

# OPUS

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## Actions to optimize the use and design of outdoor recreational facilities



Photo credit: Pexels. Source: <https://www.pexels.com/fr-fr/photo/rue-construction-parc-centrale-5467302/>.

### IN THIS ISSUE

- + Versatile and adapted facilities
- + Safe outdoor facilities that encourage active behaviour
- + Tools for learning more on the subject

And answers to the following questions:

- + What are the health and well-being benefits of outdoor recreational facilities?
- + How can outdoor recreational facilities be optimally designed to maximize use?
- + Where to begin?

The OPUS\* collection is one of the means used by the Centre de référence sur l'environnement bâti et la santé (CREBS) to make expertise on health and the built environment accessible to the Québec healthcare network and other key partners. The aim of this knowledge transfer initiative is to inform the choices of practitioners and decision makers in this field, and thus encourage the adoption of best practices for the development of safe and healthy built environments.

The OPUS collection is available at <https://www.inspq.qc.ca/crebs/OPUS>.

\* *Opus* is the Latin word signifying "a work." In architecture, construction and archaeology, *Opus* refers to the way masonry materials are arranged.

### Key points

- + Outdoor recreational facilities are beneficial to physical health, notably because they provide an environment that encourages physical activity among different population groups.
- + Outdoor recreational facilities provide opportunities for enjoyable activities and facilitate social interaction, and can thus contribute to mental health and well-being.
- + It is necessary to reflect on how to construct outdoor recreational facilities. A central factor should be planning for winter conditions, and for facilities that are flexible and can evolve (in space and over time, according to needs and trends).
- + In addition to the characteristics of the built environment, it is important to consider economic and symbolic accessibility, as well as how to promote the optimal use of facilities.

## Introduction

This issue of OPUS focuses on outdoor recreational facilities, specifically facilities that are freely accessible to the public, are not reserved for members of an organization, enable the practice of recreational or sports activities and meet the needs of residents. Recreational areas such as splash parks (with the exception of swimming pools and wading pools), sports fields, walking areas and bicycle paths included in parks and green spaces are just a few examples. This issue is intended for public health professionals, municipal organizations (municipalities, regional county municipalities [RCMs], etc.) or any actor involved in the administration of this type of facility.

### Outdoor recreational facilities during a pandemic (COVID-19)

In the context of a pandemic, the development proposals in this issue should be applied only insofar as they allow for compliance with the government hygiene and distancing measures in effect. Two publications from the Institut national de santé publique du Québec (INSPQ) offer suggestions on how to encourage the use of parks, green spaces and outdoor facilities during a pandemic: [COVID-19: Safe Use of Urban Parks and Green Spaces During Gradual Lockdown Lifting](#) and [COVID-19 et saison hivernale : favoriser le transport actif et la pratique d'activités extérieures \(in French only\)](#).

This issue begins by outlining the benefits of outdoor recreational facilities for health and well-being. Next, it proposes relevant courses of action for municipal and public health actors, as well as those active in the field of recreation, for the development of recreational facilities conducive to health and well-being. Finally, it presents tools, inspiring examples and useful references for further pursuing the development of outdoor recreational facilities.

### Factors related to the optimal design and use of outdoor recreational facilities

It is recognized that several factors contribute to the optimal design and use of recreational facilities, including individual factors related to ability, gender, culture and socio-economic status. There are also environmental factors, such as those linked to the social, economic and

built environments. This OPUS issue focuses essentially on certain factors tied to the built environment.

Safety, environmental noise, materials and thermal comfort are factors to be taken into consideration when designing facilities, while the accessibility (geographical, inclusive access), diversity, quality and versatility of facilities are factors that promote optimal use.

In Québec, the second axis of the [Programme national de santé publique](#) (Québec's public health program) is focused on the adoption of active lifestyles and the creation of healthy, safe environments. Services provided are intended to modify physical, political, economic and socio-cultural environments such that they foster physical and mental health and well-being, with the aim of making healthy options easier to choose and more accessible. The built environment, as a determinant of health, has an influence on the practice of physical activity during leisure-time.

### Built environment

The built environment is defined as any element of the physical environment built or developed by human beings. A healthy built environment fosters community development, individual fulfillment and sustainable development, and has the potential to reduce social inequalities in health (1).

## What are the health and well-being benefits of outdoor recreational facilities?

### Effects on mental health

Outdoor recreational facilities are beneficial to physical health, notably because they provide an environment that encourages physical activity among different population groups.

For children, playgrounds provide important support for various forms of physical activity such as spinning, sliding, swinging, climbing, crawling, jumping and running. Physical activity is essential for the development of children's basic motor skills (2, 3).

For teenagers, young adults, adults and seniors, walking areas, certain recreational equipment (e.g., skateboard parks, exercise equipment for seniors) and sports fields

such as tennis courts, soccer fields and pétanque courts provide interesting opportunities to engage in physical activity (4-7). Such activity helps people maintain a healthy weight and prevents the onset of chronic diseases such as diabetes, cardiovascular disease and certain cancers (2).

For seniors, physical activity helps preserve muscle mass and bone density, which can prevent falls, helping to maintain independence and improve quality of life (2).

## Effects on mental health and well-being, social cohesion and overall development

### CHILDREN AND TEENAGERS

It is now well documented that development is an integrated, global process, with physical, social, cognitive and emotional dimensions all contributing to the achievement of an optimal level of well-being (8). Outdoor recreational facilities can be supportive environments that help children and adolescents reach their full potential, when they allow them to acquire age-appropriate skills such as self-confidence (8). Engaging in unstructured play in a suitable area helps children and youths to develop a positive self-image and reduces anxiety and depressive symptoms (9). Such areas also provide opportunities to form friendships and develop prosocial behaviours<sup>1</sup>.

### GENERAL POPULATION

The benefits of physical activity for the mental health and well-being of youths and adults are now well established. It can also prevent common mental disorders such as depression and anxiety, and reduce symptoms in persons living with such a diagnosis. The relationship between physical activity and mental health is attributed to biological mechanisms (e.g., secretion of endorphins), psychological mechanisms (e.g., interruption of negative thoughts, quality of sleep) and social mechanisms (e.g., creation of social bonds, reduced loneliness). Moreover, recreational physical activities, particularly those that are practised in groups and are enjoyable, have greater potential to enhance mental health and well-being (10). Consequently, outdoor recreational facilities that provide opportunities for pleasant activities

and facilitate social interaction can contribute to mental health and well-being.

Furthermore, the outdoor location of these facilities generally enables the population to enjoy contact with nature, and spending time in green spaces is associated with better mental health and greater vitality (11).

## Cost-benefit of installing new outdoor recreational facilities

Cost-benefit analyses have been carried out for a number of outdoor recreational infrastructure projects (12-16). For example, the installation of new fitness zones in two Los Angeles parks increased physical activity levels among park users, resulting in a very favourable cost-benefit ratio of \$0.11/MET/hour (13). The renovation of a park (including recreational facilities) in San Francisco resulted in a cost-benefit ratio of \$0.27/MET/hour (see text box) (12).

### How is the cost-benefit ratio calculated?

The cost-benefit ratio of facilities is estimated based on the sums spent on their construction or renovation, amortized over a period of 15 to 30 years, and the increase in the *metabolic equivalent of task* (MET) resulting from the installation of the facilities. METs are a unit of measurement of the intensity of physical activity and energy expenditure. The cost-benefit calculation also takes into account reductions in healthcare costs. Given the gains associated with the installations, it is theoretically cost-effective to spend \$0.50 to \$1.00/MET.

For example:

- + Estimated costs of renovating recreational facilities in a park amortized over 15 years: 94,975/year;
- + Estimated MET gains: 7,722 METs/hour/week \* 45 weeks (estimated use of facilities per year);
- + Cost-benefit: \$0.27/MET/hour.

<sup>1</sup> "Voluntary human behaviour, intended to benefit others in a spirit of mutual aid and with the aim of bringing them joy, physical or psychological well-being or comfort" [translation]. Source: <https://www.linternaute.fr/dictionnaire/fr/definition/comportement-prosocial/>.

## For optimal design

### Safety

The design of outdoor recreational facilities must include various options that encourage the population to move more, and to do so safely. Presented below are prevention measures associated with passive design, for each type of facility.

#### PLAYGROUNDS

Playground equipment poses a risk of injury to young users. In Canada, nearly 28,500 playground injuries occur every year. This is why their design must promote user safety. Passive prevention measures can be integrated into the design of safe playgrounds (17). These measures are said to be passive because they require little or no participation from the individuals being protected, and introduce lasting changes that protect all individuals at all times, regardless of their age, sex, health status, behaviour or socioeconomic level:

- + Playground equipment structures and components comply with CSA Z614:F20 (18);
- + The surfaces under and around the equipment are covered with shock-absorbing materials of sufficient thickness;
- + Preschool and school-age equipment is separated into two zones, indicated by signage;
- + Facilities are installed in accordance with the manufacturer's or designer's instructions;
- + Inspection and maintenance are carried out frequently to ensure the safety of facilities.

#### SPORTS FIELDS

There are no general principles of safe design that apply to all sports fields, as standards often depend on the activity practised. Nevertheless, in many cases, safety standards and design guides have been developed by sports federations (19). Some municipalities have also developed guides and tools for the design of their outdoor fields.

#### WALKING AREAS AND CYCLING PATHS

The [Guide d'analyse de l'expérience inclusive en parc urbain](#) from the Association québécoise pour le loisir des personnes handicapées suggests some strategies for

making walking areas in parks and green spaces safer and more inclusive. It recommends that these areas be:

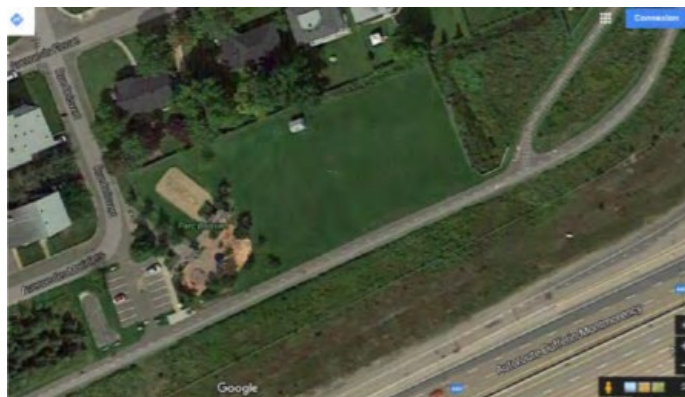
- + well-maintained and surfaced;
- + sufficiently wide and equipped with a guiding line or an Ariadne's thread to facilitate movement for visually impaired persons;
- + accompanied by signage, indicating, for example, the distance to the service area;
- + equipped with furniture such as benches and tables;
- + shaded in places.

A suitable lighting system would also be an interesting addition (20). Furthermore, walking and cycling paths bordering other park facilities would encourage physical activity.

### Environmental noise

Environmental noise can originate from many sources, including outdoor facilities such as basketball courts and skateboard parks. These noises can disturb and disrupt sleep (21). The health and quality of life of users and residents living near such facilities can be negatively affected by the noise. It is therefore essential to take environmental noise into account when selecting sites. Ideally, areas near major sources of noise, such as highways, should not be chosen for sensitive areas such as parks and green spaces, including outdoor facilities (Figure 1) (22).

**Figure 1** Example of sub-optimal use of separating space: park and residences unprotected from highway noise



Park and residences along Highway 440 (Dufferin-Montmorency). Source: Google, Aéro Photo inc., Communauté métropolitaine de Québec, DigitalGlobe (2017).

Once a suitable site has been selected, a number of measures are available to reduce the effects of noise. Screens can often be used (building screens, earth mounds, walls, vegetation), but these can sometimes act as partitions or give rise to other issues, such as delinquent behaviour (21). The judicious positioning of activities on the site can reduce exposure to noise. Care should be taken both to position calmer outdoor activities far from noise sources and to position noisy activities far from calmer uses. Finally, the development of quiet zones, i.e., areas where noise levels are lower than surrounding levels, improves the population's health and quality of life (22).

### Safe and healthy materials

Recycled tire granules are increasingly used as surfacing for sports fields and outdoor playgrounds. They are used in the composition of artificial turf, among other things. These rubber fragments raise concerns about their impact on health, particularly as they may contain toxic substances (23). However, exposure from inhalation, skin contact and accidental ingestion of these products is negligible and would not result in poisoning or adverse effects for users. Moreover, the health risks associated with toxic agents in artificial turf are similar to or lower than those associated with natural turf (24). Although the risks associated with toxic agents are low, artificial turf can increase the risk of thermal stress for users (e.g., dehydration, exhaustion or heatstroke) in hot weather (3). Indeed, the materials from which artificial surfaces are made retain more heat than natural turf (25-27).

The choice of materials for play modules can also represent a health issue. In fact, metal structures (including the plates covering splash pad mechanisms), slides, rubber surfaces and artificial turf exposed to the sun can cause burns in a matter of seconds, especially in young children (25). Signage can be installed to warn users. However, materials that do not retain or conduct much heat should be preferred.

### Thermal comfort

Thermal comfort is defined as a feeling of satisfaction with the ambient temperature. The main environmental factors influencing this are atmospheric temperature, radiation, wind speed and humidity (28). These can be

mitigated through greening and by installing splash parks.

### GREENING

To promote thermal comfort and protect against the sun's ultraviolet rays, overexposure to which is responsible for skin cancer, the development of recreational facilities should be accompanied by the planting of trees or the preservation of adjacent woodland cover. The presence of medium and large trees will provide maximum shade for playgrounds and help reduce ambient temperatures. They offer people without access to a backyard the chance to cool off in very hot weather. Well-positioned trees can also provide better protection for equipment and its users during peak sunlight hours, or protect against prevailing winds during the cold season. In addition, adding green spaces and shaded areas to asphalt sites with playgrounds is a promising way to promote physical activity and well-being among young users (11, 29, 30) (Figure 2).

Figure 2 Creating shaded areas



École Gadbois, in Montréal. Photo credit: Maud Emmanuelle Labesse.

### SPLASH PARKS

Splash parks, also called splash pads, are artificial facilities designed to cool children by spraying them with water. This equipment is particularly useful in very hot weather, as it lowers the temperature of the air and of users' bodies, increasing thermal comfort. At a time when climate change is set to intensify heat and increase the number of hot days and heatwaves, splash parks are a way for young people to adapt.

Certain types of facilities carry greater public health risks. For example, in recirculating splash parks, the water

used is collected and treated before being used again, making it more vulnerable to microbiological contamination. Defects in the design or in the water treatment of these facilities have been linked to outbreaks of gastrointestinal illness (31). Moreover, children tend to swallow more water than adults would, making them more susceptible to pathogens that may be present in water.

Operators of certain types of splash parks, including recirculating splash parks and those not connected to an aqueduct system, must refer to the [Regulation respecting water quality in swimming pools and other artificial pools](#) to ensure proper management of the water quality in these facilities. In addition, the National Collaborating Centre for Environmental Health's document titled [Identifying and addressing the public health risks of splash parks](#) presents examples of design and operating practices that can mitigate the public health risks of these facilities.

## For optimal use

### Accessibility

There are a number of key design concepts to be considered when planning recreational facilities. Making facilities more accessible increases the frequency of their use and allows them to be used more fully. It is important to consider accessibility holistically, including the geographic accessibility of facilities and the accessibility of equipment, i.e., the availability of outdoor facilities and equipment that can be accessed by and are adapted to the population.

#### GEOGRAPHIC PROXIMITY

A high level of geographic availability and accessibility of recreational facilities, including play modules and sports fields, is linked to a higher level of leisure-time physical activity among all populations (4-7). The installation and renovation of recreational facilities are accompanied by an increase in the use and practice of leisure-time physical activity among residents living near the new facilities (12, 13, 32).

However, geographic accessibility of recreational facilities is lower in socio-economically disadvantaged areas (33-35). In the United States, it has also been noted that playgrounds are often little used, particularly in low-income neighbourhoods, as there are fewer

programmed activities and the facilities do not adequately meet the needs of certain population groups (5, 6). In rural areas, the problem of geographic accessibility is even more acute. This lack of accessibility is a reflection of the low population density of these areas. Low density and lack of financial and human resources result in a more limited range of outdoor recreational facilities.

To improve geographic accessibility, it would be useful to reflect on public transit and active transportation services, the development of multi-purpose facilities and the establishment of partnerships between municipalities, schools and other associations (36). In addition, the 2017-2021 action plan for the government's health prevention policy, the *Politique gouvernementale de prévention en santé*, includes a measure aimed at developing synergy between these actors in order to promote access to outdoor activities and facilities that contribute to the adoption and maintenance of a physically active lifestyle, in all seasons (37).

To improve geographic accessibility to recreational facilities, vacant and disused land can be redeveloped into recreational areas that the population can use. Recreational and sports facilities can also be distributed equitably throughout the municipality, paying particular attention to disadvantaged areas, and public spaces in disadvantaged areas can be equipped with playgrounds or zones that can encourage unstructured play (38).

#### ACCESSIBILITY OF FACILITIES

Planning for accessible facilities involves understanding the needs of users and how to design an environment that is conducive to their well-being. The layout of the site, its connectivity and the availability of equipment that facilitates access for all are decisive elements allowing for optimal use. In order to meet the needs of a large population, a range of recreational areas and facilities is required to encourage the practice of a diversity of activities, from organized sports to unstructured play.

In addition, the way space is organized can guide movement, help orient users, and direct activities at a site. Orientation and circulation within a site is facilitated by the presence of appropriate, simplified signage placed at strategic points, and well-marked paths or access routes. These features promote accessibility for all, including certain vulnerable population groups such as persons with reduced mobility (39).

## **INCLUSIVE ACCESS**

Inclusive access should not be overlooked. Facilities may be geographically accessible, but unusable and thus inaccessible to persons whose ability to move around is reduced. This may include seniors, persons with reduced mobility or disabilities, or families pushing children in strollers (40).

To ensure inclusive access, the design of outdoor recreational facilities must:

- + Use a contributory design that can meet the needs of the entire population;
- + Arrive at a contributory design, i.e., one that makes the facilities as available, accessible, affordable and acceptable as possible (based, for example, on users' abilities and knowledge);
- + Produce a design that specifically meets the needs of users who may have limitations. Such facilities must be designed to reduce the social stigmatization experienced by users of the space (40). Many elements of a playground can be discreetly designed to meet everyone's needs. For example, the spatial layout can include orientation paths surrounding the playground, while ensuring that paths, entrances and exits are sufficiently wide (37).

A useful reference is the [Guide d'analyse de l'expérience inclusive en parc urbain](#) produced by the Association québécoise pour le loisir des personnes handicapées, which includes numerous strategies for promoting the inclusivity of recreational facilities. The OPUS article [Universal Accessibility: Designing Environments for All](#) also provides more information on this subject.

## **Diversity**

Certain playground components appear to be more conducive to physical activity. For children, the most promising components are rotating carousels, splash pads and climbing equipment. Playgrounds that include a variety of activities and places for unstructured play also encourage more repeat visits by users (33). In general, parks with more kinds of equipment attract more visitors, and when a park is busy, it can also generate a greater sense of safety (33). In addition, levels of physical activity are higher in parks offering a variety of facilities, such as sports fields, as well as playgrounds (42). The multi-functionality of outdoor recreational areas also seems to be a criterion of use for

residents of low-density, peri-urban environments, with such areas becoming hubs where numerous activities can be practiced on the same site (36).

## **Quality**

The quality of recreational facilities, including characteristics such as the available amenities, aesthetics, maintenance, equipment, layout and lighting, can greatly affect their use and user friendliness. Research on quality suggests that park facilities that are consistently well-maintained, aesthetically appealing and safe are associated with increased use and higher levels of physical activity than facilities lacking these characteristics (43).

### **ACCESSIBILITY OF FACILITIES THAT PROMOTE USER COMFORT**

To ensure optimal use of recreational facilities, they must be supported by features that promote the comfort of users and those accompanying them. Providing accessible washrooms and water fountains are measures that encourage the use of facilities. Accessing drinking water from water fountains should be encouraged to prevent dehydration during periods of extreme heat. Washrooms should be cleaned and maintained frequently. If washrooms are inaccessible, it is recommended that users be warned so that they can prepare themselves accordingly.

In addition, placing furniture and other features near playgrounds and sports fields, such as rest areas, waiting areas, walking paths, benches or tables, makes it possible to accommodate a wide range of individual profiles and leads to safe, pleasant use (44). Adapted and inclusive furniture and equipment must be provided to encourage the use of facilities that are attractive to all users. This means taking into account construction standards, but above all, inclusive design concepts, to maximize the quality of the experience for all (45).

## **Versatility**

### **INTERGENERATIONAL FACILITIES**

Most of today's playgrounds are designed with children in mind. The development of intergenerational facilities would bring children, parents and seniors together in the same recreational area, and encourage its use by all citizens.

A number of Québec municipalities are currently developing so-called "intergenerational" parks, which include facilities that cater to the needs of people of different ages. Intergenerational parks often feature weight-training or fitness modules, providing a free, open-air alternative to gyms (46) (Figure 3). These intergenerational parks are conceptualized and promoted as a way to encourage contact between generations. However, the design choices made result in these parks being more multigenerational than intergenerational. The idea of developing intergenerational relationships can also be put into practice through the development of simple, low-cost facilities, such as walking areas with signage or health trails, active circuits and training circuits (47).

**Figure 3** "Intergenerational" facility



Photo credit: Éric Robitaille.

## Unstructured play

Opportunities for unstructured play foster creativity and have an impact on children's physical, emotional, social and cognitive development (48). This is why it is important to include play areas with loose, natural elements that allow for unstructured play and exploration, all of which should be age-appropriate to ensure a balance between healthy development and the right level of safety.

The Île-aux-Volcans project adjacent to Père Marquette Park in Montréal's Rosemont-La Petite-Patrie borough is a public space for children inspired by the concept of unstructured play. There are mounds for climbing, sliding or hiding, sand and logs for building all kinds of

structures, and large rocks for sitting on or for jumping from one to another (Figure 4).

## Winter

During the winter season, many recreational facilities are closed, difficult to access or more likely to cause injury (49). Most organizations specializing in the safety of recreational facilities recommend that people refrain from using them, and that municipal authorities close them. Options are therefore more limited, and the accessibility and availability of outdoor facilities are therefore reduced (50).

**Figure 4** Facility encouraging unstructured play



Photo credit: Rosemont-La Petite-Patrie Borough, 2019

Although some of these facilities have a specifically seasonal vocation, the majority can be used all year round with minimal adaptation. Some winter facilities can be installed in areas that have no other function during certain times of the year. For example, an ice ring or recreational rink can be installed on a ball field that is unused during the winter (51).

For the winter season, it is important to build networks to facilitate movement, and to design suitable, comfortable outdoor facilities. A range of diverse, complementary activities, that can readily be adopted, such as slopes that are suitable for sliding, are all options to be considered.

In addition, outdoor facilities should ideally be sufficiently large, to accommodate certain activities, and should take advantage of site topography while ensuring comfort and safety in winter conditions. These considerations can assist in better adapting facilities to seasonal



changes (50). There are several examples of this type of development in Nordic cities, including outdoor curling rinks for crokicurl, an activity combining curling and crokinole (Figure 5).

**Figure 5 Crokicurl**



Photo credit: The Forks. Source: <https://www.theforks.com/blog/68/crokicurl-how-to>.

The *Espaces* project managed by the Alliance québécoise du loisir public suggests that winter zones be developed for children:

- + Creative zone: to develop their fine motor skills and imagination (e.g., spaces to create snowmen, a fort);
- + Physical zone: to move in all sorts of ways, including rolling in the snow, jumping, crawling, making snow angels, throwing snowballs;
- + Garden zone: to make discoveries about nature in winter.

These areas should be made accessible by creating paths linking them together (52).

Finally, reflection is needed about how to plan outdoor recreational facilities. Reflection should focus on making winter conditions central to planning, and not an afterthought, and on providing flexible facilities that can evolve (in space and time, according to needs and trends). For example, the [Laboratoire de l'hiver \(winter laboratory\)](#) initiative has proposed a facility where the use of synthetic ice for curling is tested<sup>11</sup>, four-season

<sup>11</sup> "This allows for the creation of playing surfaces anywhere that can withstand the thaws that characterize southern Québec winters" [translation]. Source: <http://www.labhiver.quebec/>.

play modules and snow recovery for recreational purposes (Figure 6).

**Figure 6 LABHIVER unnamed park**



Photo credit: Laboratoire de l'hiver. Source: <https://www.facebook.com/labhiver/photos/a.808855709469110/1390499561304719/>.

## Beyond facilities...

### Symbolic and social accessibility

It can be advantageous to focus on the symbolic accessibility of facilities by working to create landscapes that are attractive, unique or linked to historical and cultural aspects (53). It is also important to encourage stakeholders to take into account alternate uses that could be made of recreational facilities, depending, for example, on the traditions and cultural environments of the users. Considering the cultural diversity of communities when developing and promoting facilities is likely to enhance their accessibility. Finally, to optimize the use of certain facilities more traditionally oriented toward certain social groups (e.g., boys), activities can be organized to encourage their use by other groups (54).

### Promotion, animation and sustainability

The promotion of recreational facilities helps to raise awareness of the range of possibilities available. It encourages the population to embrace them, thereby increasing their use and, by the same token, their safety

(55). It is a good idea to develop a strategy for reaching out to the target population, in particular via social networks, local media or other means. Various activities can be organized to provide information and raise awareness about the best practices to adopt for the use of the different facilities and equipment. Thus, it is possible to optimize the user's experience while, at the same time, maintaining the integrity of the environment.

It is also important to make the most of activity-oriented facilities, i.e. those where activities and events are held both periodically and occasionally. The impact on frequency of use and physical activity levels is strongly correlated with this element.

It will also be essential to establish a recurring maintenance budget, and to assess the possibility of establishing partnerships with organizations or institutions for the management or maintenance of facilities, and for promotion and reception, as required.

Together, these elements will help ensure that facilities are embraced and used in a sustainable way, and that they attract as many people as possible.

## Where to begin?

Public participation, which is essential to a wide range of regional projects, makes it possible to incorporate the observations, concerns, and aspirations of users right from the outset, and throughout the life of a development project. To achieve this, it is important to identify the groups, organizations and individuals likely to use outdoor recreational facilities, and to involve them in the various stages of the decision-making process leading to their development or redevelopment. The participatory approach should make it possible to prioritize needs, identify areas for intervention, improve analysis and enhance proposals, all to ensure that the results meet real needs. Such detailed knowledge of needs and behaviours can complement the knowledge and expertise of professionals, and thus enable the optimal design and use of outdoor recreational facilities.

## Looking for tools...

Several tools are available that provide further information on this subject:

- + [Qualité des eaux récréatives au Québec : piscines, pataugeoires et jeux d'eaux \(quality of recreational water in Québec: pools, wading pools and splash parks\)](#) (Institut national de santé publique du Québec, in French only)
- + [Identifying and addressing the public health risks of splash parks](#) (National Collaborating Centre for Environmental Health)
- + [Regulation respecting water quality in swimming pools and other artificial pools](#) (Gouvernement du Québec)
- + [Best spatial planning practices to prevent the effects of environmental noise on health and quality of life](#) (Institut national de santé publique du Québec)
- + [Advisory on a Québec policy to fight environmental noise: Towards healthy sound environments](#) (Institut national de santé publique du Québec)
- + [Guide des aires et des appareils de jeu \(playground and play module guide\)](#) (Institut national de santé publique du Québec, in French only)
- + [Le guide pour le développement d'activités de loisir inclusives \(guide to developing inclusive leisure activities\)](#) (Altergo, in French only)
- + [Projet espaces \(park and green spaces project\)](#) (Alliance québécoise du loisir public, in French only)
- + [Guide de référence en accessibilité pour les équipements de loisir \(reference guide for accessible leisure facilities\)](#) (Alliance québécoise du loisir public, in French only)
- + [Parc o mètre](#) - Management solution for inventorying, evaluating and monitoring recreational and sports infrastructures (in French only)
- + [CARDEX: links to data collection tools that support interventions in the built environment](#) (Institut national de santé publique du Québec)
- + [Conceptualisation et mesure des espaces verts aux fins de surveillance en santé publique \(conceptualization and measurement of green spaces for public health surveillance\)](#) (Institut national de santé publique du Québec, in French only)

- + [Liste des guides d'aménagement et autres références \(list of development guides and other references\)](#) (Réseau des unités régionales loisir et sport du Québec, in French only)
- + [Guide d'analyse de l'expérience inclusive en parc urbain \(guide to analyzing the experience of inclusivity in urban environments\)](#) (Association québécoise pour le loisir des personnes handicapées, in French only)
- + [Répertoire des guides d'aménagement et d'autres ouvrages de référence reconnus pour planifier, implanter ou entretenir des installations extérieures de loisir ou de sport \(directory of design guides and other recognized reference works for the planning, installing and maintaining of outdoor sports and leisure facilities\)](#) (Association québécoise du loisir municipal, in French only)
- + [Aire de glissade : guide d'aménagement et de gestion \(sledding area: development and management guide\)](#) (Association québécoise du loisir municipal, in French only)

## Looking for inspiration...

Here are some examples of projects that have been carried out across Québec:

- + [Children's unstructured play](#) (Public Health Association of Canada)
- + [Ville d'hiver : principes et stratégies d'aménagement hivernal du réseau actif d'espaces publics montréalais \(principles and strategies for adapting Montréal's active network of public spaces for winter use\)](#) (Vivre en Ville, in French only)
- + [Laboratoire de l'hiver \(winter laboratory\)](#) (Vivre en Ville, in French only)
- + [Le plein air pour tous : pratiques inspirantes et matériel adapté \(the outdoors for all: inspiring practices and adapted equipment\)](#) (Kéroul, in French only)

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## Actions to optimize the use and design of outdoor recreational facilities

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