

# **A Guide to Pickleball Court Planning and Operation**



**Pickleball BC**



# Table of Contents

1.	Background .....	5
1.1.	Purpose .....	5
1.2.	Collaborators.....	5
1.3.	General History .....	5
2.	Pickleball in B.C. ....	6
2.1.	Size and Growth .....	6
2.2.	Court Quantity Factors .....	7
3.	General Information .....	8
3.1.	Partner Relationships .....	8
3.2.	Enforcement.....	8
3.3.	Noise and Quieter Equipment.....	8
4.	Providing Additional or New Courts .....	10
4.1.	Hubs - How Many Courts? .....	10
4.2.	Court Layout Considerations.....	11
4.3.	Location Considerations .....	12
4.3.1.	Location within community .....	12
4.3.2.	Overall space .....	13
4.3.3.	Proximity to residential neighbourhood.....	13
4.3.3.1.	Earth berm barrier .....	14
4.3.3.2.	Engineered barrier material .....	14
4.3.3.3.	Setback distance .....	15
4.3.4.	Traffic and parking requirements .....	16



4.4. Utilities.....	17
4.5. Tournament Considerations .....	17
5. Remedial Actions for Existing Courts.....	19
5.1. Traffic and Parking.....	19
5.2. Noise Volume or Intensity .....	19
5.3. Additional Court Signage .....	19
6. Operating Courts .....	20
6.1. Player, Club, and Civic Authority Relationships .....	20
6.2. Court Allocations.....	21
6.3. Courtside Signage.....	23
Thank You .....	24
Contact Information.....	24
Appendix A: External Document Reference Summary.....	25
<i>A Solution That Meets Both Needs .....</i>	<i>25</i>
<i>Creating and Managing Dual Purpose Courts.....</i>	<i>25</i>
<i>Noise Planning Guideline for Outdoor Pickleball Courts.....</i>	<i>25</i>
<i>Pickleball Courts A Construction&amp; Maintenance Manual.....</i>	<i>25</i>
<i>International Pickleball Rules.....</i>	<i>25</i>



## Revision Notes

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- Changed cover page picture
- Reformatted / numbered
- Edited court / playing surface numbers

Cover page – Beaufort Park, Nanaimo, BC



# 1. Background

## 1.1. Purpose

The overall purpose of this document is to provide a guideline for a fair and consistent approach to court development and usage for outdoor pickleball play for clubs and the public. While the focus of this document is on outdoor play, some of these principles apply to pickleball when played indoors as well.

## 1.2. Collaborators

The British Columbia Recreation and Parks Association (BCRPA), a not-for-profit organization, plays a central role in leading the enrichment and improvement of the quality of life of British Columbians and their communities. BCRPA does this by championing the power of recreation and parks.

Pickleball BC (PBC) is the registered PSO (Provincial Sport Organization) with respect to pickleball in B.C. and is affiliated with Pickleball Canada.

## 1.3. General History

Pickleball was invented in 1965 on Bainbridge Island, Washington when the fathers of three vacationing families created a game to entertain their kids. Approximately 60 years later the sport has matured with an estimated player population of more than 25,000 in B.C.

With indoor and outdoor options, pickleball can be played year-round.

Instructional videos of how the game is played can be found on YouTube and the rules of pickleball are widely available online as well.

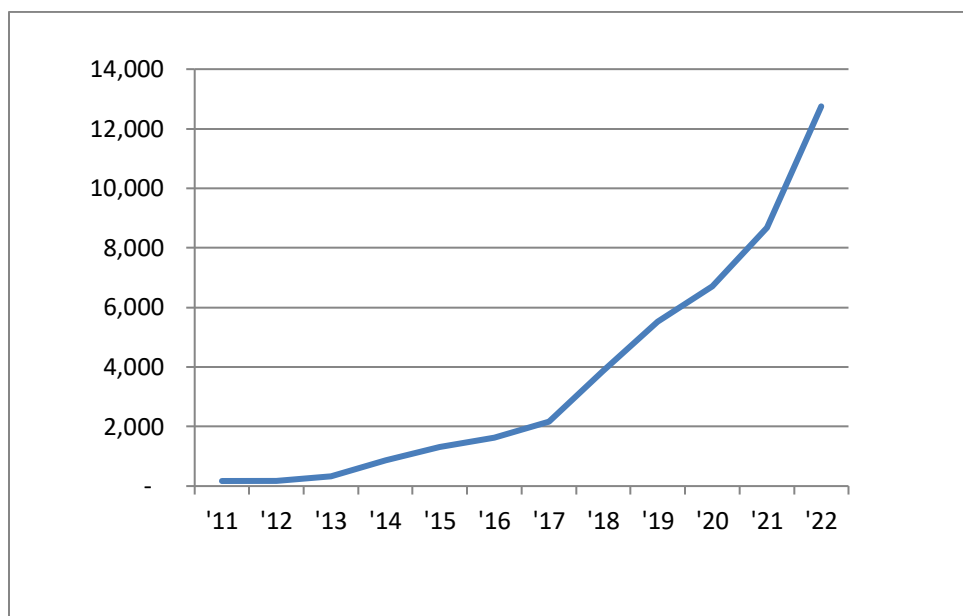


## 2. Pickleball in B.C.

### 2.1. Size and Growth

Pickleball BC (PBC) currently has more than 80 clubs operating throughout British Columbia, with membership exceeding 13,000.

Pickleball is exploding in popularity. The following graph shows the growth in the “registered” player count over the years. The five-year average is just over 40% per annum. The pickleball player count growth rate is far above the population growth rate.



Registered Pickleball Players in B.C. by Year (Chart via PBC)

It is estimated that between 35 and 50% of the people playing pickleball actually become registered Pickleball BC members.

The culture of the sport is social which creates unique requirements in the development and management of courts and associated amenities.



## 2.2. Court Quantity Factors

The number of operating courts today varies widely from region to region. The social nature of the game, the continued rapid increase in the number of players and the frequency at which players participate all must be considered in the determination of the number of courts needed in a specific community.

There are three general types of pickleball players - those who play occasionally, those who play two to three times a week, and the avid players who are on the court five or more times a week.

According to PBC, avid pickleball players will travel 30 to 50 kilometers or more to play, which may inflate the apparent size of a pickleball community within municipal borders.

While an internal PBC document postulates that one court per 10,000 residents is a reasonable target quantity, each community's needs must be evaluated on their specific conditions. In most cases, 1 court per 5,000 residents would be more realistic.



## **3. General Information**

### **3.1. Partner Relationships**

The application of the guideline information in this document will result in wider collaboration between municipalities and local pickleball communities.

### **3.2. Enforcement**

This document has been created by non-operating entities with the expectation that the operating entities – municipalities and pickleball clubs – will take guidance and follow where appropriate.

### **3.3. Noise and Quieter Equipment**

The sounds of pickleball have been recognized as a significant issue in recent years. There are circumstances where these sounds can be an irritant in residential neighbourhoods.

PBC, with the support of BCRPA, engaged an acoustic consulting firm in the spring of 2022.

The objectives were twofold:

- Perform a series of equipment noise tests both in a laboratory setting and real game situations.
- In conjunction with the noise testing and the consultant's prior work, develop a mitigation report/guideline.

The results are twofold as well:

- Quieter equipment did not provide adequate noise reduction.





- Other mitigation methods provide more effective noise reduction and are referenced in the body of this report. (see the Proximity to Residential Neighbourhoods section)

For general information on the consultants' work, and other cited references, see Appendix A.



## 4. Providing Additional or New Courts

Before determining the number of pickleball courts and whether those courts will be dedicated to pickleball or shared with other sports, municipal planners may consider the following section from the perspective of PBC.

Deciding whether to build new dedicated courts, convert low-use existing sport facilities, or construct shared facilities will depend on the community. However, the potential of pickleball Hubs is supported by PBC and discussed further.

### 4.1. Hubs - How Many Courts?

As noted, pickleball players enjoy a social setting and typically visit the court in a drop-in manner. With a few exceptions, players continue to gather around the court until the wait time for games becomes too long.

A facility with just one or two pickleball courts is not a great community building site. Venues with four or more courts attract more drop-in players. The nature of socializing and player rotation at these small venues frequently results in either a shortage of players or overcrowding.

One player waiting by a one court facility faces as much as 15 minute wait period. That same one person waiting at a four court facility should not have to wait anymore than 5 minutes.

The Pickleball BC and Tennis BC joint recommendation - [A Solution That Meets the Needs of Both Sports](#) elaborates on the advantages of hubs. See Appendix A for more information. This document discusses the issues with dual-purpose courts and how adding pickleball lines to existing tennis courts does not work well for players of either sport.



Developing more courts within a single facility is typically preferred to accommodate the increasing numbers of pickleball players at the court without deterring more players.

Depending on the size of a community, municipal planners should consider building a hub of at least 6 courts, with the capability to expand to 8 or 12 courts.

## 4.2. Court Layout Considerations

The *Pickleball Courts Construction & Maintenance Manual* (PCCM Manual) is a great resource for court construction and maintenance. It is a joint effort between USA Pickleball and the American Sports Builders Association. The Manual is available via the USA Pickleball website.

Pickleball courts are 20 feet wide and 44 feet long. The Official Rule Book (see Appendix A) should be consulted for specific details such as net heights and widths, Non Volley Zone line placement, etc.

Adequate space surrounding or beyond the court itself is required to enable safe play. This total area is defined as the playing surface. Both the Official Pickleball Rule Book and the PCCM Manual both recommend a **minimum** playing surface area of 30 feet by 60 feet. For new court construction the recommendation is 34 feet by 64 feet.

Wheelchair and 'stadium' playing surfaces should be larger – refer to both the PCCM Manual and the Official Rule Book for guidance.



The PCCM Manual also includes key topics such as:

- Orientation - north south is preferred
- Inter-court barriers to minimize ball and player migration
- Perimeter fencing to keep players and balls within the facility
- Drainage to enable court drying without too much gradient
- Access gates - player and maintenance, wheelchair included
- Player waiting and spectator areas to keep waiting players close but not in the way

### **4.3. Location Considerations**

There are several variables to consider for the location of a pickleball court, including space, proximity to residential neighbourhoods, and noise considerations. One must be sure to assess and recognize existing noise causing scenarios such as commercial activity, vehicle traffic, etc.

The remaining sections will provide a general overview to assist in the planning process. Adjustments may be required depending on a community's unique circumstances.

#### **4.3.1. Location within community**

As mentioned in the Traffic section of this report the majority of the pickleball community drive to the courts and in general, distance is not a concern.

If it is deemed in the longer-range plan that more than one hub is desired (possible in communities of 500,000 for example), then location considerations take on more importance.



The proximity of pickleball courts to residential neighbourhoods is very important considering noise complaints in recent years. Refer to the Noise Mitigation Strategies section in this document.

### **4.3.2. Overall space**

Whereas a pickleball court measures just 20 feet by 44 feet, additional surrounding space is required to facilitate safe play. A good rule of thumb is to allow between 2,250 and 2,500 square feet per pickleball court. This will be adequate to provide for player run out on the sides and ends of the court area plus an allowance for waiting player movement without encroaching on the actual court area.

A six court hub would require a space between 13,500 and 15,000 square feet.

### **4.3.3. Proximity to residential neighbourhood**

Locating hubs or even single pickleball courts in residential areas has resulted in noise complaints from the residents. The BAP acoustic report recommends noise limit and mitigation strategies in situations where pickleball courts are in close proximity to residential areas.

From the BAP Acoustics report we take:

*"The typical daytime limit adopted by many municipalities in British Columbia for noise created and received in residential land parcels is 55dBA. The target recommended noise limit is 50 dBA."\*1*

And

*"The pickleball noise level limit recommended in this guideline is 50dBA as measured or predicted at the nearest residential property line.*



*This guideline limit is based on the 55dBA daytime noise level limit stipulated by municipal bylaws and the 55dBA daytime limit for noise-induced speech interference identified by Health Canada. The 50dBA target was arrived at by reducing the 55dBA limit by 5dBA to account for the impulsive character of pickleball noise"\*2*

There are several methods that can be used, with varying degrees of success, to limit the received sound levels to the 50dBA level.

The three methods most considered are earth berm barriers, engineered barrier material, and setback distance.

#### **4.3.3.1. Earth berm barrier**

Earth berms require considerable space to put into place as height is the most effective attribute. Unless occurring naturally probably not a cost-effective solution.

#### **4.3.3.2. Engineered barrier material**

Usually manufactured in panel or sheet form using material and construction techniques to either absorb or reflect sound pressure waves, these panels would typically be hung on a surrounding chain link fence.

These products can be effective in certain circumstances where other options are not viable. BAP Acoustics provided two examples:

- sound reflective material Acoustifence from Acoustiblok
- sound absorptive material Kinetics KBC-100RBQ

It must be noted that these materials may impede sightlines into the court area. Consider leaving a panel-free area of about a metre off the ground to



show the players’ feet and create awareness of who is on the court. This may reduce the amount of sound mitigation.

These materials and their installation may take up a considerable portion of one's budget.

When considering such a location, given the multitude of other factors (building heights, number of courts, vegetation, and possible court orientation) engaging an acoustic consultant may be recommended.

### 4.3.3.3. Setback distance

The term setback is used to refer to the distance separating one thing from another. In this scenario, it is the distance from the edge of a pickleball court to the nearest point of reception- from the court to an adjacent property line.

Suitable setbacks have been calculated and tabularized by BAP Acoustics - table follows.

Number of Courts	Setback Distance required to meet 50dBA (m)			
	No Noise Mitigation		3m Noise Barrier <sup>1</sup>	
	Hard Ground	Soft Ground	Hard Ground	Soft Ground
2 (1x2 grid)	65	50	35	30
4 (2x2 grid)	90	75	50	45
6 (2x3 grid)	105	85	55	50
12 (3x4 grid)	160	115	75	60

Table Notes:

1. Does not apply to situations where the point of reception overlooks the court

Table 1: Minimum setback distances to meet 50dBA\*<sup>3</sup>

Interpolation for different court layouts is a reasonable methodology.



BAP cites additional information or conditions pertaining to the data in the four columns:

*"No noise mitigation and intervening terrain between the courts and residences is acoustically hard (e.g., pavement).*

*No noise mitigation and intervening terrain between the courts and residences is acoustically soft (e.g., grass, loose soil).*

*3m tall noise barrier around courts and intervening terrain between the courts and residences is acoustically hard (e.g., pavement).*

*3m tall noise barrier around courts and intervening terrain between the courts and residences is acoustically soft (e.g., grass, loose soil)."\*4*

It is evident that setbacks, terrain conditions and engineered acoustic barriers are all effective mitigation methods and can be used in conjunction with each other. Combining two or all these methods may influence the basic site location selection. Keep in mind the target noise level at the point of reception is 50 dBA.

#### **4.3.4. Traffic and parking requirements**

For the most part, pickleball players drive their vehicles to the court and therefore, ample parking is required.

Biking is becoming more popular, but public transit and walking are difficult choices given that courts should be separated from residential areas due to noise.

As the number of courts increase, the traffic volume will also. According to PBC, each court typically involves four cars coming and going at the start and end of each session, which is usually every two hours.





For an 8 court facility, nearly 50 cars could be involved. For situations where this traffic will be routed through a residential area the effects of this increased volume must be considered.

A nearby area suitable for 10 to 20 cars adjacent is desirable. Deliveries, handicap access and special event management all benefit from parking spots located nearby.

#### **4.4. Utilities**

Utilities should be considered in parks and for outdoor sport facilities. With the high-use volume and at times lengthy pickleball sessions, the simple utilities become quite important. Both a washroom facility and a potable water source are vital.

To extend court hours with lighting and for tournament operations, an electrical power supply is preferred. A tournament may require several computers and printers as well as a loudspeaker system. A single 120 Vac, 15 A circuit is the minimum requirement for these circumstances. Two 15 A circuits would give a level of security and allow for vendors and others to have access to a power source.

Allow storage for equipment, such as brooms, nets, balls, and spare paddles. Consider shade structures and seating for spectator areas that lack adjacent tree cover.

#### **4.5. Tournament Considerations**

Tournaments are growing in popularity. They are a significant social event, a great way to meet new people, and provide an opportunity to compete against one's peers from far and wide.



A tournament may be a small (75 to 100 players) event lasting one long day or a large event (400 to 650 players) spanning three or four days, usually Thursday/Friday through Sunday.

Players have been known to travel more than 500 kilometers to compete in some tournaments, which may include overnight accommodations, eating out several times, filling the car with gas, etc. – resulting in considerable local economic benefits.

Tournaments involve more people, more cars, and more traffic. Larger tournaments involve a volunteer team of 75 to 100 people or more for game control, spectator events, vendor tables, etc. Ensuring adequate facilities and amenities are available to host tournaments is required.

Some of the solutions may include - borrowing or renting adjacent space for courts, for parking, and for event management needs on tournament days.

For more information on hosting a pickleball tournament, refer to Pickleball Canada's [Tournament Director's Guide](#).



## **5. Remedial Actions for Existing Courts**

There are three significant conditions that may require remedial actions for existing courts. Each may be unique to the specific site and therefore no standard solution exists, and most solutions may be difficult.

### **5.1. Traffic and Parking**

Given that most pickleball players drive to the court, traffic and parking may pose an issue. Finding more parking space, controlling traffic patterns, encouraging alternate travel arrangements should all be considered. Refer to the Traffic and Parking Requirements section for more details.

### **5.2. Noise Volume or Intensity**

Careful consideration of the courts themselves - orientations, spacing and the setback to residential buildings is required. Various remedial actions may be considered. Installation of acoustic barrier material is an option. The BAP Acoustics report AC3124 (see Appendix A) does contain some basic information but given the site variables, engaging an acoustical consultant to review and recommend site specific remedial activity is suggested.

### **5.3. Additional Court Signage**

Signs may be used to influence time of day conditions and possibly some crowd control.

Engaging the local pickleball community in remedial planning may prove more effective than hard level enforcement.

See the Courtside Signage section for complete details.



## 6. Operating Courts

Fair and equitable pickleball court management requires planning and collaboration between municipalities and the pickleball community.

Pickleball is truly a sport for all ages. It is a sport that readily promotes both physical and mental fitness. It is easy to learn and play, is very sociable and inclusive. It is a great sport for getting youth to older adults out to play - keeping them both physically and mentally active. For those reasons, PBC and BCRPA both wish to promote pickleball and ensure access.

An adequate supply of courts along with guided playing conditions will assist in the ongoing operations of pickleball courts.

### 6.1. Player, Club, and Civic Authority Relationships

Collaboration between pickleball clubs and municipalities is beneficial to both parties in terms of court planning and consultation. Please contact PBC for assistance in areas where no clubs exist.

Well-operated pickleball clubs can offer many benefits to the players who join and the municipality, including but not limited to:

- court management during permitted time
- a home for the players
- a single voice for communication with the municipality
- coaching and coaching clinics
- introductory sessions and lessons
- organized drop-in play and structured level play
- interaction with schools
- tournaments

## 6.2. Court Allocations

Allotting dedicated court time to clubs enables them to schedule lessons, structured play, and low-barrier play opportunities. The following diagram gives a pictorial representation of the player mix Clubs try to provide equitable court time for.

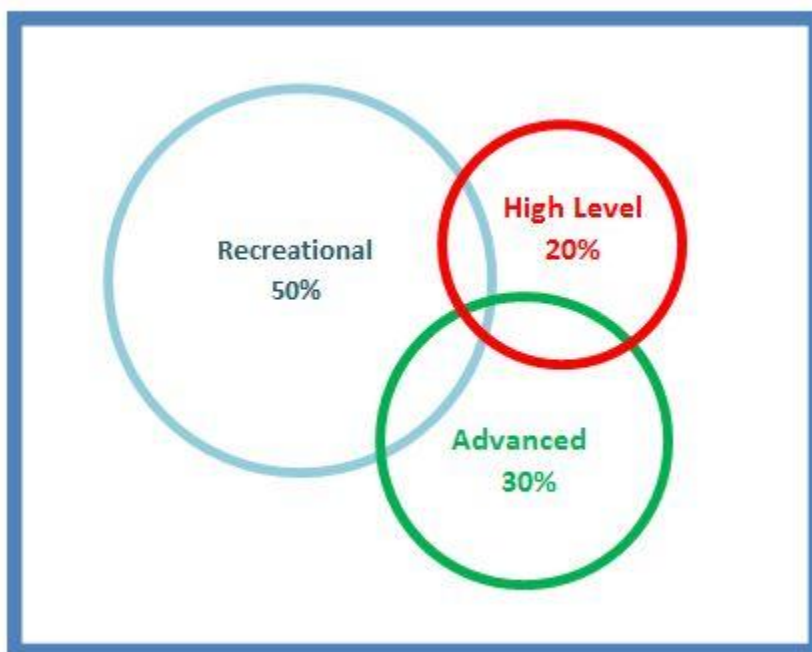


Figure 1 Graphic via PBC

The most common arrangements are specific day (or recurring) permit times and rent or lease. These arrangements allow Clubs to program activities.

It is common and accepted that a Club is not given a permit or lease for 100% of the available court hours and that the courts are public. The amount of time and the times during a day or week are negotiable between the municipality and Club.



Consideration to provide at least one (or more) courts available for public drop-in use should be offered during dedicated Club play where possible (i.e., where several courts are available).

It is recognized that most sport field and facility user groups pay a booking fee for the use of the spaces. User fees with respect to pickleball vary by the use rate - hours per day, time of day, days per week, etc. Six hours a day, seven days a week is not uncommon. Typical 2022/2023 rates range from \$5 to \$15 per Club member for the season.

Collaboration between clubs and municipalities may help determine the court fee structure that works best for each community, whether that's charging per hour or per season. Factors such as court availability and shared duties may be considered.

Part of any municipal contract with a club could be consideration for general "light" maintenance, such as debris removal and court washing for example. Higher or more technical tasks are best kept with municipal staff. Other club responsibilities would include all aspects of court management during allotted club time like players control and court assignment.

All aspects of the relationship need to be discussed and agreed on.



### 6.3. Courtside Signage

Courtside signage should be in place to advise on and control the following considerations:

- Time of day the courts are available for use
- Game control or player rotation options:
  - If people are waiting - one (1) game to 11 points and off
  - Unless otherwise mutually agreed - 4 players off, 4 players on
  - A white board, paddles on the fence or bums on the bench system for who is up next
- Doubles games preferred when players are waiting
- No lessons unless permit in hand
- No other sport or activity allowed
- No pets, bicycles, skateboards or rollerblades in the court area
- Where to report court and equipment damage
- For emergencies, call 911 (display site address)
- Safety protocols
  - Keep hydrated
  - Wear proper footwear
  - Do NOT run backward - turn and go
  - Do NOT play on wet or slippery surfaces
  - Do NOT chase balls into active courts
- Information of any permit or lease conditions
  - Dedicated Pickleball Club schedule
  - Tournament schedule
  - Details on how bookings override some of the general play conditions
- In all situations, court signage must be tailored to each location as the conditions, existing operations and usage will vary.



## Thank You

A special thank you to the dedicated working group members from: the City of Surrey, the City of Vancouver, the District of Saanich, and the District of Summerland who reviewed and contributed to this document.

## Contact Information

For more information or to discuss these guidelines please contact:

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## **Appendix A: External Document Reference Summary**

### [A Solution That Meets Both Needs](#)

A collaboration between Tennis BC and Pickleball BC to address the growing needs of both sports.

Currently available on the Pickleball BC website under the Resources tab.

### [Creating and Managing Dual Purpose Courts](#)

A Pickleball BC treatise expanding on dual court conditions.

Currently available on the Pickleball BC website under the Resources tab.

### [Noise Planning Guideline for Outdoor Pickleball Courts](#)

The BAP Acoustics report following both equipment and live game noise measurement and analysis. This study and report were commissioned by PBC and BCRPA.

Currently available on the Pickleball BC website under the Resources tab.

BAP Acoustics have office in Port Moody, B.C. and Victoria, B.C.

### [Pickleball Courts A Construction & Maintenance Manual](#)

Currently the latest edition is from 2021.

This document is a joint effort between USA Pickleball and the American Sports Builders Association. It is a comprehensive 'how to' document but that does not preclude the need for local engineering considerations.

Currently available on the USA Pickleball website.

### [The Tournament Director's Guide](#)

Currently the latest edition is from December 2020

This document from Pickleball Canada is available on its website.

### [International Pickleball Rules](#)

The 2022 document is not referenced herein but is a valuable resource.

Currently available on the Pickleball Canada website.