents because the cable/wire can be difficult to see, especially when lighting is poor. This practice should not be used to obstruct access to hazardous (or any) spaces.

- **Walls and fencing:** Where safety barriers are required and natural barriers are not feasible, consider implementing durable and difficult-to-climb walls or fencing to keep children safe. Consider designs that make the wall or fence a playful feature.

6.3 Services and Maintenance

Designing an inclusive playground and its surrounding environment without attention to services and maintenance requirements is likely to result in unexpected and unnecessary issues and costs. Unsafe playground equipment or surfaces, unclean picnic spaces, or overflowing waste receptacles can cause serious accessibility and safety concerns, as well as exclusionary play experiences. Poor service and maintenance may deter repeat playground visits and word-of-mouth about playground conditions may deter others' playground visits. Having a clear and well-funded service and maintenance plan in place helps ensure safe and inclusive play environments, and helps protect the tremendous community investment (time and money) that goes into creating an inclusive playground.

There is no one-size-fits-all approach for servicing and maintaining an inclusive playground. Needs will vary depending on its play components, surface material, weather/climate, how much it (and specific equipment) is used, and various other factors. Thinking about service and maintenance at the outset of the design process can help to ensure the selection of durable, climate-appropriate materials and equipment, and to proactively identify and account for service and maintenance issues within operating budgets and service and maintenance plans. This section considers what to include in a playground services and maintenance plan (Section 6.3.1) and other considerations for reducing the demand for (and cost of) services and maintenance (Section 6.3.2).

6.3.1 Services and Maintenance Plan

It is important to have a services and maintenance plan in place prior to opening a playground. While this document can be crafted to solely address the playground itself, carefully consider the usefulness of including service and maintenance needs of the playground surroundings within the plan. Within the plan, clearly identify what parties are responsible for which service/maintenance issues, each party's service and maintenance schedules, and detail contact information and protocols for unanticipated issues (e.g., vandalism, broken equipment). Revisit and update the plan annually to reflect changes in requirements (e.g., if a playground's usage increases and requires more frequent maintenance).

This plan should be prepared in consultation with all parties involved in the playground's design, development, budgeting, programming, servicing, and maintenance. In particular, those who will be responsible for services and maintenance must be consulted (e.g., playground/park staff,

playground equipment manufacturers, contracted service providers). Their input will help to identify service/maintenance issues and opportunities that could otherwise be missed (e.g., ways in which playground-related services and maintenance might be folded into a park or school's existing service and maintenance plan/operations). Their input will enhance the efficiency of a playground's operation and improve people's playground visits. Ideally, include service and maintenance people on any planning/advisory committee involved in the planning and design of an inclusive playground project. Their input should be treated as essential, not as supplementary.

Components that warrant consideration for inclusion in a playground services and maintenance plan include, but are not limited to the following:

- **Schedule:** Establish a clear schedule detailing daily, weekly, monthly, seasonal, and/or annual service and maintenance tasks, as well as the party responsible for each one. Keep a playground programming schedule alongside the services and maintenance schedule. This will help those performing services and maintenance tasks to plan their work outside scheduled programming.

- **Equipment inspections/environmental audits program:** Inspections are required to assess broken/cracked equipment; worn, loose, or missing pieces; broken glass/debris; loose equipment anchoring; surface punctures or separations; insect damage; user modifications; vandalism; rusted/corroded materials, and any equipment-specific issues that need checking (U.S. Consumer Product Safety Commission, 2015). It is useful to also audit elements within the playground surroundings to ensure their cleanliness and safety. Any inspection/audit program should address any local, state, or federal standards concerning inspection and maintenance, and be tailored to each playground and its surroundings. The service and maintenance plan's schedule could display routine equipment inspections and/or environmental audits.

- **Budget:** Develop a services and maintenance budget for tasks, inspections, and periodic equipment replacements, as well as periodic accessibility consultations/ audits to help ensure the playground and its surroundings remain accessible and inclusive.

- **Maintenance record:** Keep a detailed record of all previous maintenance issues and the actions undertaken to address them. When any task or inspection is performed, the person undertaking it signs and dates a form that then becomes part of the maintenance record.

- **Accident record:** Keep a detailed record of any accidents and injuries to help identify potential hazards or dangerous design features that need to be addressed.

- **Inaccessibility record:** Having a record of inaccessibility issues experienced on the playground (e.g., via complaints or observations) can help with correcting the existing playground design and informing the designs of future playgrounds.

- **Long-term maintenance:** Have a list of long-term maintenance projects that must be budgeted for in coming years (e.g., equipment removal and replacement; playground resurfacing). It may be practical to include long-term maintenance projects concerning the playground surroundings (e.g., pathway repairs and paving; replacement of tables, benches, and signage).

- **Warranties:** Having a record of warranty information for playground surface materials, play components, and their installation is useful when repairs and replacements are required. Ensure that warranty periods are clearly detailed. A life-time warranty may vary (i.e., be reduced) depending on geographical location. Note when the warranty for a major play component expires to inform the budget and schedule for servicing, maintenance, and replacements.

- **Manufacturer/seller services:** Include a record of services that each manufacturer/seller offers. In some cases, free yearly inspections may be available. Some may offer payment plans for inspections and a service plan for the replacement of items that tend to wear with use.

- **Contact information:** Include contact information for all vendors, manufacturers, builders/installers, and playground/park staff to make communications about service/maintenance issues easier and faster.

6.3.2 Other Service and Maintenance Considerations

While a well-crafted services and maintenance plan is central to properly maintaining an inclusive playground, there are several other considerations that can help reduce the need for services and maintenance and make it easier when the need arises. The following items warrant consideration:

- **Safety and accessibility compliance:** All equipment must comply with applicable playground safety and accessibility standards (e.g., in Canada, the CSA/Annex H standards). Have a play equipment company representative and/or a certified inspector do a safety check to ensure compliance. This practice enhances safety and prevents improper installations and the need for repairs and replacements.

- **Vandalism prevention:** Situate and design a playground so that it is highly visible to passersby or people in nearby homes. This can help to prevent playground misuse and vandalism (e.g., spray-painting, broken equipment, setting plastic equipment on fire, unsanitary messes) and, in turn, reduce service and maintenance costs. Providing adequate lighting for a playground and its surroundings can enhance night-time visibility and contribute to vandalism prevention. Consideration can also be given to locking facilities and amenities and/or installing security cameras. Such measures may be costly, but they may be necessary to mitigate the high costs of regular and/or severe damage caused by vandalism. Having a reserve fund specifically for acts of vandalism can help to ensure these acts can be swiftly addressed without being held up by funding issues.

- **Unitary playground surface material:** Using loose-fill playground surface materials (e.g., engineered wood fiber) requires frequent servicing and replacement, especially in high traffic areas like swings and slide landings. If loose-fill surfaces are not serviced, the surface can quickly become inaccessible. Using a unitary playground surface can reduce service/maintenance requirements and help to prevent issues of inaccessibility. See Section 5.1 for more on playground surfaces.

- **Access for maintenance vehicles:** If there is fencing around a playground's perimeter, incorporate a double-wide gate that allows for maintenance vehicles to access the playground site for maintaining, repairing, and/or replacing equipment (Playworld, 2015). This gate can decrease the time and cost required for services and maintenance and be used by an ambulance in the case of a playground emergency.

- **Trees:** Any branches overhanging a playground should always be kept at least seven feet away from play equipment (Playworld, 2015). Avoid having fruit-bearing trees nearby the playground surface and surrounding pathways to prevent messes (e.g., berries) and/or obstructions (e.g., crab apples).

- **In-ground waste receptacles:** Installing in-ground waste receptacles allows for waste to be stored below ground, prevents unpleasant odours that can attract animals, and reduces the frequency for waste services.

- **Durability of structure/furniture/equipment purchases:** When purchasing pieces for facilities and amenities around an inclusive playground, consider the potential external time and financial costs of servicing, maintaining, and/or replacing them. For example, typical picnic table umbrellas may be cheaper than implementing a fixed shade structure over tables, but the former's moveable parts and lower quality materials may mean that they require frequent servicing and replacement. While fixed shade structures may have more costly purchase prices, they may prove more effective in the long-term and have fewer service and maintenance requirements.

- **Communication strategy for addressing playground issues:** Consider creating a communication strategy that details protocols for playground staff to communicate playground issues (e.g., opening and closure hours, broken equipment, canceled programming, scheduled service/maintenance notifications) to playground users (e.g., via on-site information boards, websites/links, social media, email listservs, SMS messaging). This strategy could also detail the ways in which playground users can voice complaints or issues they have encountered within the playground and its surrounding environment (e.g., a phone number that can be called/texted, website commenting options, contact on-site park/playground staff). The strategy should clearly state who is responsible for posting playground communications and reviewing/recording playground user communications. Carefully consider accessibility when crafting a communication strategy to help ensure all playground users can easily voice their issues and be kept up to date on playground happenings (see Section 4.1.1 for more on accessible communications). For example, it is important to post large font notifications on information boards, have accessible website commenting options, and to send accessible format email messages. If accessibility considerations are not folded into a communications strategy, it is likely to produce exclusionary experiences.

The service and maintenance requirements for an inclusive playground's surroundings will vary from one playground to the next. However, some general issues (e.g., maintenance tasks and activities) that warrant attention are:

- Scheduled daily/seasonal locking/unlocking of facilities and amenities
- Scheduled daily, weekly, monthly, seasonal, and/or annual cleaning of facilities and amenities (e.g., picnic spaces and barbeques/outdoor park grills, washrooms, changing rooms, refreshment facilities, and off-playground play components)
- Landscaping maintenance (e.g., mowing grass, caring for plantings, pruning trees/bushes along pathways to prevent encroachments)
- Emptying waste, compost, recycling and/or animal waste receptacles
- Maintaining surfaces of pathways and amenities (e.g., surface repairs, edge protection work, cleaning messes, and, depending on climate, clearing snow/ice)
- (Re-)painting pavement markings (e.g., in a parking lot)
- Cleaning hand wash stations and refilling hand sanitizer pumps
- Electrical and plumbing maintenance/repairs
- Fencing/barrier maintenance/repairs
- Graffiti removal
- Removing long-term locked bicycles or parked vehicles to maintain space for daily parking
- Picking up litter and removing hazards (e.g., broken bottles, needles, excrement)
- Scheduling inspections/audits (e.g., of pathway surfaces, joints, edges, and curb cut ramps; emergency call box and its communication lines; water lines to washrooms and fountains; signage; picnic tables and barbeques/outdoor park grills; washrooms, changing stations, and changing rooms)

This list is not exhaustive, and it is recommended that those involved in designing, developing, and maintaining a playground and its surroundings question what further issues will need to be dealt with at their playground site. These issues should then be carefully considered when developing the playground services and maintenance plan and its associated budget.

7 References

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8 Appendices

Appendix A:
Summary of Reviewed Documents

Note about source column entries: G = Google search; P = Practitioner; L = Literature review

Table A.1 | Summary of Reviewed Documents

#	Author	Title	Year	Type	Source
1	AAAstateofplay.com Kim Hart	A Guide to Inclusive Playground Design	ND	Guide, principles	G
2	Activelivingresearch.org	The Potential of Safe, Secure and Accessible Playgrounds to Increase Children's Physical Activity	2011	Research brief	P
3	Alberta Government	Everyone Belongs Outside: Alberta's Plan for Parks: Inclusion Plan	2005	Inclusion plan	P
4	Architectural and Transportation Barriers Compliance Board	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities: Play Areas	2000	Rules/ regulations	L
5	Architectural Services, Government of the Hong Kong Special Administrative Region	Universal Accessibility for External Areas, Open Spaces & Green Spaces	ND	Best Practices and Guidelines	G
6	Assistive Technology Partners	Playground Accessibility - ADA Compliance	ND	Best practices write-up	G
7	Blue Imp Recreational Products of Canada	Designing Playgrounds for "Every Body"	ND	1-page guidance handout	G
8	Burlington Parks Recreation Waterfront	Oakledge Accessible Playground: Let's Create Vermont's First Inclusive Playspace!	2019	Blog	G
9	California State Parks	Accessibility Guidelines	2015	Guidelines	P
10	Canadian Playground Advisory	Vertical Change in Level Gauge	2017	Reference table	P
11	Canadian Public Health Association	Accessibility and Usability of Play Spaces	ND	4-page research/ information sheet	G

#	Author	Title	Year	Type	Source
12	Canadian Standards Association	CSA Z614-14: Children's Playspaces and Equipment	2015	Standards	G
13	Canadian Standards Association	CSA Z614 Annex H: Children's Playspaces and equipment that are accessible to persons with disabilities	2014	Standards	G
14	Canadian Standards Association	CSA B651 (Built Env. Standard - covers exterior elements such as access routes)		Standards	P
15	Casey, T. and Harbottle, H.; Inspiring Scotland, Nancy Ovens Award for Play, Scotland's Play Strategy, Play Scotland	Free to Play: A Guide to Creating Accessible and Inclusive Public Play Spaces	2018	Guide - initial planning, to commissioning design, to building good place to play	P
16	Centre for Excellence in Universal Design; National Disability Authority; Lynch, H., Moore, A., Edwards, C., and Horgan L.	Community Parks and Playgrounds: Intergenerational Participation through Universal Design	2018	Report	P
17	Cerebralpalsyguidance. com	Cerebral Palsy and Inclusive Playgrounds	2019	Blog/Guidance	G
18	Children's Play Council (UK)	Planning for play: Guidance on the Development and Implementation of a Local Play Strategy	2006	Guidance	P
19	Christopher & Dana Reeve Foundation	Toolkit for Building an Inclusive Community Playground	2017	Toolkit	G
20	City of Calgary, Advisory Committee on Accessibility (ACA) Access Design Subcommittee	Universal Design Handbook: Building Accessible and Inclusive Environments	2010	Universal design handbook	G
21	City of Copenhagen	Garden of Senses, Falledparken	ND	graphic/map	P
22	City of Edmonton	Play Area Accessibility	ND	Standards information	G

#	Author	Title	Year	Type	Source
23	City of Hamilton	Summary of Park Development Standards (Appendix I)	ND	standards	G
24	City of Hamilton, Landscape Architectural Services	Park and Open Space Development Guide	2015	Guide on development process and options	G
25	City of Ottawa	Accessibility Design Standards, 2nd Edition	2015	Standards	P
26	City of Pitt Meadows and Maple Ridge , BC	Universal Design Guidelines for Outdoor Spaces: Plan and Design for Choice	2010	Guidelines	P
27	City of Toronto	1.0 Exteriors (DRAFT) - check for final	2016	Exteriors policy doc	P
28	City of Toronto	Accessibility Design Guidelines DRAFT	2016	Guidelines	P
29	City of Toronto	City of Toronto Accessibility Design Guidelines	2004	Guidelines	G
30	City of Toronto	Playgrounds: Design and Construction Guidelines	2015	Guidelines	P
31	Cosco, N. and Moore, R.	Creating Inclusive Naturalized Outdoor Play Environments	2019	Encyclopedia on Early Childhood Development entry	P
32	Council of Australian Governments	2010-2020 National Disability Strategy	2011	Strategy	P
33	County of Brant	Accessible Public Spaces Design Standards	2013	Standards	G
34	Daniel, K. & Strickland, E.; Healthbridge	Policies that Support Parks and Open Public Spaces: Global Examples	2017	Policy/case report	P
35	Department for Children, Schools and Families (UK)	The Children's Plan: Building Brighter Futures	2007	Plan	P
36	Department for Culture, Media and Sport (UK)	Fair Play: A Consultation on the Play Strategy	2008	Consultation report	P
37	Department of Justice and Equality (Ireland)	National Disability Inclusion Strategy, 2017-2021	2017	Strategy	P

#	Author	Title	Year	Type	Source
38	Discoveryacton.com	Discovery Treehouse	ND	Accessible museum play design, programming	P
39	European Commission	European Disability Strategy 2010-2020: A Renewed Commitment to a Barrier-Free Europe	2010	Strategy	P
40	Fernelius, Courtney L., Utah State University	Evidence-Based Practices for the Design of Inclusive Playgrounds that Support Peer Interactions among Children with All Abilities	2017	Thesis/dissertation	G
41	Flemming, S.	Envisioning Inclusion: Creating a Design Plan for Inclusive Playgrounds for Buddy Break	ND	Research poster	G
42	Forestry Commission England (Lindsey Houston, Roger Worthington, Paddy Harrop)	Design Guidance for Play Spaces	2006	Guidance	G
43	Frost, Joe L.	Playground Development Guidelines for School Systems	1992	Guides	L
44	Goodridge, C., Douche, P.; KIDS with Department for Culture Media and Sport and Playwork Inclusion Project	Inclusion by Design: A Guide to Creating Accessible play and Childcare Environments.	2008	Book/guide	L
45	Government of Ontario	Design of Public Spaces Standard within the Integrated Accessibility Standards (O. Reg. 191/11)	2016	Design standards	P
46	Growing Up Boulder and Whittier Teachers	Growing Up Boulder's Report on Child Involvement in Designing Universal Access Playgrounds	2017-18	Report	G
47	Huber, Rolf, and Skulski, Jennifer	In Search of the (Almost) Perfect Playground Surface	2010	Playground magazine article	P

#	Author	Title	Year	Type	Source
48	Indiana Dept. of Natural Resources (IDNR) Division of Outdoor Recreation	Accessible Playground Toolkit: Ideas and Information to Help Indiana Communities Create Accessible Playgrounds for All Users	2016	Toolkit	G
49	International Organization for Standardization (ISO)	ISO 21542:2011 Building Construction - Accessibility and Usability of the Built Environment	2011	Preview of requirements and recommendations for built environment elements	P
50	International Play Association and Canadian Playground Safety Institute	Accessible Playspaces in Canada: A Guidebook for Children's Playspaces that are Accessible to Persons with Disabilities based on CAN/CSA Z614-07	2007	Guidance	G
51	Irish Wheelchair Association	Best Practice Access Guidelines: Designing Accessible Environments	2014	Accessible environment guidelines	P
52	Jayarajan, S.	Let's All Play: Chennai's First Inclusive Park for Kids with Disabilities Opens	2018	Blog post	P
53	John, A. and Wheway, R.	Can Play Will Play: Disabled Children and Access to Outdoor Playgrounds	2005	Report	P
54	Kaboom.org	Build a Playground Toolkit	ND	Website	G
55	Kompan Play Institute	Play for All: The Newest developments in Universal Design, Accessibility, and Inclusion in Playgrounds	ND	Report	P
56	Landscape Structures	Inclusive Playspace Design Planning Guide	2018	Guidance	G
57	Lappset	Inclusive Design Makes a Good Starting Point for Planning	ND	Blogpost on best practices	G

#	Author	Title	Year	Type	Source
58	Little Tikes	Inclusive Play | Special Needs ADA Accessible Playgrounds - We've got Inclusive Play Covered	ND	Website with best practices on equipment and design	G
59	Little Tikes - Commercial	Unlimited Play: Purposeful Design Principles for Inclusive Playgrounds	ND	Design principles Report	G
60	Lynch, H. and Moore, A.	Participation and Play: Outdoor Playspaces as Sites of Social Exclusion: A European Play Policy Perspective	ND	Research poster	P
61	Lynch, H., Moore, A., Edwards, C., and Horgan, L.	From Policy to Play Provision: Inclusive by Design - Design by Inclusion	2018	Presentation	G
62	Magical Bridge Foundation; Villarreal, O. and Asher, J.	Innovative Design	2019	Information sheet	P
63	Mara Kaplan, Let Kids Play; Design for All Institute of India	Design for All: Inclusive Playgrounds	2015	Newsletter	G
64	Markham, SPH Planning & Consulting	Markham Accessibility Design Guidelines	2011	Guidelines	P
65	May Recreation	Inclusive Play Design Guidelines	ND	Guidelines	G
66	Mayor of London	Shaping Neighbourhoods Accessible London: Achieving an Inclusive Environment - Supplementary Planning Guidance	2014	Planning guidance	P
67	Mayor of London	Shaping Neighbourhoods: Play and Informal Recreation - Supplementary Planning Guidance	2012	Planning guidance	P
68	Mayor of London	The London Plan: The Spatial Development Strategy for London Consolidated with Alterations Since 2011	2016	Plan	P

#	Author	Title	Year	Type	Source
69	Michigan.gov	Appendix C: Guidance on Designing Specific Types of Recreation and Support Facilities that Exceeds ADA for Universal Accessibility	2011	Guidance	G
70	Miracle Recreation	Inclusive Playground Equipment	ND	Website	G
71	National Center on Accessibility, Indiana University, Bloomington	Designing for Inclusive Play: Applying the Principles of Universal Design to the Playground	2007	Website	G
72	National Children's Office (Ireland)	Ready, Steady, Play! A National Play Policy	2005	National play policy	P
73	ncb.org (National Children's Bureau	Designing a Playground: A Student's Guide	2004	Guide	G
74	New England ADA Center	ADA Checklist for Existing Facilities	ND	Links to checklists	P
75	New South Wales Government	Everyone Can Play: A Guideline to Create Inclusive Playspaces	2019	Guideline	G
76	New South Wales Government	Everyone Can Play: Consultation Report	2019	Report	P
77	Norfolk County	Access Norfolk: Multi-Year Accessibility Plan 2018-2022	2018	Accessibility Plan	P
78	Norfolk County	Accessibility Design Guidelines	2019	Guidelines	P
79	NYC Parks	Accessible Playground Definitions	ND	Website	G
80	Office of the Deputy Prime Minister (UK)	Developing Accessible Play Space: A Good Practice Guide	2005	Best practices guide	G
81	Ofiesh, N. and Poller, L.	A Playground for the Entire Community: The Design of Magical Bridge Playground	2005	White paper	P
82	Ollerton, J. and Black, R.S.; Institute for Land, Water and Society, Charles Sturt University	Planning for Social Inclusion in Play-Spaces: An Evaluation of Livivi's Place, Port Macquaire - Report No. 109	2005	Evaluation	P

#	Author	Title	Year	Type	Source
83	PAM Assistance Centre	Universal Playground Design	1993	Article	G
84	Para New Brunswick: Sport & Recreation	PARA NB - Sport & Recreation Playground Accessibility Checklist	ND	Checklist	G
85	Parks and Recreation Ontario	Pathways to Recreation: Learning about Ontario's Accessibility Standard for the Design of Public Spaces	2005	Guidebook	G
86	Play and Playground Encyclopedia	Universal Design	ND	Blog post	G
87	Playcore.com	ME2: 7 Principles of Inclusive Playground Design	ND	Blog post and links	G
88	Playcore.com	ME2: Executive Summary	ND	Summary report	G
89	Play England	Inclusive Design and Play: Mainstreaming Inclusive Play Good Practice Briefings	2009	Best practices	G
90	Play England; Shackell, A., Butler, N., Doyle, P., and Ball, D.	Design for Play: A Guide to Creating Successful Play Spaces	2005	Guide/report	G
91	playgroundequipment.com	ADA Compliant Playground Equipment Planning Guide	ND	ADA info sheet	G
92	playgroundprofessionals.com/Ingrid Kanics	Universal Design and Social Equity in Our Parks & Playgrounds	2015	blogpost	G
93	Playright, UNICEF	Inclusive Play Space Guide: Championing Better and More Inclusive Play Spaces in Hong Kong	2016	Guide report	P
94	Play Wales	Creating Accessible Play Spaces: A Toolkit	2017	Toolkit report	G
95	Play Wales	Developing and Managing Play Spaces	2016	Community toolkit	G
96	Play Wales	Play Spaces: Planning and Design	2012	Report	G
97	Playworld	Inclusive Play Design Guide	2005	Guidance	P
98	RecTec Industries	Inclusive Play Design Guide	ND	Guidance	G

#	Author	Title	Year	Type	Source
99	Rick Hansen Foundation, Spinal Cord Injury Solutions Network, ActNowBC	Let's Play: Creating Inclusive Play Spaces for Children with Physical Disabilities Toolkit	ND	Toolkit	P
100	Rick Hansen Foundation	A Guide to Creating Accessible Play Spaces	2019	Guide	P
101	Rick Hansen Foundation	Universal Design Recommendations for Accessible Playgrounds	ND	3-page information and recommendations sheet	G
102	Royal Society for the Prevention of Accidents	Play Area Design	2016	Best practices	G
103	Sensory Trust	Inclusive Play	ND	3-page information sheet	P
104	Skulski, J.	Designing for Inclusive Play: Applying the Principles of Universal Design to the Playground	2007	National Center on Accessibility post	P
105	SPH Planning & Consulting	Inclusive play Space Design Guide	2016	Design Guide	P
106	Sport and Recreation Victoria, State of Victoria	The Good Play Space Guide: "I Can Play Too"	2007	Guide	G
107	Stanislaus County	Stanislaus County Parks & Recreation Master Plan, 2018	2005	Park master plan	P
108	Stockholm	Stockholm A City for Everyone: Participation Programme for People with Disabilities 2011-2016	2005	Programme/plan	P
109	Superior Recreational Products	Inclusive Playground Design	ND	Information post, some case studies	G
110	Touched by Olivia	Inclusive Playspace Guidelines	ND	principles and guidelines	G
111	Touched by Olivia	The Principles for Inclusive Play	ND	Information document	P
112	Townofchapelhill.org	Inclusive Playground Planning and Design	2017	Short planning discussion	G

#	Author	Title	Year	Type	Source
113	Transports Metropolitans de Barcelona	Universal Accessibility Master Plan	2010	Accessibility master plan	P
114	Unicef.org	Universal Design in the Playground	2013	Graphic	G
115	United Nations	Convention on the Rights of Persons with Disabilities and Optional Protocol	2007	International convention	P
116	U.S. Access Board	Accessible Play Areas: A Summary of Accessibility Guidelines for Play Areas	2005	Guidelines	G
117	U.S. Access Board and National Center on Accessibility (Skulski, J.K. and York, S.)	A Longitudinal Study of Playground Surfaces to Evaluate Accessibility	2013	Final study report	P
118	U.S. Access Board and National Center for Accessibility, Greenwell, P., Skulski, J.K., and York, S.	Surfacing the Accessible Playground: 7 Things Every Playground Owner Should Know About the Accessibility of their Playground Surfaces	2005	Playground surface	P
119	U.S. Department of Agriculture	Accessibility Guidebook for Outdoor Recreation and trails	2005	Guidebook	P
120	U.S. Department of Justice	2010 ADA Standards for Accessible Design	ND	Information and links, standards, diagrams	G
121	Waverley Council	Play Space Strategy 2014-2029	2014	Strategy	P
122	Wexford County Council	Playground Strategy 2017-2022	2017	Strategy	P
123	Wicksteed Playscapes	An Essential Guide to BS EN 1176 and BS EN 1177	ND	Play Inspections guide with diagrams	G
124	Yantzi, N.M. Young, N.L., and P. Mckeever	The Suitability of School Playgrounds for Physically Disabled Children	2010	Article	P
125	Young, D.L.	International Policy Chart	ND	Overview of playground policy	P

Appendix B:

Kanics Inclusive Design Services, LLC Inclusive Playground Evaluation Tool

This evaluation tool is designed to help identify strengths and weaknesses within a park playground environment. Its design is informed by this playbook's content. Its intent is not to provide a score that can be compared to other playgrounds; rather, its aim is to facilitate a comprehensive line of questioning that will help to identify issues for discussion and action. This tool is structured as follows:

Required Tools: Measuring tape, camera, clipboard, pens, and printouts of this evaluation tool

Recommendation: Take photos of all park and playground areas, as well as any specific issues.

Playground Name:

Playground Address:

Evaluator Name(s) and Affiliated Organization(s):

Context: List some key features of the park where the playground is located. Note the park website (if applicable) and describe other activities available on site (e.g., baseball fields, rinks, trails, etc.). If practical, diagram the playground layout and/or where it is situated in relation to surrounding park space.

Section 1:
Getting to the Playground

1.1   Public Transportation to Playground

Are there public transportation options available for getting to the playground?   Yes   No

If yes, what are the options? (e.g., bus, train)

If no, move on to "1.2 Parking Lot to Playground"

Does the pathway from the public transportation drop-off area to the playground have good lighting?   Yes   No

Does the pathway from the public transportation drop-off area to the playground have a designated crosswalk that is visible to drivers?   Yes   No

Does the pathway from the public transportation drop-off area to the playground have curb cuts?   Yes   No

Does the pathway from the public transportation drop-off area to the playground have crosswalk activation switches at accessible height that provide visual and auditory indicators when it is safe to cross?   Yes   No

Do pedestrian crossing signals offer enough time to safely cross the street?   Yes   No

How much time is provided?

Is the pathway from the public transportation drop-off to the playground a solid, easy roll surface?   Yes   No

What is the surface?

Is the distance from the public transportation drop-off to the playground a manageable distance?   Yes   No

What is the measured distance?

Is the pathway from the public transportation drop-off to the playground at least 36 inches or 1 meter wide?   Yes   No

What is the width of the pathway?

Does the width of this pathway change?   Yes   No

If yes, what is the minimum and maximum width?

Does the pathway from the public transportation drop-off to the playground have a slope (over distance as well as a cross slope)?   Yes   No

What are the slopes, if applicable?

Does the pathway from the public transportation drop-off to the playground have any gaps great than ¼ inch?   Yes   No

If yes, what is the gap size?

Does the pathway from the public transportation drop-off to the playground have any tripping hazards greater than ¼ inch?   Yes   No

If yes, what is the height difference?

Add any additional comments or diagrams concerning the pathway from the public transportation drop-off to the playground here:

1.2 Parking Lot to Playground

Is the parking lot at the playground a solid, easy roll surface?   Yes   No

What is the surface?

Does the parking lot have accessible parking spaces?   Yes   No

If yes, how many?

How many total parking spaces are available in the entire parking lot?   Yes   No

Does the parking lot have a drop-off area for buses or accessible vehicles to drop off passengers?   Yes   No

If yes, describe where the bus drop-off area is within the parking lot?

Is there parking for buses?   Yes   No

If yes, describe where the bus parking is within the parking lot?

Does the pathway from the parking lot to the playground have   Yes   No
good lighting?

Does the pathway from the parking lot to the playground have curb   Yes   No
cuts or seamless transitions?

Is the pathway from the parking lot to the playground a solid, easy   Yes   No
roll surface?

What is the surface?

Is the distance from the parking lot to the playground a   Yes   No
manageable distance?

What is the measured distance?

Is the pathway from the parking lot to the playground at least 36   Yes   No
inches or 1 meter wide?

What is the width of the pathway?

Does the width of this pathway change?
                                                                         Yes   No
If yes, what are the minimum and maximum widths?

Does the pathway from the parking lot to the playground have   Yes   No
slopes (i.e., over distance and cross slope)?

What are the slopes?

Does the pathway from the parking lot to the playground have any gaps greater than ¼ inch?   Yes   No

If yes, what is the gap size?

Does the pathway from the parking lot to the playground have any tripping hazards greater than ¼ inch?   Yes   No

If yes, what is the height difference?

Add any additional comments or diagrams concerning the parking lot or the pathway from the parking lot to the playground here:

Section 2: Playground Amenities

2.1 Safety

Does the park include wayfinding and/or tactile maps to direct visitors to assorted activities that can be found in the park?	Yes	No
Does the playground have a clearly defined entrance?	Yes	No
Does the playground (and other park areas) have good lighting?	Yes	No
Does the playground (and other park areas) have accessible emergency call boxes?	Yes	No
Does the playground (and other park areas) have fencing or barriers around hazard areas?	Yes	No

Estimate the percentage of the playground that is fenced in. Or describe the fencing (e.g., one side, all sides, etc.).

Does the playground have multiple entrances?	Yes	No

If yes, how many?

Is there a gate at each entrance in the fence into the playground?	Yes	No
Can the gate at the entrance be easily opened by someone with limited strength, but keep children from opening the gate?	Yes	No

Are there hazards located near the playground?	Yes	No

If yes, use the scale below to rate them.

1 Deep/fast moving water, freeway, cliff, dangerous wildlife

3 Shallow/still water, residential road, large and busy parking lot

5 No hazards

Does the playground have bike racks that keep bikes safely out of active play/activity areas?	Yes	No
Were there hazardous or illegal material(s) found in the playground areas? (e.g., cigarette butts, alcohol, broken bottles, needles, scissors, etc.)	Yes	No

Add any additional comments or diagrams concerning the playground's safety features here:

2.2 Resting and Eating Options

Does the playground have a gathering space (shelter or pavilion with at least one table and seating for at least four people with a roll-in seating option)?	Yes	No

How many of these spaces are located near the playground?

Are picnic tables provided in these spaces?	Yes	No

If yes, how many?

How many of these include wheelchair roll-up seating?

Does the gathering area have power outlets where families can plug in power wheelchairs or other items?	Yes	No
Does the playground have accessible trash receptacle(s) at gathering spaces and/or benches?	Yes	No
Does the playground have accessible recycling receptacle(s) at gathering spaces and/or benches?	Yes	No

Does the playground have litter around it?   Yes   No

If yes, is the litter:

   Widespread

   Moderate

   Minor

Is there seating around the playground (separate from gathering   Yes   No
areas)?

If yes, what type of benches and how many of each type?

   Bench without back/arm rests

   Bench with back

   Bench with back/arm rests

   Pull in space beside bench for stroller or wheelchair

   Other seating options (describe):

Do the benches provide good lines of sight for caregivers to view   Yes   No
their children at play on the playground?

Do any of the benches have shade from nearby trees or shade   Yes   No
structures?

If yes, how many benches have shade?

Does the playground area have naturally shaded area (trees)?   Yes   No

If yes, how many?

Does the playground area have man-made shaded area (shade   Yes   No
structures – provided over playground play elements)?

Does at least 20% of total area of the playground area have shade?   Yes   No

Add any additional comments or diagrams concerning the playground's resting and eating options here:

2.3 Washrooms and Drinking Fountains

Does the playground have free, usable public restrooms?	Yes	No

If yes, how many stalls are located within the restrooms?

# of stalls in women's washroom:

# of stalls in men's washroom:

# of family washrooms:

Is there at least one washroom stall measuring at least 60" by 60" that has support grab bars beside and behind the toilet?	Yes	No
Is a universal changing bench (long and wide enough and strong enough to hold an adult with disabilities) provided in at least one women and men restroom, or in a family restroom (be sure to photograph this feature)?	Yes	No
Will the universal changing bench support safe transfers from a wheelchair (i.e., is the height from floor not greater than 18" if a ceiling transfer track is not provided)?	Yes	No
Is there at least one sink that can be easily rolled up to by someone using a wheelchair?	Yes	No
Are washrooms clean and functional?	Yes	No
Are accessible water fountains/bottle refilling stations available to all visitors?	Yes	No

Are power outlets available in or outside the washroom areas where families can plug in power wheelchairs or other items?   Yes   No

If yes, how many?

Is there locked storage facilities available to store group play equipment (these are often located within or nearby washroom buildings and are usually facilitated by park staff)?   Yes   No

Add any additional comments or diagrams concerning the playground's washrooms and drinking fountains here:

2.4 Other Nearby Play Opportunities

Does the park/playground have a flat, hard-surface play area for organized games near the playground? (area must be large enough for half-court basketball excluding sidewalks-typically found at school playgrounds)   Yes   No

If yes, what types of games are provided? (e.g., hopscotch, 4 square, half-court basketball, rink or skating ribbon)

What is the material of this flat, hard-surfaced play area? (e.g., blacktop, concrete, unitary surfacing (pour in place rubber, etc.)   Yes   No

Does the park/playground have open green spaces for play near the playground?   Yes   No

If yes, what types of green spaces? (e.g., grassy hillside, soccer fields, etc.)

Does the park have a water play area near/within the playground area that invites full-body engagement?   Yes   No

If yes, what type of water play is offered?

Interactive fountains

Splash pad

Pools

Other (please describe):

Does the park/playground have accessible walking trails near the playground? If yes, what type of trials?   Yes   No

Walking trails

Sensory trails

Bike/trike roadway

Other (please describe):

Add any additional comments or diagrams concerning the pathway from the public transportation drop-off to the playground here:

Section 3: The Playground

3.1 Access for All

Does the playground have pathways that are a solid, easy roll surface?   Yes   No

What is the pathway surface material?

Are these pathways least 36 inches or 1 meter wide?   Yes   No

What is the width of the pathway?

Does the width of this pathway change?   Yes   No

If yes, what are the minimum and maximum widths?

Does the pathway have running and/or cross slopes?   Yes   No

What are the running and cross slopes?

Does the pathway have any gaps great than ¼ inch?   Yes   No

If yes, what is the gap size?

Does the pathway have any tripping hazards greater than ¼ inch?   Yes   No

If yes, what are the hazard heights?

Are transitions from playground pathways to the playground surface seamless?   Yes   No

If no, what are the gaps or height differences?

Gaps:

Height differences:

Does the playground have an accessible safety surfacing?   Yes   No

What type of safety surfacing is used on the playground? Circle all types and include rough percentage of each if multiple surfaces are used.

   Engineered Wood Fiber (EWF)

   Pour in place unitary surfacing

   Playground grass unitary surfacing

   Rubber tile unitary surfacing

   Other (e.g., sand, pea gravel etc.)

Are there any ramps used to access the playground area?   Yes   No

If yes, what are the slopes of the ramps?

Do the ramps have railings?   Yes   No

Are there any ramps used to access the playground's structures?   Yes   No

If yes, how many?

If yes, what are the ramp widths?

   Single wide

   Double wide

   More than double wide

Are there multiple ramp/accessible routes on the playground structure? E.g., does a child using a wheelchair have choices regarding how to travel on the structure?

Yes   No

If yes, sketch the accessible route(s) below. E.g., a circular pathway, several looping routes, or something else.

Does the playground include a defined play area for 6-23-month-olds?

Yes   No

If yes, describe any signage (or take a photo) indicating that it is for this age group.

Does the playground include a defined play area for 2-5-year-olds?

Yes   No

If yes, describe any signage (or take a photo) of any signage indicating that it is for this age group.

Does the playground include a defined play area for 5-12-year-olds?

Yes   No

If yes, describe any signage (or take a photo) of any signage indicating that it is for this age group.

Is there playground equipment that would support the play of pre-teens and teens?

Yes   No

List examples of this equipment (e.g., equipment that allows teens to gather and hang out together).

Is there playground equipment that would support the play of adults or seniors on the playground?   Yes   No

List examples of this equipment (e.g., equipment that engages adults/seniors in fitness activities).

Was the playground excessively noisy during your visit?   Yes   No

Using the scale below what is the overall noise level around the playground area during an average visit?

1   Loud/overpowering external noise that hinders communication

3   Uncomfortable or distracting noise

5   Little to no external noise (e.g., cars, planes, lawn mowers)

Did the playground provide good colour contrast for those with low vision?   Yes   No

What colours were used for surfacing, decking and signage?

Is there seating within the playground area (i.e., separate from seating outside of the playground's borders)?   Yes   No

What type of benches? How many of each type?

Bench without back and arm rests

Bench with back

Bench with back and arm rests

Bench with pull-in space for stroller or wheelchair

Other seating (describe):

Do the on-playground benches offer good lines of sight for caregivers to view their children at play on the playground?   Yes   No

Are there any augmentative alternative communication panels or signs on the playground?   Yes   No

If yes, how many?

Where are they located?

Add any additional comments about features of the playground that encourage access for all here:

3.2 Variety of Play Experiences: Vestibular (Movement) Play

Are there playground elements that rock or glide?   Yes   No

If yes, what types and how many of each?

    Single user (e.g., single rocker)

    Multiple user (e.g., group rocker)

Can any of the rocking or gliding playground elements be used by someone who uses a wheelchair?   Yes   No

If yes:

    How many require a transfer from wheelchair?

    How many can be used while staying in wheelchair?

Can a person who uses a wheelchair be actively engaged in creating the rocking/gliding motion?   Yes   No

Are there slides?   Yes   No

If yes, what types and how many of each? (a slide can be counted more than once)

  Single slide

  Double slide (or more)

  Straight slide

  Curving slide

  Spiral slide

  Tunnel slide

  Other slide (describe):

How many slides are made of the following materials?   Yes   No

  Plastic

  Stainless Steel

  Rollers

  Other material (describe):

How many slides are off structure?

How many slides are embedded in a hillside?

Is there a transfer point at the top of the slide that allows a child using wheelchair to leave it behind and go down the slide?   Yes   No

If yes, how many and what slides have this feature?

Is there a transfer bench at the bottom of the slide that allows a child to wait for a friend to bring them their wheelchair after they have gone down the slide?   Yes   No

If yes, how many and what slides have this feature?

Are there playground elements that allow children to explore rotation and spinning motion?   Yes   No

If yes, what types and how many of each?

   Single user (e.g., spinning seat)

   Multiple user (e.g., merry-go-round)

Can a person who uses a wheelchair actively engage in creating the rotation or spinning motions?   Yes   No

Can any of these rotating or spinning elements be used by someone that uses a wheelchair?   Yes   No

If yes:

   How many of each requires a transfer from wheelchair?

   How many can be used while staying in wheelchair?

Are there playground elements that allow children to swing?   Yes   No

If yes, what types and how many of each?   Yes   No

    Single user infant/toddler

    Single user belt type

    Double user (e.g., one where two users can swing while facing each other)

    Multiple (e.g., adisc or basket swing)

    Other (describe):

Are there swings that can be used by someone who uses a   Yes   No
wheelchair or has limited trunk control?

If yes, what types and how many of each?

    Requires transfer from wheelchair (2-5 yr olds)

    Requires transfer from wheelchair (5-12 yr olds)

    Can be used while staying in wheelchair

Can a person who uses a wheelchair actively engage in creating   Yes   No
the swinging motion?

Add any additional comments about playground features that encourage vestibular (movement) play here:

3.3 Variety of Play Experiences: Proprioceptive (Muscle) Play

Are there playground elements that engage children in climbing? Yes   No

If yes, what types and how many of each? A climber can be
counted more than once.

Solid climbers (e.g., ladder, climbing wall)

Climbers with solid foot/handholds, but have some movement
(e.g., chain ladder)

Climbers completely made of net material

Climbers requiring linear up and down movement

Climbers requiring lateral side-to-side movement

Climbers requiring diagonal movement

Climbers requiring movement in multiple planes

Other (describe):

Are there playground elements that bridge one structure to
another? Yes   No

If yes, how what types and how many of each? A bridge can be
counted more than once.

Solid bridges

Bridges with movement

Bridges that require stepping from one element to another

Bridges that require lateral movement

Bridges that change height from one deck to the next

Other (describe):

Are any bridges usable by someone who uses a wheelchair?   Yes   No

If yes, how many?

Are there overhead playground elements (found on 5-12 yr old structures)?   Yes   No

If yes, what types and how many of each?

    Solid rungs that go fully across the element

    Solid rungs that require alternating hand use

    Solid rungs that move (e.g., trapeze type rungs)

    Net material that has full movement

    Other (describe):

Are there overhead playground elements that can be used by a child that uses a mobility device (e.g., walker or wheelchair)?   Yes   No

If yes, how many?

Are there playground elements that build balance skills? (e.g., balance beams, stepping pods)   Yes   No

If yes, how many?

    How many have movement? (e.g., they rock or bounce when stepped on)

Are there elements that engage children in cardiovascular play? E.g., a circuit of play on or off the playground structure, or trails/pathways in and around the playground.   Yes   No

If yes, describe and state how many?

Are any of these elements accessible to someone using a wheeled mobility device?   Yes   No

Add any additional comments about playground features that encourage proprioceptive play here:

3.4 Variety of Play Experiences: Sensory Play

Are there playground elements that engage children in tactile play? (e.g., natural boulders, gardens, water play, sand box, etc.)   Yes   No

If yes, how many?

How many are accessible to a child while using their mobility device?

Are there playground elements that engage children in visual play? (e.g., mirrors, kaleidoscope, color wheels, magnifying glass, bubble panel, etc.)   Yes   No

If yes, how many?

How many are accessible to a child while using their mobility device?

Are there playground elements that engage children in auditory play? (e.g., drums, talking tubes, rain wheels, xylophone, etc.)   Yes   No

If yes, how many?

How many are accessible to a child while using their mobility device?

Are there any semi-private spaces for a child to use for self-regulation?   Yes   No

If yes, how many?

How many are accessible to a child while using their mobility device?

Add any additional comments about playground features that encourage sensory play here:

3.5 Variety of Play Experiences: Social Play

Are there playground elements that engage children in imaginative play? (e.g., playhouses, steering wheels, etc.)   Yes   No

If yes, how many?

How many are accessible to a child while using their mobility device?

Are there playground elements that engage children in cognitive play? (e.g., shape sorting, numbers, letters, etc.)   Yes   No

If yes, how many?

How many are accessible to a child while using their mobility device?

Is there any opportunity to play with loose parts that are provided by the park district, community group, or other organization?   Yes   No

If yes, list the types of loose parts provided?

Are the loose parts accessible to a child while using their mobility device?	Yes	No

Add any additional comments about playground features that encourage social play here:

3.6 Maintenance and Safety of Playground Equipment

Are any guardrails and barriers on the playground structure loose or missing?	Yes	No

If yes, describe and provide photos

Are any posts, supports, decking or shade broken?	Yes	No

If yes, describe and provide photos

Are any play panels or elements broken or unusable?	Yes	No

If yes, describe and provide photos

Are there any play panels or elements that are worn down, broken, vandalized, or unusable? (e.g., exposed concrete footings, exposed tree roots, uneven surfaces, broken surfacing, or low surfacing filling)	Yes	No

If yes, describe and provide photos

Add any additional comments about playground elements that need maintenance and/or create safety issues here: