Foothills Multisport Fieldhouse Amenity Refinement Study

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Prepared for:

Calgary

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INTRODUCTION

The gap in indoor year-round practice and play space has existed in Calgary for decades. As the population continues to grow and diversify, the need for multipurpose and multifunctional indoor space also increases. The City has responded with positive improvements and investments, however, population growth and aging infrastructure continue to exacerbate this gap.

To align with The City's Sport for Life Policy (2018), The City's Indoor Sport Amenities Study (2018) recommends "development of a large multi-use fieldhouse to meet the sport and recreation needs of residents across the city and provide a venue for international and national competitions and events."

The idea for the Foothills Multisport Fieldhouse (the "Fieldhouse") was developed in 2010 as part of the Glenmore and Foothills Athletic Park Redevelopment Concept Plan. It was originally imagined as a multisport training space that could accommodate concurrent uses with convertibility allowing for competitions and events. The 2010 concept included an indoor soccer field surrounded by an eight-lane 400-meter track, eight multisport court spaces, jumping and throwing areas and seating up to 10,000 (500 permanent).

In 2018, The City assessed operating costs and potential revenue based on projected usership of the 2010 concept. However, since 2010, the sport and recreation landscape in Calgary has changed. Facilities have been built or decommissioned, design specifications have changed and sport needs and preferences have evolved.

On March 4, 2019, Calgary City Council approved the financial strategy to fund four Priority Capital Projects over the next 10 to 15 years, including development of the Fieldhouse. The Multisport Fieldhouse Committee was established in 2023 to build on the work achieved by the former Foothills Athletic Park Redevelopment Assessment Committee (FAPRAC) to solidify the vision for the athletic park and advocate for capital funding for the Fieldhouse.

The intent of The Amenity Refinement Study (2023) is to provide a current state review and revisit the original needs assessment to understand current demand and potential uses. Based on this, a prioritized list of amenities will be prepared to inform an updated concept plan which will allow Administration to anticipate operating costs and revenue potential and evaluate social returns on investment.

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1.0 Executive Summary

The Amenity Refinement Study (2023) (the "Study") was commissioned to ensure alignment with the original vision of the Fieldhouse as a year-round indoor practice and play space, a hub for community gathering and activity and a training and competition destination unique to Calgary and Canada. It establishes a research methodology and engagement approach to ensure the amenity mix reflects the needs of sport and community, aligns with requirements for hosting competitions and events, and advances the project goals of equity, affordability and long-term operational sustainability.

Objectives

The Study seeks to advance the following objectives:

- Create a welcoming, accessible, and affordable community hub that meets the recreation needs of user groups, sport organizations, event organizers, and the community;
- Provide amenities to host regional, national, and international competition events;
- Design a facility that maximizes both operating efficiency and revenue potential;
- Support a wide range of sports played at different levels (recreational, grassroot, competitive), complementing existing recreation facilities, and serving as a community hub;
- Encompass universal design concepts to maximize flexibility over time for new and expanded services and technology; and
- Provide long-term social, economic, and environmental value to the citizens of Calgary.

Guiding Principles

The Study is based on the guiding principles of maximizing programming opportunities, operational efficiency, competition capability and flexibility.

MAXIMIZING PROGRAMMING OPPORTUNITIES

The Baseline Amenity Mix (the "Amenity Mix") maximizes facility use through flexible, modular design. This allows amenities to operate independently for simultaneous use.

OPERATIONAL EFFICIENCY

Operational efficiency is achieved through flexible space configurations that maximize programming opportunities and revenue potential. The Amenity Mix maximizes social and economic benefits while minimizing required tax support.

COMPETITION CAPABILITY

Core amenities meet competition-hosting requirements as set out by various sport governing organizations including World Athletics, Fédération Internationale de Football Association (FIFA), Fédération Internationale de Basketball (FIBA), Badminton World Federation (BWF), and Fédération Internationale de Volleyball (FIVB). Flexible design allows for convertible spaces for a variety of competitions and events.

FLEXIBILITY

Multi-use is increasingly a fundamental requirement to meet the demands of different sports. Amenities and spaces should be organized to allow for multiple configurations while ensuring that sports can be practiced safely and according to the requirements and standards of each sport. This also ensures the facility can adapt to emerging sports and remains relevant over time.

Investigation & Analysis

To better understand the need for and value of investment in the Fieldhouse, the Study includes:

- A current state review **(Existing Facility Review, Benchmarking & Best Practices Analyses)**
- An **Economic Impact Analysis** for hosting opportunities
- A **Baseline Amenity Mix** based on the guiding principles (including **Core Amenity Flexibility**)
- A **Site Test-Fit** to ensure the facility can be accommodated on the site, and
- **Targeted Engagement** to understand current needs and to seek feedback on preliminary findings
- An overview of **Cost & Operations**

The Study supplements existing research and data with original research and analysis to better understand the environment in which the Fieldhouse will operate and to validate assumptions around use. Where data does not exist, the Study applies benchmarks and best practices to inform observations.

Amenities & Services

The Baseline Amenity Mix (the "Amenity Mix", section 5) includes size and configuration specifications for core amenities based on the guiding principles. Core amenities include:

1. Track and Field
2. Gymnasia
3. Artificial Turf Field

TRACK AND FIELD

The track and field amenity includes a 200-metre hydraulic track with a separate 130-metre, ten-lane sprint track. A 200-metre track adheres to World Athletics standards for competitions and events. The separation of the 200-metre track and sprint track allows the amenities to operate independently and concurrently while also creating a warm-up/cool-down area for competitions and events. The hydraulic track provides programming flexibility for other sports (e.g., temporary sports courts or competition gymnastics) when the track is not in use.

GYMNASIA

The gymnasia amenity includes a feature court with seating for competitions and events, convertible to three regular courts when seating is retracted. It includes six additional regular courts and two multi-activity courts (MACs). The MACs will feature durable flooring for sports ideally suited to a non-traditional, resilient surface (e.g., futsal, padel, wheelchair basketball, etc.). In total, up to 11 basketball courts, 20 volleyball courts or 36 badminton or pickleball courts can be configured in this space, allowing Calgary to host large events and competitions while maximizing programming opportunities for Calgarians.

ARTIFICIAL TURF FIELD

The recommended artificial turf field is 1.5 times longer than the FIFA standard to maximize field divisibility and programming flexibility. The larger field size will accommodate other sports (e.g., football, rugby, etc.) and will create a warm-up/cool-down area for competitions and games.

SUPPORTING AMENITIES

Supporting infrastructure includes change rooms, washrooms, storage rooms, and cleaning and mechanical space. This infrastructure can be specific to each core amenity, and can also support the whole facility.

ANCILLARY SERVICES

Additional supporting amenities enhance financial performance and guest experience and may include amenities such as a fitness center, child minding or childcare space, food services, sport nutrition and/or physiotherapy services and meeting and gathering spaces.

2.0 Existing Facility Review

Calgary's sport and recreation landscape has changed since 2010 when the idea for the Fieldhouse was conceived. Facilities have been built or decommissioned, design specifications have changed and sport needs and preferences have evolved. This section reviews current and future needs for the Fieldhouse based on market research, user trends, and engagement with sport organizations and sport governing bodies. Analyses focus on the existing infrastructure in and around Calgary to inform the Amenity Mix and core functionalities.

TRACK AND FIELD

EXISTING SUPPLY

Calgary has two outdoor 400m track and field facilities used for hosting competitions in addition to drop-in recreational use and currently no competition capable indoor amenities. Edmonton is the closest location to Calgary with the capability to host indoor athletics and track and field events.

Indoor track amenities in Calgary are located within larger fitness facilities and primarily support recreational running/ walking. Some facilities rent lane space to high-performance or competition training groups but space is most often shared with recreational users.

CITY OF CALGARY FACILITIES

- PROPOSED FOOTHILLS FIELDHOUSE
- COMPETITION CAPABLE FACILITIES
- SUPPLEMENTARY TRAINING FACILITIES

OUTDOOR COMPETITION FACILITIES

- C1 FOOTHILLS ATHLETIC PARK
- C2 GLENMORE ATHLETIC PARK
- C3 GENESIS PLACE (REGIONAL)

INDOOR TRAINING FACILITIES

- T1 SHANE HOMES YMCA AT ROCKY RIDGE
- T2 MNP COMMUNITY & SPORT CENTRE
- T3 BROOKFIELD RESIDENTIAL YMCA AT SETON
- T4 REMINGTON YMCA AT QUARRY PARK
- T5 TRICO CENTRE FOR FAMILY WELLNESS
- T6 WESTSIDE RECREATION CENTRE
- T7 SHAWNESSY YMCA
- T8 SADDLETOWNE YMCA
- T9 OLYMPIC OVAL
- T10 SPRAY LAKE SAWMILLS FAMILY SPORTS CENTRE (REGIONAL)
- T11 GENESIS PLACE (REGIONAL)
- T12 CALGARY FC REGIONAL FIELDHOUSE (REGIONAL)

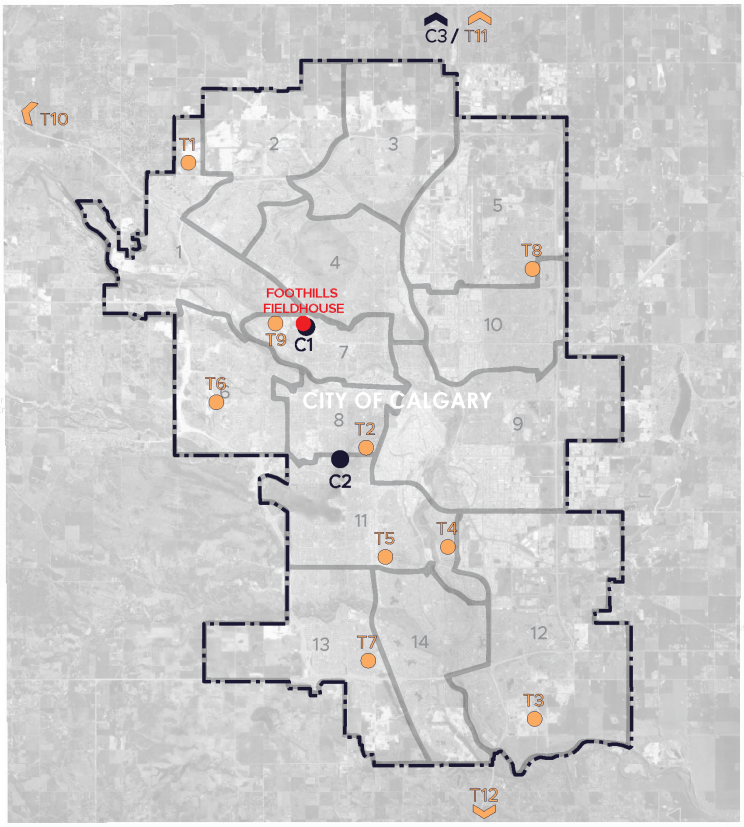


Figure 2.1 *Existing Track and Field amenities in Calgary and Surrounding Region*

#	COMPLEX NAME	SPECIFICS
Outdoor Competition Facilities		
C1	Foothills Athletic Park	Eight-lane, 400 metre
C2	Glenmore Athletic Park	Eight-lane, 400 metre
C3	Genesis Place (Regional)	Eight-lane, 400 metre
Indoor Training Facilities		
T1	Shane Homes YMCA at Rocky Ridge	Four-lane, 160 metre
T2	MNP Community & Sport Centre	Track 1: Two-lane 140 metre; Track 2: Four-lane 224 metre
T3	Brookfield Residential YMCA at Seton	Three-lane, 200 metre including 80 metre sprint straight
T4	Remington YMCA at Quarry Park	Track 1: Four-lane, 200-224 metre; Track 2: Two-lane, 140-152 metre
T5	Trico Centre for Family Wellness	Three-lane 100 metre
T6	Westside Recreation Centre	Three-lane, 432 metre
T7	Shawnessy YMCA	Three-lane, 119 -128 metre
T8	Saddletowne YMCA	Three-lane, 110-130 metre
T9	Olympic Oval	Two-lane, 446-454 metre
T10	Spray Lake Sawmills Family Sports Centre (Regional)	Three-lane, 225 metre
T11	Genesis Place (Regional)	Four-lane, 200 metre
T12	Calvary FC Regional Fieldhouse (Regional)	Potentially three-lane, 800 metre

Table 2.1: *Existing Track and Field amenities in Calgary and Surrounding Region*
** NOTE: University of Calgary and Mount Royal University were not included because scheduling conflicts between recreational users and athletes is known to occur (tracks around feature court)*

COMMUNITY USE

Athletics and track and field clubs make use of the available indoor track amenities in Calgary offering programming scaled appropriately to the amenities they are able to book. Space is often shared with other members of the facility and user conflict between recreational users and athletes is known to occur.

TOURNAMENT USE

Current indoor track and field competition hosting in Calgary is impeded as existing indoor tracks do not meet competition requirements. For example, World Athletics standards require a minimum seating capacity of 3,000 spectators and a 200m track.

RECOMMENDATIONS

- The Fieldhouse should include an indoor 200m track and field amenity, built to World Athletics standards to support training and competition.
- A hydraulically banked track should be included in the facility to ensure the entire community can utilize the track facility and that it is not solely an elite training component. This track can allow the space to be adapted to other sports when not in use. Flexibility should be explored for the track area to support other sports where possible.
- The Fieldhouse should consider sprint training requirements for other sports.
- Temporary seating should be considered to meet bid-to-host requirements.

GYMNASIA

EXISTING SUPPLY

The Fieldhouse is not intended to fill a shortfall in total supply of gymnasia and court facilities as many other local facilities contain single- or double-gymnasia. Analysis has identified a deficiency in facilities that can host medium to large tournaments in a number of sports. A review of the existing gymnasia focused on facilities with three or more standard gymnasia co-located in a single facility that provide a basis for multi-use configuration and flexibility in tournament hosting.

The format for gymnasia spaces is typically based on basketball court sizing and area requirements, usually with hardwood floors. Often, badminton, volleyball and other sport markings are overlaid to increase utilization. Grouping courts together and providing separation with retractable curtain dividers can also significantly increase flexibility of use for many sports. Temporary seating or other equipment can be easily moved around within the facility.

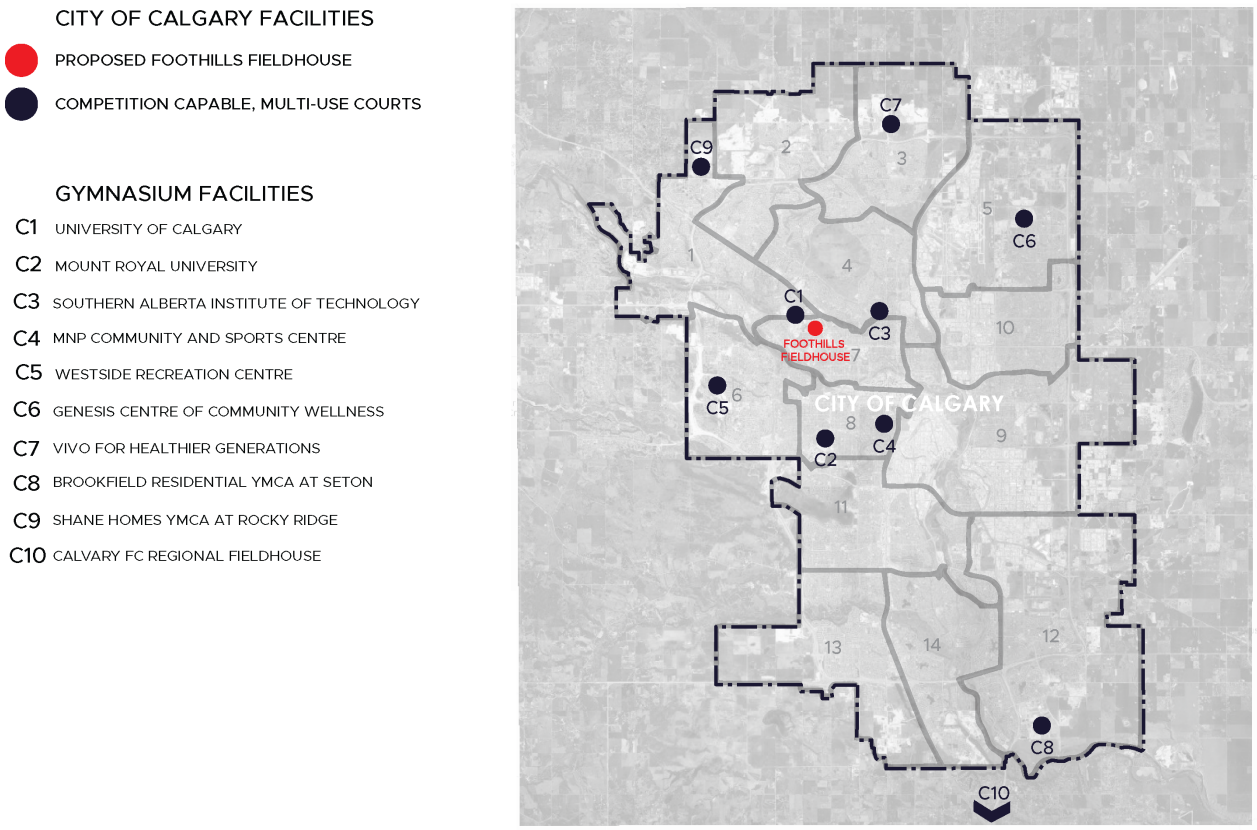


Figure 2.2: *Existing Competition Capable Gymnasia Amenities in Calgary and Surrounding Region.*

#	COMPLEX NAME	COURTS (3)
C1	University of Calgary	7
C2	Mount Royal University	5
C3	Southern Alberta Institute of Technology	0*
C4	MNP Community & Sport Centre	5
C5	Westside Recreation Centre	5
C6	Genesis Centre of Community Wellness	6
C7	Vivo for Healthier Generations	3
C8	Brookfield Residential YMCA at Seton	3
C9	Shane Homes YMCA at Rocky Ridge	3
C10	Calvary FC Regional Fieldhouse (Regional)	1
**Note: SAIT is currently under renovation*		

Table 2.2: *Existing Calgary gymnasia facilities, does not include school facilities*

COMMUNITY USE

The most common uses of gymnasia spaces are basketball, volleyball or badminton. Most facilities can accommodate all three. There are also many bookings for other sports attempting to supplement a typically outdoor summer program (i.e., winter training for field sports).

Emerging sports (e.g., padel, pickleball, futsal) often use gymnasia to supplement programming but these spaces are less suited to the requirements of some sports. For example, futsal and indoor field hockey have specific requirements for hard-wearing walls and/or floors that are not accommodated in typical gymnasia.

The facilities examined operate on both hourly rental and drop-in models, with hourly rentals being the primary operational strategy. Drop-in or facilitated “pick-up games” can supplement rental revenue and provide opportunities for the community to engage in sport without formal registration or commitment to a specific program.

TOURNAMENT USE

Tournament hosting opportunities are typically limited by the number of co-located gymnasia. Single and double gymnasia configurations do not provide the required flexibility and number of courts for most tournaments.

RECOMMENDATIONS

- The Fieldhouse should accommodate a minimum of 11 individual gymnasia to support large tournament hosting.
- There should be a feature court with +/-3,000 retractable seats to accommodate daily use and tournaments where increased spectator seating is required.
- Gymnasia should be arranged in groups of three to promote flexible use by many sports, tournaments and other community uses.
- The Fieldhouse should provide Multi-Activity Courts (MACs) for emerging sports such as padel, pickleball, futsal, etc. MACs will be designed with rubberized floor finish and damage resistant walls. Options for portable or demountable padel court walls should be explored.
- All gymnasia and MACs should be capable of hosting ‘matted’ events (wrestling, judo, karate, etc.).
- Gymnasia requires access to universal change and team rooms.
- Storage requirements should be considered to support flexible programming. Focusing on storage and workshop space for para-athletes and organizations is key to ensuring the facility is universally accessible.

ARTIFICIAL TURF FIELD

EXISTING SUPPLY

There are a number of existing permanent indoor turf amenities in Calgary, with more planned. These facilities are supplemented by air-supported structures (domes) at key locations to increase seasonal participation and provide weather-protected turf areas.

The map shows a combination of City-operated and privately-operated turf amenities, all with varying field sizes and specifications. Also shown are planned future facilities and regional turf facilities beyond city limits that serve Calgary's population.

Despite the number of turf facilities in Calgary, the growing demand for full field, non-boarded amenities mean existing facilities do not meet the needs of the sport community. Existing facilities have limited seating capacity for games and are primarily used for training.

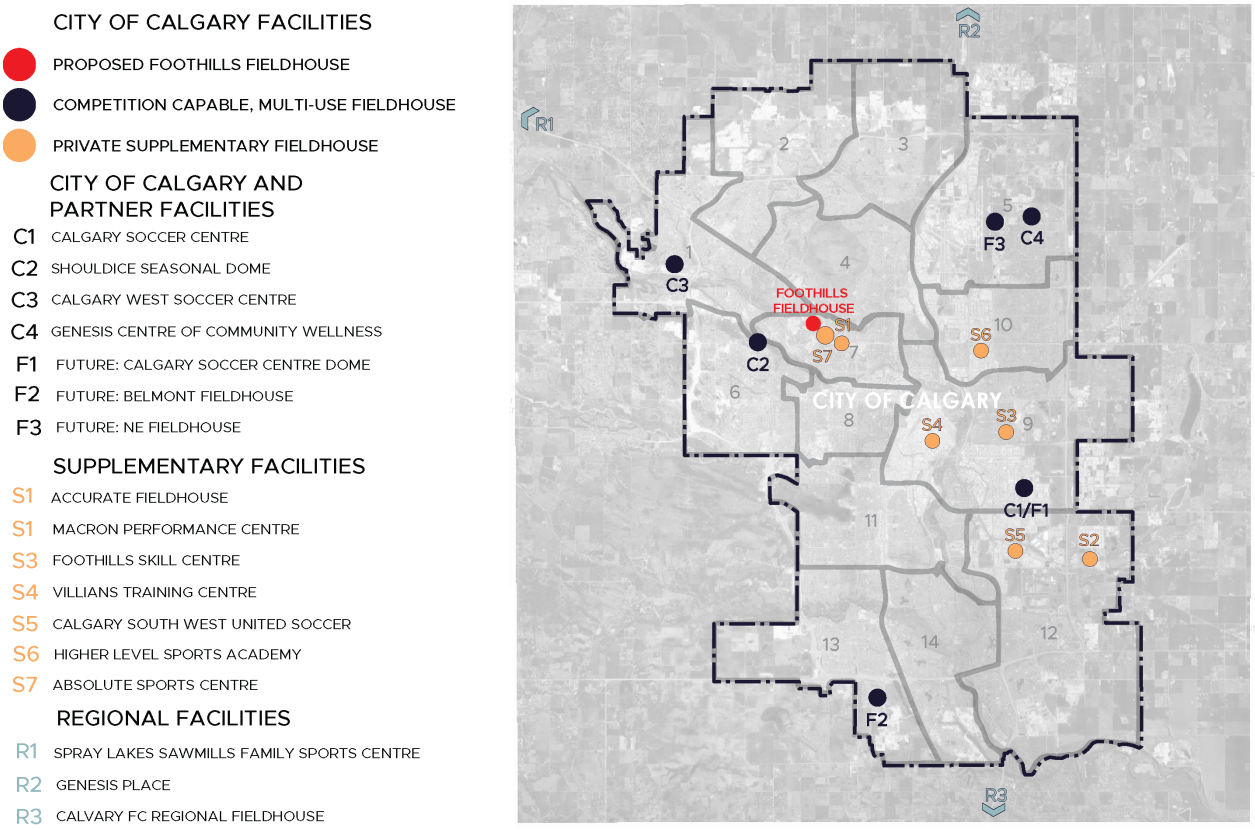


Figure 2.3: *Existing Indoor Artificial Turf amenities in Calgary and Surrounding Region*

#	FACILITY	TYPE	FIELDS	SQUARE FEET
City Facilities				
C1	Calgary Soccer Centre	Boarded - Training & Games	8	66,208
C2	Shouldice Seasonal Dome	Open Span - Training & Games	1	69,300
C3	Calgary West Soccer Centre	Open Span - Training & Games	4	71,041
C4	Genesis Centre of Community Wellness	Boarded - Training & Games	2	28,800
Future City Facilities				
F1	Future Calgary Soccer Centre Dome	Open Span - Training & Games	1	69,300
F2	Future Belmont Fieldhouse	Open Span - Training & Games	1	69,300
F3	Future NE Fieldhouse	Open Span - Training & Games	1	69,300
Supplementary Facilities				
S1	Accurate Fieldhouse	Open Span - Training	2	13,175
S2	Macron Performance Centre	Open Span - Training & Games	4	85,000
S3	Foothills Skills Centre	Open Span - Training	5	40,000
S4	Villains Training Centre	Open Span - Training	2	13,000
S5	Calgary South West United Soccer	Open Span - Training	4	22,230
S6	Higher Level Sports Academy	Open Span - Training	3	not known
S7	Absolute Sports Centre	Open Span - Training	1	16,000
Regional Facilities				
R1	Spray Lake Sawmills Family Sports Centre	TBD	1	not known
R2	Genesis Place	TBD	2	not known
R3	Calvary FC Regional Fieldhouse	TBD	3	51,000

Table 2.3: *Existing Indoor Artificial Turf facilities*

COMMUNITY USE

Utilization rates are high for existing facilities. Peak times are generally over-subscribed, with wait lists at many facilities. This is due to a combination of factors:

- Increased soccer participation
- Evolution of indoor soccer to a non-boarded format, making some facilities unsuitable for competition use and less desirable for practice bookings
- Winter training requirements for other field sports (e.g., lacrosse, rugby, ultimate, football, baseball, etc.)

TOURNAMENT USE

Tournament hosting at existing indoor facilities is dependent on the specific requirements of the governing body or organization. Indoor tournament hosting for soccer is challenged by a lack of non-boarded facilities with a critical mass of fields. Other field sports face similar challenges but are less impacted by the presence or absence of boarded/non-boarded fields.

Indoor artificial turf fields are commonly used as off-season venues for sports typically played outdoors. Tournaments at indoor facilities are often smaller and at a lower level of competition than large outdoor tournaments.

RECOMMENDATIONS

- The Fieldhouse should accommodate a number of field sports and the artificial turf amenity should be easily divided to promote accessible use by more than one rental group or sport program at a time.
  - Methods of dividing the artificial turf amenity should incorporate both competition and training requirements for multiple sports.
- The amenity should have the ability to host minor tournaments (5-v-5, 7-v-7, etc.).
- Attention should be paid to field turnover at peak times, including providing warm-up and/or cool-down areas as required.
- Sufficient team rooms and access to universal change facilities is important.
- Modest spectator capacity (of +/-500) should be provided due to the scale of tournaments and games proposed for the artificial turf amenity.

3.0 Benchmarking & Best Practice Analysis

Benchmarking is the practice of comparing key metrics to those of other comparable facilities. It allows us to identify and implement industry standards and best practices and is an opportunity to learn from the experiences of others, replicate successes and avoid mistakes.

To provide insight into design, programming and operational approaches for the Fieldhouse, benchmark facilities were identified that:

1. Operate indoor track and field, gymnasia and/or artificial turf fields (comparable facilities), and
2. Operate in markets comparable to Calgary's

Analysis considers common supporting amenity and infrastructure requirements, new trends and technological advances.

FACTORS EVALUATED

- Needs and feasibility
- Functionality
- Programming
- Economic impact analysis
- Cost to construct
- Seating capacity
- Adjacency to other facilities

FACTORS REQUIRING FURTHER STUDY

- Safety and accessibility
- Equipment storage design
- Site and facilities operational space
- Sightlines and program viewing analysis
- Mix of supporting amenities (concessions, sports-related therapy, childcare, etc.)
- Attractive design aesthetic
- Line marking specifications

FACTORS FOR CONSIDERATION IN FUTURE DESIGN PROCESS PHASES

- Operations and maintenance input
- Utility infrastructure
- Stakeholder and user group engagement
- Environmental considerations
- Program and efficiencies of co-location
- Mixed mode transit opportunities (current and future)
- Flexible seating solutions
- Construction phasing opportunities / requirements
- Parking requirements
- Facility space planning
- Construction approach

Benchmarking

Benchmark facilities were selected based on the core amenity mix and evaluated for amenity best practices, sport-specific best practices, competition standards and hosting requirements. Analysis emphasizes programming and operational flexibility to optimize sustainability and performance as a competition and training venue and community asset (hosting requirements for different sports are available in section 4: Economic Impact Analysis).

Key Findings

FOR MULTISPORT FACILITIES

- Indoor recreation and sport facilities are a standard for communities situated in cold weather climates. Indoor facilities provide opportunities for residents and athletes to practice and play year-round, contributing to quality of life, citizen health and economic diversification.
- The clustering of amenities inside a large multisport venue increases utilization and acts as a catalyst for commercial growth and site activation. Comparable facilities show a trend toward modular design to maximize programmability, allowing unique amenities to operate concurrently.
- The flexibility (and scalability) of independent amenities is observable among multisport facilities that operate in similar markets, where amenities serve the local population and the high-performance sport community. In the case of the Fieldhouse that seeks to act as a local community asset, a regional sport and recreation asset and a global training and competition asset, flexible design is required to maximize the multi-use nature of the facility. Initial investment in flexibility and conversion ensures the Fieldhouse remains competitive.
- The assembly of supporting amenities within the Fieldhouse will be an important element of the total facility performance—both financially and from a guest experience perspective. The inclusion of fitness facilities, fitness programming space, sports therapy, childminding and/or daycare space, food and beverage opportunities, community meeting space, team and club offices, officiating spaces, media and production spaces, locker and change facilities and public space will be essential considerations that will influence the overall success of the facility.

FOR TRACK AND FIELD

- A 200m indoor track is the World Athletics standard for performance. Through purposeful design, the Fieldhouse can meet the high-performance needs of specific clubs and athletes while remaining accessible to recreational user groups. Ancillary amenities should align with the local market needs.

FOR GYMNASIA

- It is common practice to offer a feature court to attract events. Flexible seating options and the appropriate mix of ancillary court space can meet the needs of both local user groups and sport tourism for national and international hosting opportunities.

FOR INDOOR ARTIFICIAL TURF FIELDS

- Growth in demand for indoor turf is expected to continue. Maximizing the size and modularity of the artificial turf field amenity will yield high utilization and help support demand.

TRACK AND FIELD

The availability of year-round, climate-controlled track and field amenities results in greater growth and investment in the sport, especially in colder climate countries. These amenities help attract athletes and increase revenue opportunities through training and competition. They benefit high school and post-secondary athletic programs and provide recreational and fitness opportunities for residents.

The table below includes four North American facilities selected as benchmarks for track and field amenities. The table summarizes construction costs (escalated to 2023 costs), seating (permanent and expandable) and track specifications for different sized facilities and service populations.

	THE TRACK AT NEW BALANCE	IRVING FIELDHOUSE	VIRGINA BEACH SPORTS CENTRE	THE PODIUM
Year Built	2022	2019	2020	2021
Construction Cost ($CAD) at build	$650.7M	$27M	$91.2M	$66.4M
Construction Cost 2023 $CAD	$732M	$33M	$108.9M	$77M
Size SF/SM	450,000 / 41,806	110,000 / 10,219	285,000 / 26,477	135,000 / 12,542
Cost per SF in $CAD (adj 2023)	$488 (adjusted for site development)	$302	$382	$570
Seating Count (min)	2,300	650	5,000	3,000
Seating Count (expandable)	5,000	700	5,500	4,000
Indoor Track	Beynon Sports Rise-N-Run 200m Indoor 6-Lane Hydraulic Banked Oval	200m Flat 6-Lane	Beynon Sports Rise-N-Run 200m Indoor 6-Lane Hydraulic Banked Oval	Beynon Sports Rise-N-Run 200m Indoor 6-Lane Hydraulic Banked Oval
Service population	689,326	69,895	450,882	228,989

Table 3.1: *North American facilities selected as benchmarks for track and field amenities*

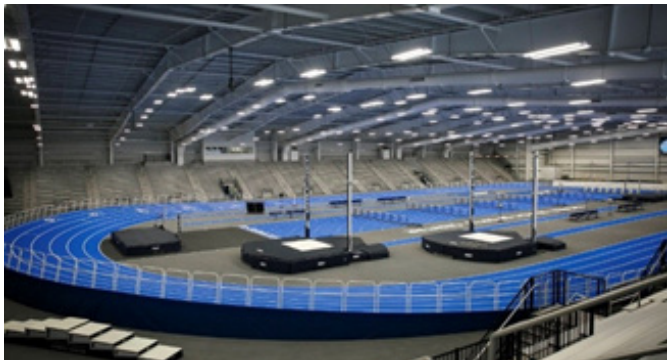


Figure 3.1: *Virginia Beach Sports Centre*

Figure 3.2: *The TRACK at New Balance*

BEST PRACTICES FOR COMPETITION STANDARD - TRACK AND FIELD AMENITIES

- Align with hosting requirements for competition and events to maximize revenue opportunities (e.g., layouts, specifications, supporting amenities, ancillary spaces, etc.).
- Maximize use of space (e.g., 100m training area, sprint/hurdles, high jump, shot putt, long jump, etc.).
- Maximize flexibility and scalability for event hosting, training and community use (i.e., retractable seating, additional sprint lanes for training).
- Indoor sanctioned competitions and records by World Athletics require a 200m track.
- World Athletics tournaments require a minimum of 3,000 spectator seats, potentially expanding up to 5,000 spectators. Seating can be a mix of permanent and temporary. The number of fixed spectator seats should be minimized to maintain space for local recreational use.
- Hydraulic banked tracks provide flexible use, from community use to elite and world-class training and competition.

WORLD ATHLETICS COMPETITION STANDARDS

DESCRIPTORS	REQUIREMENTS FOR TRACK AND FIELD COMPETITION			
Track	6-lane oval and 8-lane straight track	Synthetic surface	Warm up track	Warm up facilities for in-field sports
Spectator Seating	3,000 - 5,000			
Finish System	Fully automatic timing and photo finish system	Results management room		
Supporting Amenities	Medical and emergency services on site	Physiotherapy facilities	Doping control station	Media and television facilities – working areas for broadcast and media
Capability to host	5-6 core group events	60m/400m/1500m /800m/3,000m/ 5,000m track	Pole vault Triple jump Shot put High jump Long jump	
Broadcasting	Media and TV room	2 state of the art video screens	Quality sound system	Reliable and modern communication networks, infrastructure and services
Ancillary	Call room(s)	Mixed zone	Rest area for combined events athletes	

Table 3.2: *World Athletics Competition Standards*

GYMNASIA

Multi-use is increasingly a fundamental requirement to meet the demands of different sports. Amenities and spaces should be organized to allow for multiple configurations while ensuring that sports can be practiced safely and according to the requirements and standards of each. Flexible design will allow convertibility for a variety of competition and events while ensuring the Fieldhouse can adapt to emerging sports.

Gymnasia amenities will meet competition-hosting requirements as set out by the International Basketball Federation (FIBA), Badminton World Federation (BWF) and Fédération Internationale de Volleyball (FIVB).

The table below includes four North American facilities selected as benchmarks for gymnasia amenities. The table summarizes construction costs (escalated to 2023 costs), seating (permanent and expandable) and court specifications for different sized facilities and service populations.

	PARAMOUNT SPORTSPLEX	VIRGINA BEACH SPORTS CENTRE	RICHMOND OVAL	SAVILLE SPORTS CENTRE	TOURNAMENT CAPITAL CENTRE
Year Built	2007	2020	2006	2011	2007
Construction Cost ($CAD) at build	$22M	$91.2M	$178M (+ $24M convert post-Olympics)	$65M	$23.8M
Construction Cost 2023 $CAD	$38.6M	$108.9M	$321.3M	$128.2M	$41M
Size SF/SM	200,000 / 18,580	285,000 / 26,477	362,000 / 33,631	236,000 / 21,925	65,000 / 6,059
Cost per SF in $CAD (adj 2023)	$193	$382	$888	$543	$630
Seating Count (min)	250	5,000	2,000	2,800	2,200
Seating Count (expandable)	250	5,500	2,000	2,800	2,200
Courts	Full sized competition hardwood basketball court and volleyball court with a practice/ warm up court.	12 hardwood basketball courts convertible to 24 volleyball courts or 9 field hockey courts.	18 badminton courts, 13 FIVB volleyball courts, 10 FIBA basketball courts, 3 FIFA indoor regulation size soccer fields, 16 international size	12 FIBA basketball courts, 25 volleyball courts, competition gym, 30 badminton courts, 8 championship-level indoor tennis courts.	3 NBA sized hardwood courts (2 fixed, 1 portable).
Service population	717,961	450,882	209,937	1,100,000	97,905

Table 3.3: *North American facilities selected as benchmarks for gymnasia amenities*

BEST PRACTICES FOR COMPETITION STANDARD – GYMNASIA

Basketball:

- An official FIBA court is 28m by 15m.
- For top level events (levels 1 and 2), traditional wood floors can be used as well as certain permanent or mobile LED glass floors. For lower level events, permanent or mobile wood or synthetic flooring is acceptable.
- FIBA Equipment and Venue Centre sets standards for high-level competitions. These standards state that general seating capacities for hosting multisport court events range from 3,000 to 8,000 seats depending on the level of competition. Flexible and/or temporary seating options can be explored to preserve the multisport community nature of the facility.

Volleyball:

- The official FIVB playing area is 34m x 19m x 7m, height must be free from obstacles.
- Senior World Championships and Olympic Tournaments require a main hall with seating capacity for 15,000. For other international events, a capacity of 5,000 seats is acceptable.

Badminton:

- BWF Sanctioned Tournaments at Grade 1 (Major Tournaments/Events) require a wooden sprung floor, or equivalent subfloor for the badminton court mats.
- At the highest level of competition, eight badminton courts are required for game play, with a minimum eight practice courts and four warm-up courts.
- Ceiling height 27ft minimum.

Flooring:

- The ideal characteristics of sports flooring vary according to the type of sport practiced and the quality of the flooring generally depends on the purpose for which it is to be used.

Ancillary Space:

- If possible, access to a fitness room should be provided. An access fee may be charged by the organizer. Walking tracks align well with feature court layouts and double as seating concourse.
- Consideration of flexible spaces for media, television broadcast, sport testing and doping control, sport nutrition, medicine and sport physiotherapy for tournaments and large meet requirements.

DESCRIPTORS	FIBA STANDARD	FIVB STANDARD	PICKLEBALL CANADA + IFP STANDARD	BWF STANDARD
Venue Type	Basketball Competition Venue	Volleyball Competition Venue	Pickleball Competition Venue	Badminton Competition Venue
Minimum Capacity (Spectator Seating)	U19 Women's: 3,000 (Preliminary)-5,000(Final), U19 Men's: 4,000 (Preliminary)-8,000 (Final), Olympic Qualifying: 6,000 (Preliminary)-10,000(Final)	Senior World Championships and Olympic Tournaments: 15,000. Other FIVB, World, and Official competitions - capacity of 5,000 seats is acceptable.		Minimum of 200 spectators
Lighting	Not less than 1,800 lux on field of play	Minimum 500 lux		Minimum 1,000 lux
Court Surface	Wooden, built by FIBA approved manufacturer	Wooden or Synthetic Flooring	Often concrete or asphalt with 100% acrylic coating. Background color around the field of play must be contrasting, pickleball appropriate.	Wooden sprung floor, or equivalent subfloor for the Badminton Court Mats, or (for lower-level tournaments) equivalent surface, together with approved non-slip mats
Field of Play	28m long x 15m wide	40m x 25m total competition control area per Court, with a playing court area of 18m x 9m per match	For hosting Nationals: Minimum of 20 Courts, minimum playing surface of 30 feet (9.14m) wide and 60 feet (18.29m) long.	Minimum 8 courts, court shall be 13.4m by 5.18m. The top of the net from the surface of the court shall be 1.524m at the centre of the court and 1.55m over the side lines.
Minimum Ceiling Height		7m	9m (30ft)	Olympic: 12m, Other BWF Tournaments: 9m
Athlete Seating	Minimum 14 per Team	2 chairs and seating for 8 persons placed along the external side of the free zone on either side of the scorer's table		Undetermined at this time.
Medical Room	Minimum 30m2	Minimum 25m2		N/A, although courtside medic is mandatory
Training Ground	Minimum 1	Minimum 2 (Senior World, Olympics), at least 24m x 15m x 7m height		Olympic: 4 warm up courts and 8 practice courts Grade 1: 2 warm up courts and 8 practice courts Grade 2: 2 warm up courts and 8 practice courts Grade 2 (lv. 6): 1 warm up court and 4 practice courts
Athlete Dressing Rooms	4 Rooms, Minimum 50m2 each	4 Rooms, Minimum 30m2 each		Required lounge area for Grades 1 and 2 (Levels 1-4) and recommended for Grade 2 (Levels 5-6)
Officials Dressing Rooms	2 Rooms, Minimum 20m2 each	2 Rooms, Minimum 20m2 each		
Doping Control Room	Located inside the competition venue, close to the playing hall, athletes' changing rooms and the athletes' medical care room. Minimum 15-24m2	Minimum 40m2		2 rooms

Table 3.4: *Standards for key sports' governing bodies*

ARTIFICIAL TURF FIELD

A review of sport requirements for event hosting opportunities suggests the primary market for the artificial turf amenity will be local, provincial, and regional tournaments, practice and play. The proposed FIFA Category 5 indoor field allows for multipurpose use but does not meet requirements for national and international competitions and events.

The table below includes five North American facilities selected as benchmarks for indoor artificial turf. The table summarizes construction costs (escalated to 2023 costs), seating (permanent and expandable) and field specifications for different sized facilities and service populations.

	SASKATOON SPORTS CENTRE	EDMONTON SOCCER DOME	SHELL PLACE	COMMONWEALTH FIELDHOUSE	PARAMOUNT SPORTSPLEX
Year Built	2005	2018	2015	2012	2007
Construction Cost ($CAD) at build	$14.5M	$7M	$127M	$112M (renovation)	$22M
Construction Cost 2023 $CAD	$27M	$8.9M	$175.8M	$169.3M (renovation)	$38.6M
Size SF/SM	167,000 / 15,515	135,000 / 12,542	83,250 / 7,734	215,000 / 19,974	200,000 / 18,580
Cost per SF in $CAD (adj 2023)	$161	$66	$450 (adj for site)	$788	$193
Seating Count (min)	1,500			500	75
Seating Count (expandable)	1,500			1,000	75
Field Type	Artificial Turf	CORE FIFA Artificial Turf. 1 x FIFA or 4 x 7v7 or 3 x 9v9	80 x 180 FT Artificial turf	Artificial Turf – half regulation size marked for soccer and football.	FIFA-size Artificial played as a full field, 1/2 field or 1/4 field – indoor or outdoor (domed in winter).
Service population	266,141	1,100,000	68,002	1,100,000	717,961

Table 3.5: *North American facilities selected as benchmarks for indoor artificial turf.*

BEST PRACTICES FOR COMPETITION STANDARDS - ARTIFICIAL TURF AMENITIES

- General seating capacities for turf amenities range from 500 to 5,000 seats depending on the level of competition.
- FIFA international regulation pitch dimension is 68m by 105m, FIFA Grade A Turf.
- Artificial (synthetic) turf is the “gold standard” for FIFA-regulation requirements and accommodates the maximum recommended hours per week of usage compared to other pitch types.
- Flexibility to accommodate a variety of user groups from community to collegiate, with the hosting capability for national and international hosting.
- The sizing of the field must be divisible to allow for multi-use and multi-level simultaneous game play.

Figure 3.3 (left), 3.4 (right): *Commonwealth Fieldhouse (Edmonton AB), Saskatoon Sports Centre (SK)*

COMPETITION STANDARDS BY SPORT

DESCRIPTORS	FIFA CATEGORY 5 (COMMUNITY) Minimum FIFA standard for any soccer stadium, including development group and community use
Minimum Capacity (Seats)	250
Standing Areas	Does not count toward minimum net capacity unless convertible to seating.
Floodlights	Min. 500 lux. All LED.
Pitch Surface	Grass (outdoor only) or FIFA-certified turf.
Field of Play	68m x 105m
Pitchside Boards	-
Team Benches	Capacity to expand to: 2 x 14 pax.
Players' Tunnel	Not Required.
Players' Dressing Rooms	2 x 25m2
Match Officials' Dressing Room	10m2
Doping Control Room	Not Required.
Competition Parking	Space for at least 2 full-size team buses.
Wheelchair Spaces	0.5% of total gross area capacity plus 1 companion seat for each wheelchair space.
Accessible Parking	30% of accessible seating provision.

Table 3.6: *Standards for soccer governing body (FIFA)*

The Artificial Turf Field Amenity should consider hosting potential for the following sports:

- Soccer
- Football (Flag and contact)
- Field Lacrosse
- Baseball Training and Softball (Not games)
- Track and Field (Potential support space for throwing event practice)

4.0 Economic Impact Analysis

Economic Impact is calculated as the positive change in economic activity resulting from event hosting. There are three main factors associated with economic Impact including:

1. The spending of out-of-town visitors while attending the event;
2. The expenditures of the event organizers in producing the event; and
3. Capital construction costs only attributed to hosting the specific event.

Calgary does not currently have the infrastructure to support international competition for track and field, national competition for gymnasia and court sports or regional competition for indoor field sports. Any economic activity generated by the Fieldhouse would be net new.

Facility design will maximize tournament hosting opportunities (amenity specifications, supporting amenities) and augment Calgary's existing sport and recreation infrastructure.

Providing for multisport use is critical for serving the community, maximizing utilization and responding to growth trends in competitive and recreational sport. The number of events to be held annually will be balanced against community use of the facility. This will be subject to the operational model. Based on hosting potential and the operational program, the projected annual economic impact for different amenities is as follows:

FACILITY	LOW	HIGH
Track and Field	$ 8,000,000.00	$ 33,500,000.00
Gymnasia and Court	$ 10,000,000.00	$ 25,000,000.00
Artificial Turf	$ 2,000,000.00	$ 5,100,000.00
Annual Summary	**$ 20,000,000.00**	**$ 63,600,000.00**

Table 4.1: *Economic Impact Projections by Amenity*

Sports & Event Tourism Impacts

Visitor spending as a result of event hosting will impact regional, provincial and national economies. Some economic impacts are direct (e.g., job creation, revenue from ticket sales, boosting local businesses, etc) and others are indirect (e.g., increased profile for the host city, talent acquisition, etc.). However, hosting a sporting event also can be expensive and require significant investment in infrastructure and facilities. Host cities must therefore carefully consider potential economic benefits and costs before deciding to host a major sporting event.

Figure 4.1: *Amateur athletic union national volleyball tournament – Orange County Convention Centre, FL*
Figure 4.2: *2023 World Indoor Tour Final, Utilita Arena, Birmingham, UK.*

INDOOR TRACK & FIELD

Calgary has a deficit in hosting infrastructure. The Fieldhouse would significantly contribute to the city's hosting capacity and allow Calgary to compete with other cities to host large national and international track and field events, drive repeat visits and activate the Fieldhouse year-round.

HOSTING REQUIREMENTS

Track and field amenity space designed according to World Athletics will allow the Fieldhouse to be designated a 'Competition Category 1 for Indoor Athletics' and achieve 'World-Class' status. This will extend hosting eligibility to Athletics Canada and U Sports competitions and events, attracting high performance training groups and provincial, national and international competitions.

Examples of indoor track and field events that could be accommodated by the proposed Track and Field amenity include:

- Sprints: 60m, 200m, 400m
- Middle distance: 800m, 1500m, Mile
- Hurdles: 60m hurdles, 60m hurdles with 5 barriers, 4x200m relay with hurdles
- Jumps: long jump, triple jump, high jump, pole vault
- Throws: shot put, weight throw, and sometimes the standing long jump.

HOSTING OPPORTUNITIES

Indoor track and field events are held at local, regional, national, and international levels. Indoor track and field events are popular among athletes and spectators, they provide an exciting and fast-paced atmosphere and often feature close finishes and produce world records.

The following is a non-exhaustive list of potential sport tourism hosting opportunities for the indoor track amenity. Events range from large international and national events to smaller local and community events. Each event offers an economic impact and sport tourism opportunity.

NATIONAL & INTERNATIONAL EVENTS	PROVINCIAL & LOCAL EVENTS
National Indoor Track and Field Championships	U Sport Indoor Track & Field Meets (Invitational, Provincial, Western)
Masters Indoor Track and Field Championships	High School Athletic Indoor Track and Field Meets
U Sports Track & Field Championships	Athletics Alberta Indoor Track and Field Meets
FISU World University Games	Track Clubs
Special Olympics	Athletics Alberta Provincial Championships
Commonwealth Games (Training/Warm-up)	Alberta Indoor Games
Canada Games, Western Canada Games	Indoor Open
Indigenous Games	Indoor Invitational
World Indoor Athletics Championships (Tours, Combined Events, Senior, U18, etc.)	Last Chance Indoor Meet
World Pride Games	Mini Legends Relays
World Police & Fire Games	
World Masters Indoor Track and Field Championships	
Invictus Games	
Pan American Games	

Table 4.2: *Potential hosting opportunities for Track and Field amenity*

ECONOMIC IMPACT

An annual economic impact between **$8M** and **$33.5M** may be generated by the indoor track and field amenity depending on the number of events hosted. While international and world championship events may be hosted on a rotational basis every 10 to 15 years, smaller scale events like provincial championships and invitationals may utilize the Fieldhouse annually. Examples of international, national, and provincial estimated hosting impacts are below.

NATIONAL & INTERNATIONAL EVENTS	PARTICIPANTS	HOSTING OPPORTUNITY	ECONOMIC IMPACT PROJECTIONS
World Athletics Indoor Championships	600	Once every 10-15 Years	$9,126,134
World Masters Athletics Indoor Championships	4,000	Once every 10-15 Years	$20,042,360
Canadian Indoor Track & Field Championships	450+	Once every 3-6 Years	$2,000,000
Canadian U Sports Track & Field Championships	100	Once every 3-6 Years	$1,119,091
Athletics Alberta Provincial Championships	1,200	Annual	$523,244
Alberta Indoor Games	1,100	Annual	$337,371
Indoor Open	500	Annual	$66,947
Indoor Invitational	500	Annual	$50,940
Last Chance Indoor Meet	800	Annual	$220,673
Mini Legends Relays	400	Annual	$2,620
High Projection (annual)	**9,650**		**$33,489,380**

Table 4.3: *Economic impact summary of Track and Field amenity*

Case Study:
2018 World Athletics Indoor Championships, Birmingham, UK

The World Athletics Indoor Championships represents 160 nations and attracts thousands of competitors, officials, spectators, and media offering significant spending power. While sport infrastructure is put to good use, the event also provides a significant boost to the local economy, promotes active lifestyles, drives sport tourism, celebrates local culture, creates a legacy of sport volunteering, and brings the community together.

EVENT HIGHLIGHTS

- Total of **19,613** spectator admissions with **79%** recognized as out-of-town spectators.
- **58%** of all out-of-town spectators stayed in commercial accommodation for an average of three nights.
- Accommodation spend generated from out-of-town spectators was **$801,446.**
- Non-accommodation spend generated from spectators was **$945,346.**
- Average daily spend of out-of-town spectators was **$149.**
- **73%** of spectators said that due to attending the World Championships, they were more likely to return to visit the City of Birmingham in the next two years.
- **90%** of locals agreed that hosting the World Championships had a positive impact on the host city's community.
- Broadcast coverage of the World Athletics Indoor Championships now reaches almost 200 countries with a cumulative average audience of over **133 million** recorded for Birmingham viewership statistics.
- The legacy of the event was positioning Birmingham, UK to host a successful Commonwealth Games in 2022. The Indoor Championships added credibility to Birmingham's hosting ability and showcased the city as a world-class event hosting destination.

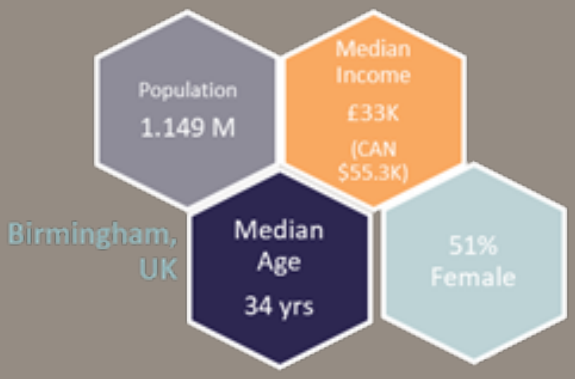


Figure 4.3: *City of Birmingham Demographics*

SPEND	IMPACT
Spectator Spend	$1,744,418
Official Event Attendee Spend	$4,183,721
Total Direct Economic Impact	$5,928,139
Total Economic Impact (2018)	**$7,126,134**

Table 4.4: *Economic impact summary of 2018 World Athletics Indoor Championships*

GYMNASIA

Indoor, clustered court facility space is highly limited in Canada, creating a valuable opportunity for Calgary to act as a leading host destination. Calgary has successfully hosted international badminton events and it is anticipated there will be further growth in the sport. With the addition of the Fieldhouse, there is an opportunity to attract more badminton, basketball and volleyball competitions to Calgary.

HOSTING REQUIREMENTS

Gymnasia designed according to the facility standards of the FIBA, FIVB and BWF will allow the facility to be designated a Level 1 Competition Space and meet certification standards.

FIBA	FIVB	BWF
• eight courts • equipment & venue centre standards • seating capacity range: 3,000 – 8,000	• 12 courts • floor surface specifications • equipment standards • seating capacity varies by competition level (5,000 of international events)	• highest level competition requires 20 courts (eight play, eight practice and four warm-up) • floor surface specifications

Table 4.5: *International hosting requirements for FIBA, FIVB and BWF*

In addition to basketball, volleyball, and badminton events, the courts could host a range of multisport opportunities including wheelchair sports, ball hockey, pickleball, padel, futsal, handball, judo, karate, taekwondo, fencing, dodgeball, baton, powerlifting, wrestling, fencing, rhythmic gymnastics, cheerleading and more.

HOSTING OPPORTUNITIES

Below is a non-exhaustive list of potential sport tourism hosting opportunities for basketball, volleyball and badminton. The list includes large international and national events and smaller provincial and local events.

INTERNATIONAL EVENTS	NATIONAL & PROVINCIAL EVENTS
FIBA Intercontinental Cup	Basketball Canada National Championships
FIBA World Cup	Basketball Canada Senior Championships
FIBA Americas Qualifiers	Basketball Canada 3x3 Championships
FIBA U19, U17, U15 Skills Challenges	Basketball Canada U23, U19, U18, U17, U16 Championships
FIBA Olympic Qualifier Tournament	Volleyball Canada National Championships
FIBA 3x3	Volleyball Canada Senior (Open/Masters)
FIVB World Championship, Club Championships	Volleyball Canada 18U, 17U, 16U, 15U, 14U Championships, West, East
FIVB Challenger Cup	Canadian Collegiate Athletic Association Championships
FIVB World Grand Prix	U Sports Championships
FIVB U23, U21, U20, U19, U18 Championship Open	Badminton National Championships
BMF World Championships	Provincial Champion–hips - Basketball, Volleyball, Badminton
BMF International Series	Canada Winter Games
BMW World Junior, Senior Series, Challenges	Wheelchair and Parasports
BMF World Tours	

Table 4.6: *Potential major hosting opportunities for Gymnasia amenities*

ECONOMIC IMPACT

An annual economic impact between **$10M** and **$25M** may be generated depending on the number of events hosted. Major world and international championships may be hosted on an eight to 10-year rotational basis, national events may be hosted once every five to eight years, and many provincial and community events are annual. Examples of large and small event hosting impacts are below.

NATIONAL & INTERNATIONAL EVENTS	PARTICIPANTS	HOSTING OPPORTUNITY	ESTIMATED ECONOMIC IMPACT
Canada Basketball National Championships (U15/17)	400	Annual (Age Groups)	$2,384,136
FIBA Basketball Champions League Americas	250	Once every 8-10 Years	$2,492,338
Volleyball Canada National Championship	5,000+	Once every 5-8 Years	$13,213,627
FIVB Nations League Cup	250	Once every 8-10 Years	$2,110,361
Volleyball Pan Am Cup	250	Once every 8-10 Years	$1,500,000
YONEX Badminton Canada Open Super 100	260	Once every 1-3 Years	$1,100,000
Canadian Masters Badminton Championships	250	Once every 5-8 Years	$765,000
Canadian Powerlifting & Bench Press Championships	100+	Once every 5-8 Years	$500,000
Provincial Championships	115	Annual	$200,000
Provincial Invitationals	250+	Annual	$650,000
High Projection (annual)	**6,875**		**$24,915,462**

Table 4.7: *Economic impact summary of Gymnasia amenities*

Case Study:
14U Volleyball Canada National Championships, West

The Volleyball Canada National Championships are open format, inviting teams from across Canada. The 14U West Championships welcome approximately 110 teams and require 10 to 15 volleyball courts. The total economic impact for this event is below.

EVENT HIGHLIGHTS

- Total of 1,000 athletes and coaches and an additional 1,500 spectators from across the country are expected to attend each event (based on minimum of 80 teams participating)
- 70% recognized as out-of-town spectators
- 63% of all out-of-town spectators stayed in commercial accommodation for an average of three nights
- An estimated 1,700 room nights booked at local hotels
- Average daily spend of out-of-town spectators is $152
- Opportunity to host event for two consecutive years
- Single venue to accommodate 80 teams with use of 10-15 courts is required.

2022 EVENTS	HOST COMMUNITY
14U Nationals	Ottawa, ON – Carleton University
14UG Nationals	Richmond, BC – Richmond Oval
14UB Nationals	Burnaby, BC – Harry Jerome Sports Centre

Table 4.8: *Volleyball National Championships Host Communities*

ARTIFICIAL TURF FIELD

HOSTING REQUIREMENTS

The artificial turf field amenity should meet the facility standards of Soccer Canada, with field guidance from FIFA for dimensions and turf quality. As one full-sized pitch is inadequate for hosting a major national or international championship event, recreational field sport tournaments and league play will form the bulk of sport tourism opportunities for this amenity. The field must be divisible to allow for multi-use and multi-level game play. Indoor soccer leagues, rugby sevens, field hockey, field lacrosse, cricket, quidditch, and other indoor field sports can yield a high prime-time utilization rate.

Unlike other sports, turf is especially important for soccer and FIFA, the leader in soccer regulations has specific sports turf regulations. To ensure that artificial turf provides the playing qualities of good quality natural grass, FIFA developed the FIFA Quality Program for Football Turf. Fields that meet the Quality Standards are certified by FIFA Quality or FIFA Quality Pro.

Pitch characteristics found optimal by FIFA are international regulation size, FIFA Grade A Turf. With a high-grade turf, potential indoor hosting opportunities include Rugby Sevens, Major League Soccer Tier II friendlies, and Canadian Premier League Soccer friendlies.

ECONOMIC IMPACT

An annual economic impact between **$2M and $5.1M** may be generated based on hosting 10 to 25 field-based tournaments per year, respectively. Flexible seating capacities for different levels of competition should be accommodated (i.e., minimum of 500 seats expandable to 3,000).

Case Study:
Artificial Turf Field

EVENT HIGHLIGHTS

- National level tournament (multi-regional)
- Tournament takes place over 2.5 days
- 20 teams per tournament with 20 players/coaches per team (50% are out of town teams)
- Total athletes: 400
- Average of 1.5 spectators per athlete (50% are out-of-town spectators)
- Total spectators: 600
- Average 2-night stay in hotels

SPEND	IMPACT
Direct Impact	$182,949
Indirect Impact	$20,293
Total Economic Impact	**$203,242**

Table 4.9: *Economic impact summary of U12 national-level soccer tournament*

5.0 Baseline Amenity Mix

The Amenity Mix (Table 5.1) sets out the accommodations within each of the core amenities and the required supporting infrastructure and spectator seating capacities for tournaments.

AMENITY	ACCOMMODATES	REQUIRED SUPPORTING INFRASTRUCTURE	SPECTATOR SEATING CAPACITIES
Track and Field	200-metre Track, 130-metre long sprint lanes (100-metre sprint, 110-metre hurdles and safety runoff)	Universal Change Rooms, Showers, Universal Change Stalls, Storage, Spectator Seating, First Aid, Multipurpose Rooms	+/- 1,000 Permanent seats with option and space planning to support up to +/- 5,000 for elite level competition
Gymnasia	Feature Court, Individual Courts, Multi-Activity Courts	Team Rooms, Universal Change Room, Operations Desk	Feature court with +/- 3,000 retractable seats. Other informal seating and spectating likely from elevated concourse
Artificial Turf	Artificial Turf	Team Rooms, Referee Rooms, Storage, Spectator Seating, Washrooms (Barrier Free)	+/- 500 Permanent seats with further studies required to determine expansion opportunities/ targets to support tournament hosting

Table 5.1: *Baseline Amenity Mix*

The proposed Amenity Mix is based on the guiding principles of maximizing programming opportunities, operational efficiency, competition capability and flexibility. It addresses requirements within Calgary's sporting environment identified through targeted engagement with sports organizations and sector influencers (e.g., Tourism Calgary).

MAXIMIZING PROGRAMMING OPPORTUNITIES

The Amenity Mix seeks to maximize facility use through flexible, modular design. This allows amenities to operate independently for simultaneous use.

OPERATIONAL EFFICIENCY

Operational efficiency will be achieved through flexible space configurations that maximize programming opportunities and revenue potential. The Amenity Mix seeks to maximize social and economic benefits while minimizing required tax support.

COMPETITION CAPABILITY

Core amenities will meet competition-hosting requirements as set out by various sport governing organizations including World Athletics, FIFA, FIBA, BWF, and FIVB. Flexible design will allow for convertible spaces for a variety of competitions and events. A competition-capable facility also considers control and access restrictions within a large singular event concept.

FLEXIBILITY

Multi-use is increasingly a fundamental requirement to meet the demands of different sports. Amenities and spaces should be organized to allow for multiple configurations while ensuring that sports can be practiced safely and according to the requirements and standards of each sport. This will also ensure the facility can adapt to emerging uses and remains relevant over time.

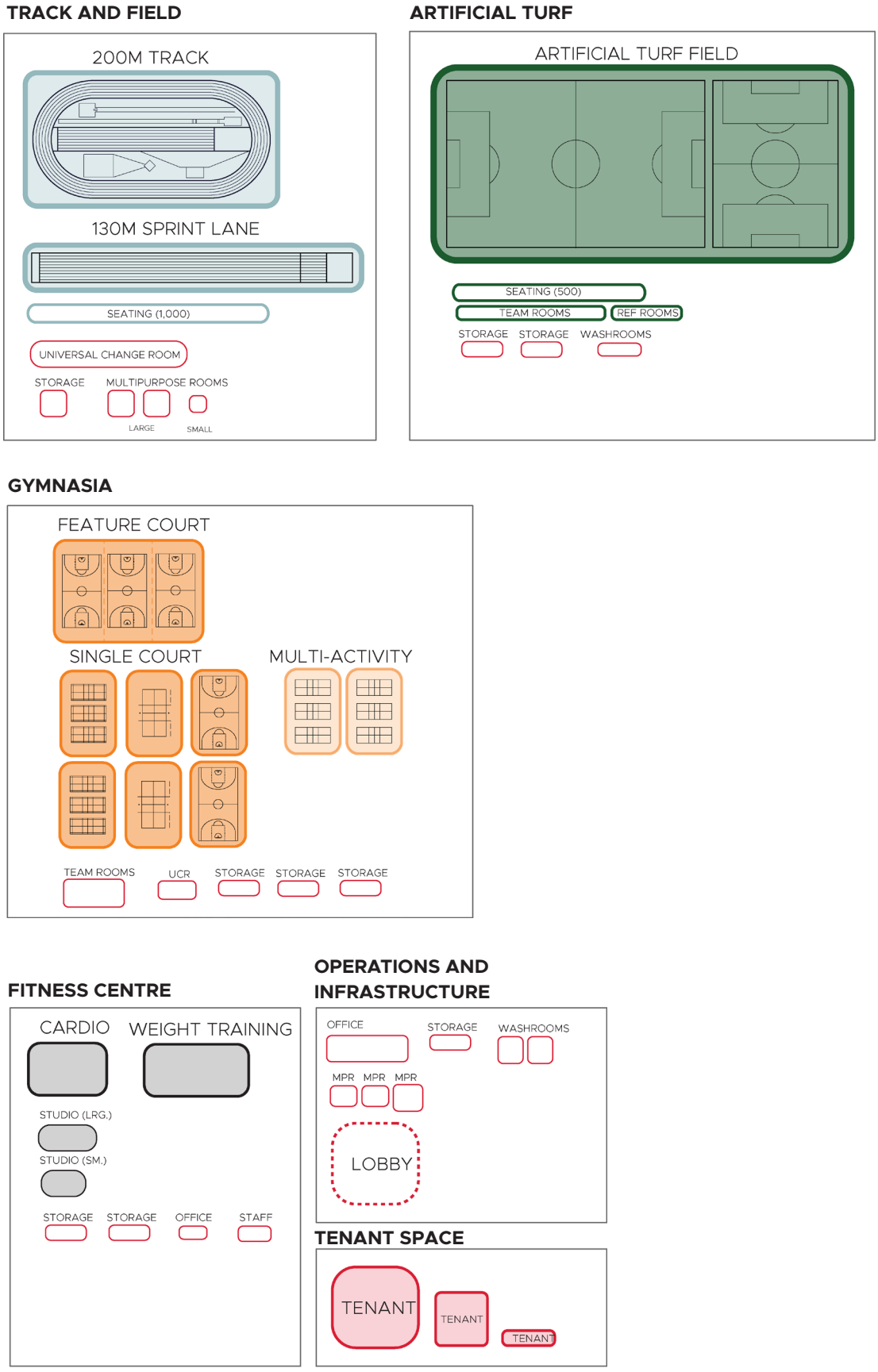


Figure 5.1: *Baseline amenity mix – Visual Representation*

Amenity Refinement

The Study's research methodology and engagement approach sought to ensure the Amenity Mix reflects the needs of sport and community, aligns with requirements for hosting competitions and events and advances the project goals of equity, affordability and long-term sustainability. The Study evaluated each amenity to optimize day-to-day uses and provide flexibility to scale up to competition and events.

CORE AMENITY	AMENITY	SPECIFICATIONS
Track and Field	200m Indoor Track and Field Amenity, meeting World Athletics standards	World Athletics Standards for Indoor Track and Field events
Gymnasia	Feature Gym and 6 individual courts	11 Basketball OR 20 Volleyball OR 36 Badminton/Pickleball (or variations thereof) Numerous other emerging sports can be accommodated in multi-activity courts spaces.
	2 Multi-activity courts supplementary to court program	
Artificial Turf Field	Separate multi-use turf field (74m x 160m)	FIFA regulation soccer field (68m x 105m) and additional flexible turf area
SUPPORTING AMENITIES		
Fitness	Fitness space	Cardio, weight training, multipurpose rooms
Community Components	Investigation and further community engagement will be required to assess community needs. There is a current program allowance for flexible spaces.	

Table 5.2: *2023 program proposal and description*

To provide baseline information to support the site test-fit (Section 7) and future conceptual design exercise, the table below quantifies area requirements based on the above-noted functional requirements. Core amenity spatial requirements are derived from sporting standards and sizes, as outlined in best practices. Supporting amenity area requirements are based on a combination of best practice analysis (e.g., fitness centre) and industry standard area allowances (mechanical and typical circulation estimates).

CORE AMENITIES	SQUARE METRES	SQUARE FEET
Indoor 200m Track And Field	8,600	92,569
Gymnasia	9,829	105,800
Artificial Turf Field	13,028	140,234
Subtotal	*31,457*	*338,603*
SUPPORTING AMENITIES	**SQUARE METRES**	**SQUARE FEET**
Supporting Amenities	2,690	28,957
Ancillary Space	8,078	95,170
Subtotal	*10,768*	*124,127*
Total	**42,225**	**462,730**

Table 5.3 *Functional Program area requirements*

Analysis of each core amenity, key supporting amenities and ancillary space provides further details on the above-noted areas.

TRACK AND FIELD

The track and field amenity includes a 200-metre hydraulic track with a separate 130-metre, ten-lane sprint track. A 200-metre track adheres to World Athletics standards for competitions and events. The separation of the 200-metre track and sprint track allows the amenities to operate independently and concurrently while also creating a warm-up/cool-down area for competitions and events. The hydraulic track provides programming flexibility for other sports (e.g., gymnastics) when tracks are not in use.

Included is permanent spectator seating for 1,000, expandable to 5,000. This seating capacity qualifies the facility to host World Athletics Track and Field events as a Competition Category 1 facility for indoor athletics. Supporting amenities (i.e., meeting, multi-purpose, first aid, change and storage rooms) ensure the facility is flexible to different use scenarios to maximize economic returns for competition, events and daily use.

PROGRAM	SQUARE METRES	SQUARE FEET
1.1 Indoor Track 200m track and field amenity, meeting world athletics standards	5,717	61,535
1.2 Sprint Lanes 130m sprint lanes and buffer space (10 x 1.2m x 130m)	2,235	24,059
Subtotal	*7,952*	*85,594*
1.3 Support Spaces		
Storage	100	1,076
Spectator seating (second floor)	548	5,899
Spectator seating (expandable to 5,000)	1,677	18,046
Subtotal	*2,325*	*25,021*
Component Gross Area	**8,600**	**92,569**

Table 5.4: *Baseline program area requirements for Track and Field amenity*
Note: Expandable seating for hosting events is located over the 100m sprint lane area and is not included in total component gross area.

GYMNASIA

The gymnasia amenity includes a feature court with seating for competitions and events, convertible to three regular courts when seating is retracted. It includes six additional regular courts and two multi-activity courts. The multi-activity courts will feature durable flooring for sports not typically played on a hardwood surface (e.g., futsal, field hockey, padel, etc.). In total, up to 11 basketball courts, 20 volleyball courts, 36 badminton or 36 pickleball courts can be configured in this space, allowing Calgary to host large events and competitions while maximizing programming opportunities for Calgarians.

The feature court has spectator seating capacity up to 3,000 through the use of retractable seating, ensuring the facility's eligibility to host provincial, national and international events (see Figure 6.3). Supporting amenities include a walking/jogging track (to be used as a concourse for events), multi-purpose rooms, meeting rooms, a first-aid room, change rooms (universal) and storage.

PROGRAM	AREA/UNIT	UNITS	SQUARE METRES	SQUARE FEET
2.1 Gymnasia				
Feature court convertible to 3 single courts (3,000 seat capacity)	2,200.0	1	2,220	23,896
Single court (regular)	680.0	3	2,040	21,958
Single court (elongated)	945.0	3	2,835	30,516
Multi-activity court	812.5	2	1,625	17,491
Subtotal			*8,720*	*93,861*
2.2 Support Spaces				
Team and Ref Room Spaces	380	2	760	8,181
Storage			349	3,758
Subtotal			*1,109*	*11,939*
Component Gross Area			**9,829**	**105,800**

Table 5.5: *Baseline program for Gymnasia amenity*

ARTIFICIAL TURF FIELD

The recommended artificial turf field is 1.5 times larger than the FIFA standard to maximize field divisibility and programming flexibility. The larger field size will accommodate other sports (e.g., football, rugby, etc.) and will create a warm-up/cool-down area for competitions and games.

A flexible turf program will maximize daily use and revenues through bookings. The amenity will include permanent spectator seating for 500 with room for additional temporary seating for tournaments. Seating is configured based on the maximum field division of up to 12 youth fields (approximately 330 athletes with an average of 1.5 spectators per athlete).

Sport hosting for high-performance field sports typically occurs in an outdoor environment, however, provincial and regional competitions are expected to create high demand for this space. Supporting amenities include team and referee rooms, and storage.

PROGRAM	AREA/UNIT	UNITS	SQUARE METRES	SQUARE FEET
3.1 Artificial turf field 74m x 160m artificial turf surface (includes 68m x 105m field of play)			11,840	127,445
Subtotal			*11,840*	*127,445*
3.2 Support spaces				
Team rooms (no showers)	50	10	500	5,383
Universal change rooms (with showers)	20	4	80	861
Storage	50	2	100	1,077
Spectator seating (500)			378	4,069
Player washrooms	50	2	100	1,077
Player barrier-free washrooms	*8*	*3*	*30*	*323*
Subtotal			*1,188*	*12,790*
Component Gross Area			**13,028**	**140,234**

Table 5.6: *Baseline program for Artificial turf amenity*

SUPPORTING AMENITIES

Supporting infrastructure will promote community use and support the athletics program. A fitness center with weights, cardio and movement studios will serve the community and maximize daily utilization. Supporting amenities include storage and tenant spaces.

PROGRAM	AREA/UNIT	UNITS	SQUARE METRES	SQUARE FEET
4.1. Supporting Amenities				
Fitness			1,680	18,086
Tenant 01			830	8,937
Tenant 02			180	1,934
Subtotal			*2,690*	*28,957*
Component Gross Area			**2,690**	**28,957**

Table 5.7: *Baseline program for Supporting amenities*

ANCILLARY SPACE

Spatial requirements and locations for common areas and support spaces are based on building and programming capacity for both daily use and competition and event hosting. For example, competitions and events may require meeting rooms, officials' rooms, first aid and medical stations, doping control rooms, hospitality, media center and press offices, etc. Centrally locating these amenities supports competitions throughout the facility. These flexible spaces can also be utilized by the community for recreational, cultural and social activities and events.

PROGRAM		SQUARE METRES	SQUARE FEET
5.1 Administration			
Training Offices		351	3,773
Multipurpose/Public Interfacing space		399	4,300
Subtotal		*750*	*8,073*
5.2 Shared Supporting Amenities			
Universal Change Rooms		996	10,717
Subtotal		*996*	*10,717*
5.3 Lobby And Common Area			
Circulation	L01	3,605	38,801
Circulation	L02	2,728	29,359
Subtotal		*6,332*	*76,380*
Component Gross Area		**8,078**	**95,170**

Table 5.8: *Baseline program for ancillary space*

6.0 Core Amenity Flexibility

Flexibility is key to the operational success of a community facility with tournament capability. This section provides an overview of flexible design considerations for each core amenity with a focus on (1) spatial characteristics and (2) seating capacities. Table 6.1 is an overview of design considerations to meet the flexibility objectives for each building component.

BUILDING COMPONENT	FLEXIBILITY OBJECTIVES	DESIGN CONSIDERATIONS
Facility	Efficient daily operations with scalability for regional, provincial, national or international tournaments and events.	Ensure sufficient multi-purpose rooms and flex space to support regular programming and tournament functions (e.g., tournament centre, first aid, doping control, etc.). Meet spectator requirements for events through permanent or temporary seating.
Gymnasia Amenity	Host multiple sports with minimal changeover between configurations.	Ensure spaces are designed to host multiple sports (e.g., court sizing, divisibility, etc.). Future design exercise will address line markings and specific accommodations for multi-use.
	Host tournaments.	Provide team rooms, spectator spaces, and flex space to support tournaments. Provide sufficient loading and back of house space for staging and tournament setup/take-down.
	Host single games with spectators in feature court space.	Provide feature court configuration with retractable seating of +/-3,000 capacity.
Track and Field Amenity	Operate as community and training facility with ability to transition to competition venue	Consider additional lane space, footprints for temporary seating, and adaptable use of the infield.
	Host varying levels of competition	Hydraulic track provides flexibility for different levels of training and competition.
	Explore uses for infield area to supplement track and field use	Test-fit for events that can utilize temporary flooring (e.g., matted events, sport-floor solutions, etc.)
	Provide additional support for other sports' training programs	Provide separate sprint lanes that can be used independently of the track component
	Host multiple sports with minimal changeover between configurations.	Test-fit turf size for optimal programming. Consider sub-division of field to increase operational flexibility.
Artificial Turf Field Amenity	Host minor local and regional tournaments	Provide team rooms, spectator spaces, and flex space to support tournaments. Provide sufficient loading and back of house space for staging and tournament setup/take-down.
Seating and Spectator Capacities	Ensure facility can function for regular operations and smaller events.	Ensure permanent spectator capacity is sufficient for local and regional events.
	Provide flexible solutions for retractable and/or temporary seating to facilitate larger and higher-level events.	Provide retractable seating where appropriate and flexible solutions as larger events dictate. Ensure relevant bid-to-host requirements are reflected in the design solution.

Table 6.1: *Baseline program for Supporting amenities*

Flexibility Considerations – Track and Field

While the Track and Field amenity is a more specialized space, due to the infrastructure requirements of the amenity, a hydraulic track provides flexibility for other uses and acts as supplementary space for court sport tournaments. An independent sprint lane configuration (130m) supports track events such as the 100m sprint and 110m hurdles and provides additional space for training, warm-up and cool-down. The advantages of a separate sprint track include:

- Programmatic flexibility (independent, concurrent use)
- Space to accommodate additional temporary seating when sprint lane not in use
- Designated warm-up/cool-down area for elite-level competitions

Separating the sprint track maximizes use for dryland training, cross training and personal training. The space occupied by the sprint lanes could also provide a footprint for temporary seating for major events.

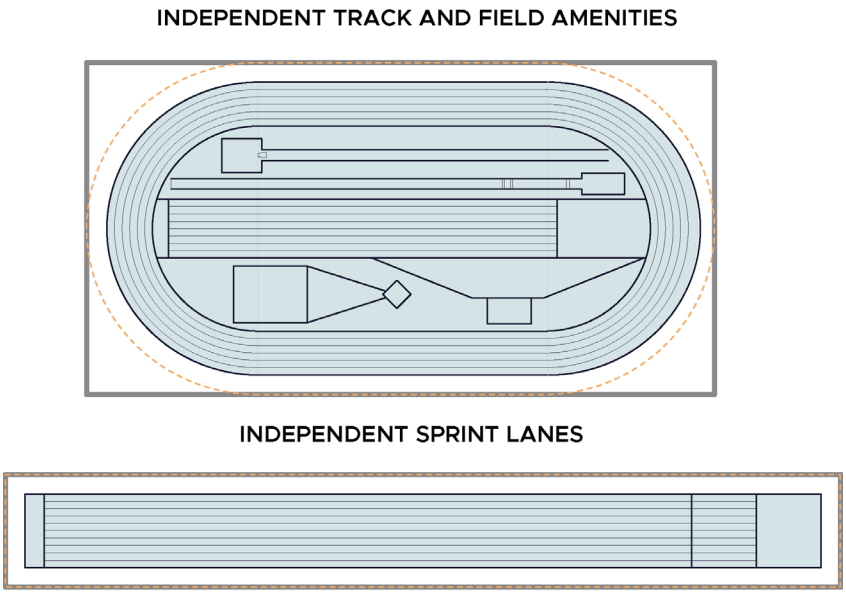


Figure 6.1: *Track and Field Amenity core athletic components*

TOURNAMENT HOSTING – TRACK AND FIELD

A key component of the Track and Field amenity is the ability to host tournaments up to world-level, with seating capacity and supporting amenities that meet the World Athletics standards. Below is an illustration of the core functionality of the proposed Track and Field amenity space for this use case, including erection of temporary spectator seating.

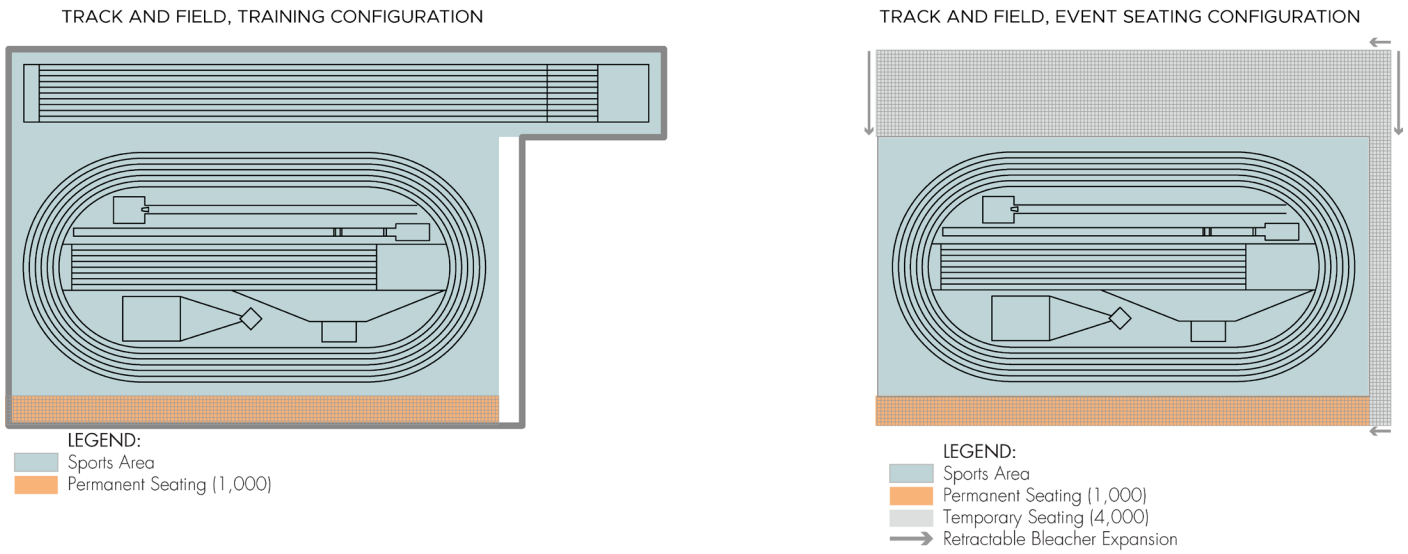
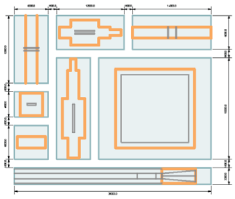
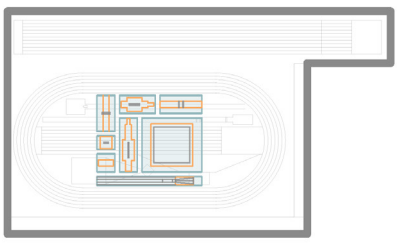


Figure 6.2: *Track and Field Amenity spatial and seating flexibility, up to 5,000 spectators*

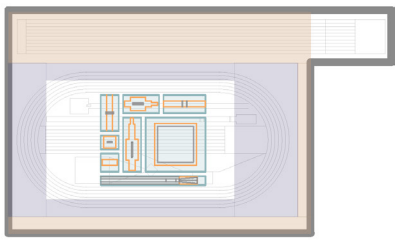
Several test-fit exercises have been completed to explore use of the track and fieldhouse amenity as a competition venue for multiple sports, including taekwondo, wrestling, karate, pickleball, badminton, basketball, volleyball and gymnastics. These events would require temporary floors, mats and/or equipment. Test-fits were completed for converting the amenity with and without spectator seating.



GYMNASTICS EVENTS
32m x 35m with raised floor mats

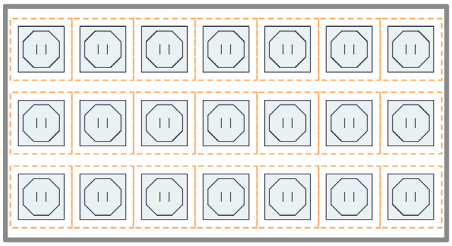


GYM AREA TRACK AND FIELD INFIELD

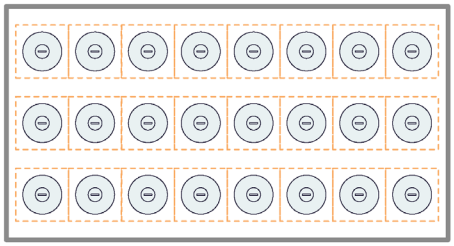


FLEXIBLE UP TO 10,000 PEOPLE

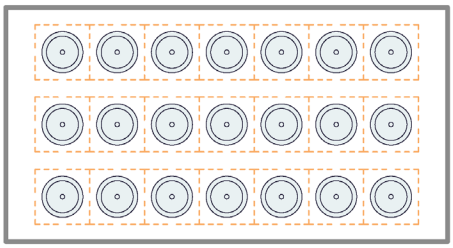
Figure 6.3: *Track and Field Amenity spatial and athletics hosting flexibility*



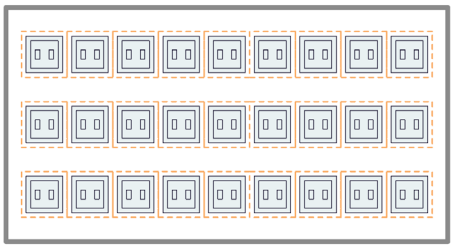
TAEKWONDO COMPETITION AREA
21 X 10m x 10m with central octagon



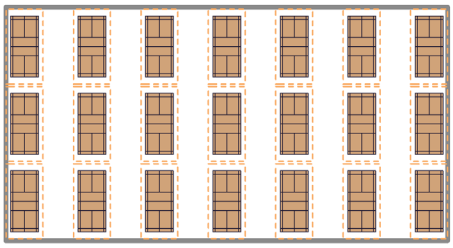
HIGH SCHOOL WRESTLING
21 X 8.53m diameter



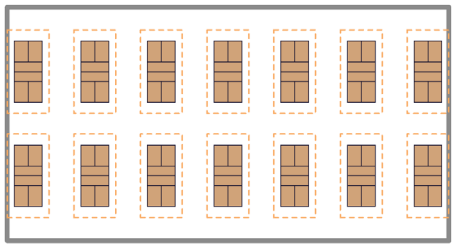
INTERNATIONAL WRESTLING
21 X 9m diameter



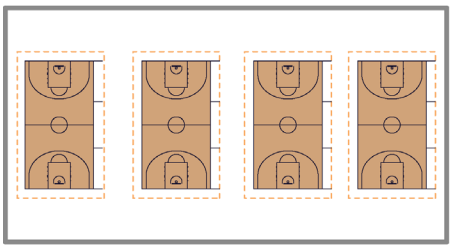
KARATE COMPETITION AREA
27 x 8m x 8m



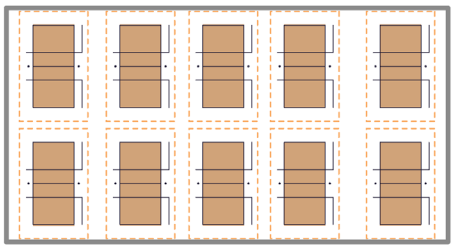
BADMINTON
21 X 13.4m x 6.1m



PICKLE BALL
14 X 13.4m x 6.1m



FIBA BASKETBALL
4 x 28m x 15m



FIVB VOLLEYBALL
10 x 9m x 18m

Figure 6.4: *Gymnasia Amenity spatial and athletics hosting flexibility*

Flexibility Considerations – Gymnasia

The feature gym can be used to host elite-level competitions, tournaments and events. Temporary seating is scalable for different sports and events based on spectator and spatial requirements. Retractable bleachers are a flexible seating option that should be further explored during design.

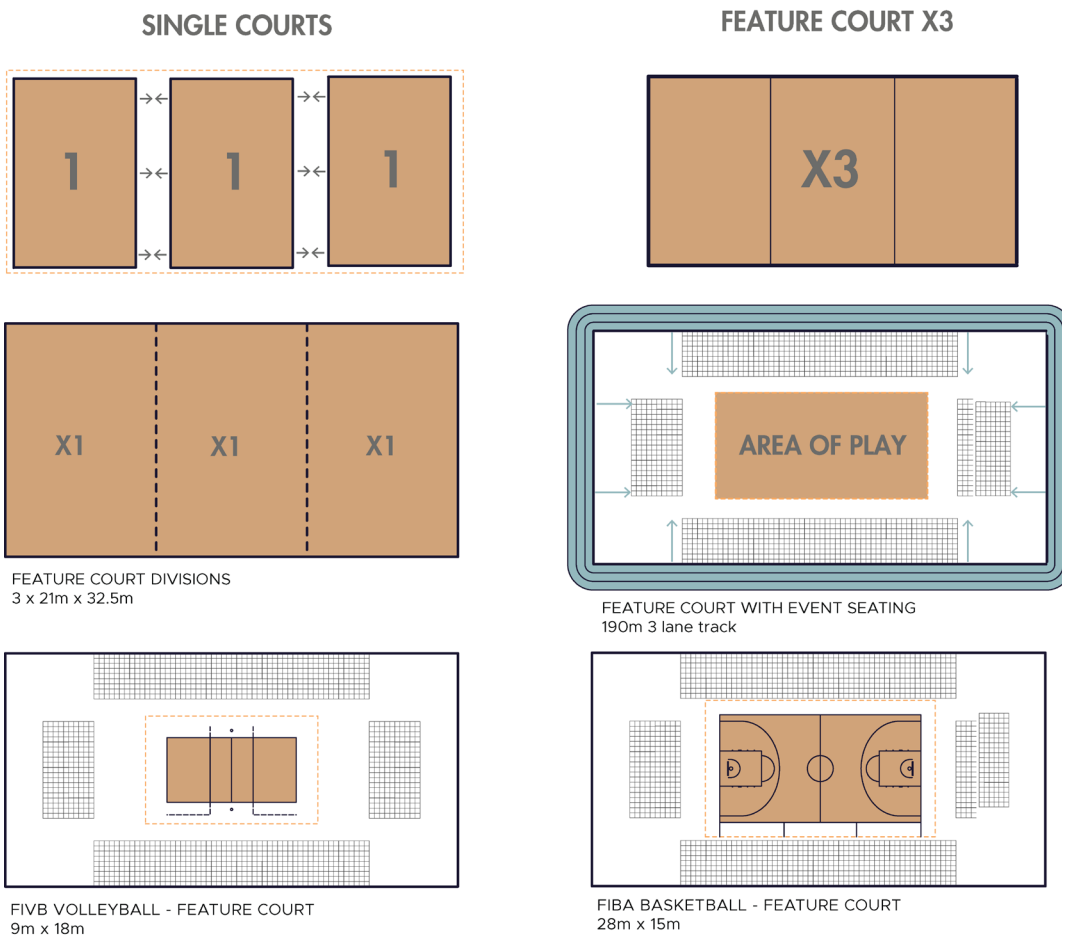
The feature court will have operational flexibility to host a variety of sports, including basketball, volleyball, badminton and many others. With the capacity to host multiple games, the facility is well positioned to attract tournaments, from local to world-class and elite level events. Supporting amenities (e.g., change rooms, storage, flex rooms, etc.) and ancillary spaces (e.g., physiotherapy and food services/concessions) also support event hosting.

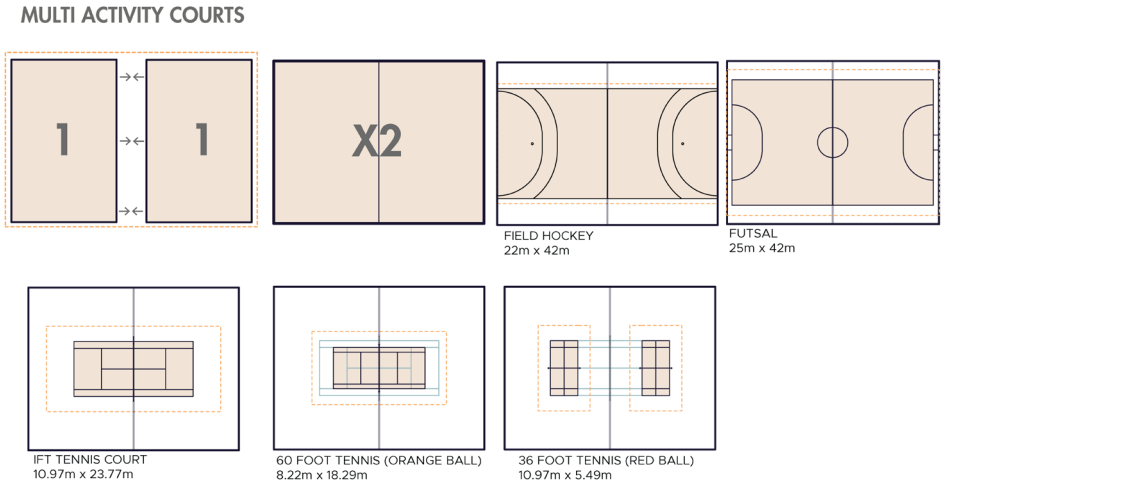
While basketball, volleyball, badminton and pickleball will be critical drivers of facility use and revenue generation, the feasibility of other court sports with a spectator requirement should be explored with the aim of maximizing use.

Note: *A review of benchmark facilities identified that users may require space beyond the typical 'safety zone' (dashed orange). This need has been accounted for in the configurations.*

The below diagrams show how different sports can be played within the amenity.

Note: *Established sports with greater demand for space will be marked on the feature court, and single courts. Further engagement through design should identify court markings for the Multi-Activity Courts (MACs).*





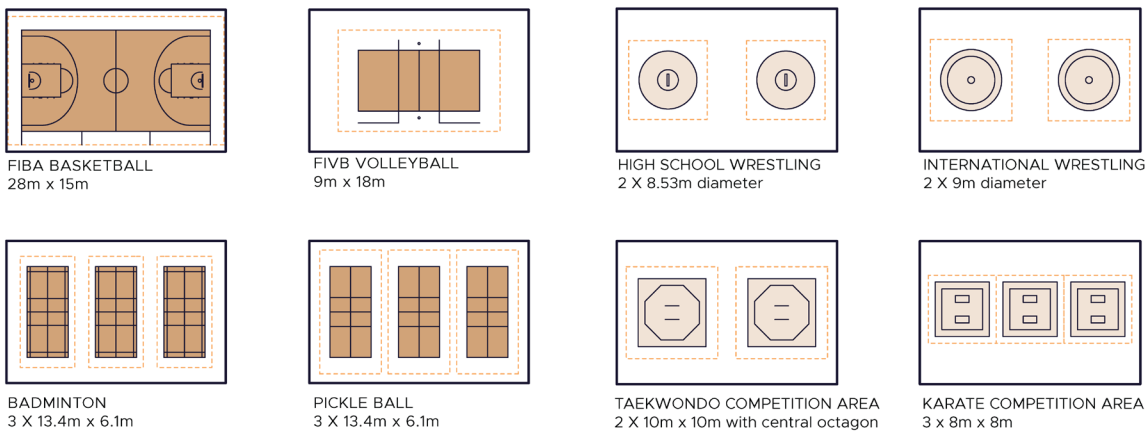


Figure 6.5: *Gymnasia Amenity spatial and athletics hosting flexibility for feature court, MACs, and single court*

BASELINE PROGRAM OPPORTUNITY – GYMNASIA

The amenity will be anchored by a few core sports: basketball, volleyball, badminton, and pickleball. The following table includes the proposed breakdown of how the amenity can host each sport. Other sport layouts will be refined in the future.

The table below calculates the maximum capacities for each core sport, if the entire gymnasia amenity were utilized exclusively for that sport. This provides context for individual sports but the intention would be to activate the amenity with multiple sports simultaneously for daily programming.

FACILITY	SPORT	COURTS	MARKINGS/COURTS	TOTAL
Feature Court	Basketball	1	3	3
Single Court (x6)	Basketball	6	1	6
Multi-Activity Court (x2)	Basketball	2	1	2
	Total Basketball			**11**
Feature Court	Volleyball	1	6	6
Single Court (x6)	Volleyball	6	2	12
Multi-Activity Court (x2)	Volleyball	2	1	2
	Total Volleyball			**20**
Feature Court	Badminton	1	12	12
Single Court (x6)	Badminton	6	3	18
Multi-Activity Court (x2)	Badminton	2	3	6
	Total Badminton			**36**
Feature Court	Pickleball	1	12	12
Single Court (x6)	Pickleball	6	3	18
Multi-Activity Court (x2)	Pickleball	2	3	6
	Total Pickleball			**36**

Table 6.2: *Gymnasia Amenity core sports provided, training configuration*

TOURNAMENT HOSTING – GYMNASIA

The same core sports identified in the Baseline Program Opportunity will be the focus of tournaments hosting. The following table includes the proposed breakdown of how the amenity can host each sport with adequate safety zones, and temporary tip and roll bleacher seating. Other sport layouts will be refined in the future.

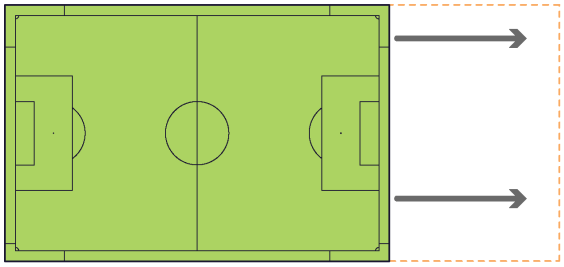
The table below calculates the maximum capacities for each sport in a tournament hosting arrangement. There are opportunities to further increase court numbers by utilizing the feature court as three single court spaces during earlier tournament stages.

FACILITY	SPORT	COURTS	MARKINGS/COURTS	TOTAL
Feature Court	Basketball - Feature Game	1	1	1
Single Court (x6)	Basketball	6	1	6
Multi-Activity Court (x2)	Basketball	2	1	2
	Total Basketball			**9**
Feature Court	Volleyball - Feature Game	1	1	1
Single Court (x6)	Volleyball	6	1	6
Multi-Activity Court (x2)	Volleyball	2	1	2
	Total Volleyball			**9**
Feature Court	Badminton - Feature Game	1	3	3
Single Court (x6)	Badminton	6	2	12
Multi-Activity Court (x2)	Badminton	2	2	4
	Total Badminton			**19**
Feature Court	Pickleball - Feature Game	1	3	3
Single Court (x6)	Pickleball	6	2	12
Multi-Activity Court (x2)	Pickleball	2	2	4
	Total Pickleball			**19**

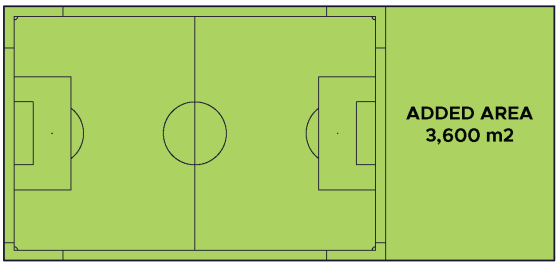
Table 6.3: *Gymnasia Amenity core sports provided, competition configuration*

Flexibility Considerations – Artificial Turf Field

The Artificial Turf Field Amenity was studied to maximize the number of sports it could facilitate and in response to a trend toward open field (non-boarded) play. The larger field size can accommodate different sports and provides various field formats used by the soccer community (Figure 4.15). It also provides an athlete warm-up and cool-down area for elite-level competitions and games.

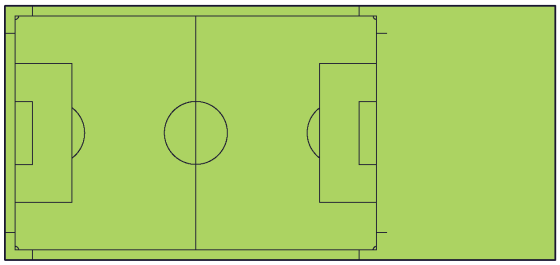


SOCCER FIELD 68m X 105m
TURF SURFACE 68m X 105m

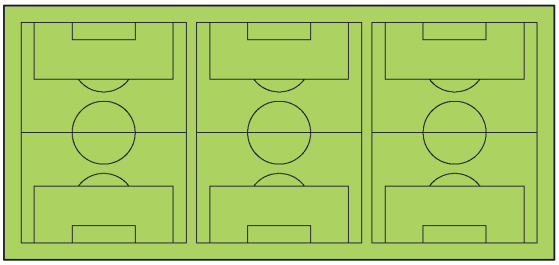


SOCCER FIELD 68m X 105m
TURF SURFACE 74m X 160m

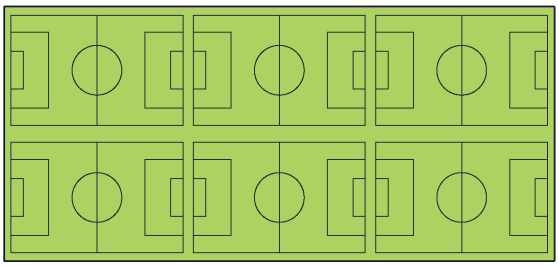
SOCCER



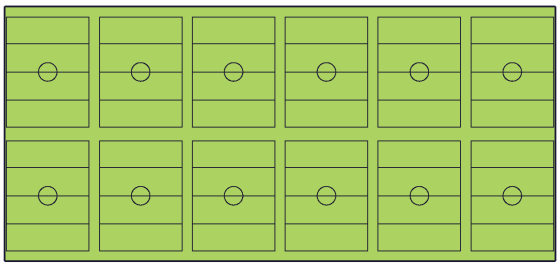
FIFA + U13-U19 (11v11)
68m x 105m



U11/U12 (9v9)
3 x 48m x 64m



U9/U10 (7v7)
6 x 32m x 50m



U6/U7/U8 (5v5)
12 x 24m x 32m

Figure 6.6: *Artificial Turf Amenity spatial and soccer flexibility*

**Under / Age Classification (U/#)*

SUPPLEMENTARY PROGRAM ANALYSIS

COMPETITION, ARTIFICIAL TURF FIELD

The larger field size supports a variety of sports, including football, ultimate (Frisbee), and field lacrosse. Field use and revenue generation potential are maximized by meeting the needs of a spectrum of sports.

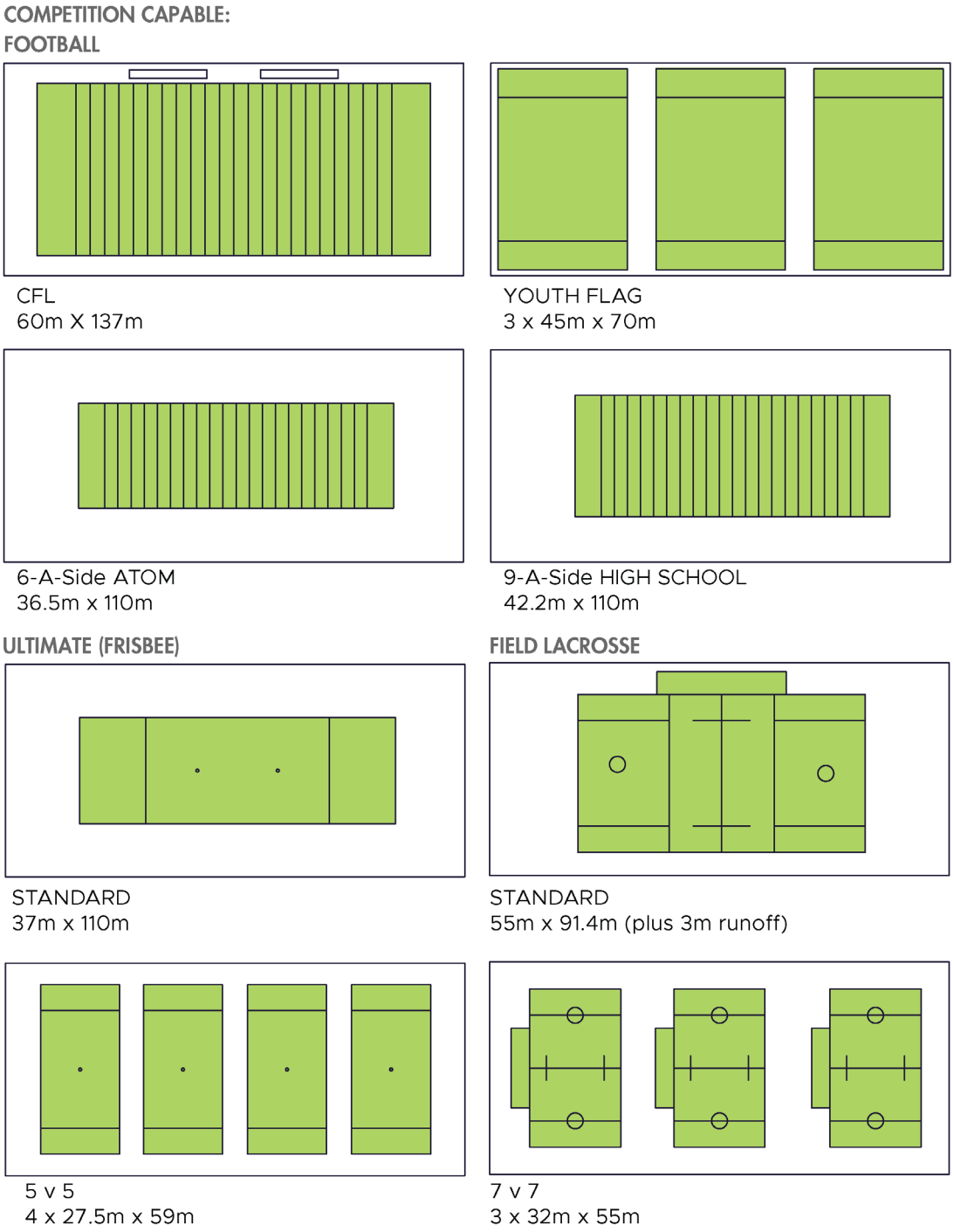


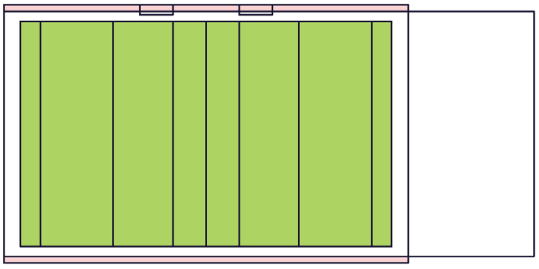
Figure 6.7: *Artificial Turf Amenity spatial and athletics hosting flexibility*

**Canadian Football League*

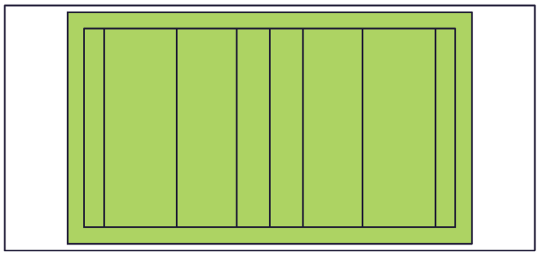
TRAINING, ARTIFICIAL TURF FIELD

The field may not meet the needs of some sports, in particular the need for runoff space and safety zones. However, the field could be a valuable training venue. Future engagement will help The City better understand user needs for refining the final field configuration.

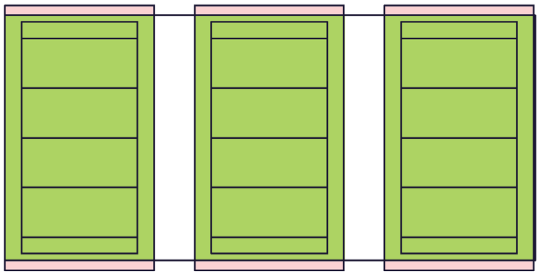
TRAINING CAPABLE:
RUGBY



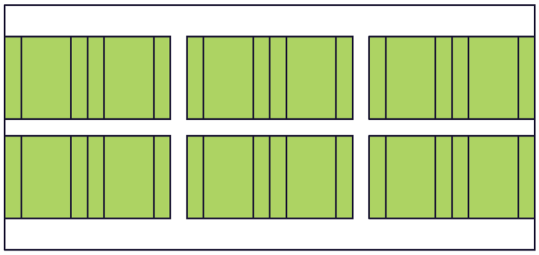
LEAGUE PLAY
68m x 112m (plus 5m runoff)



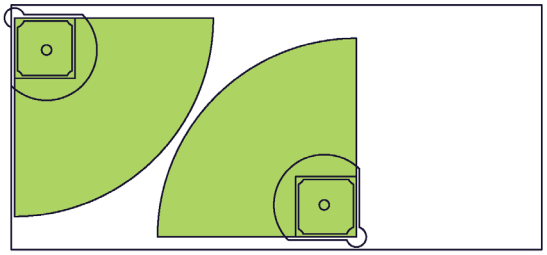
U10/U11/U12
60m x 112m



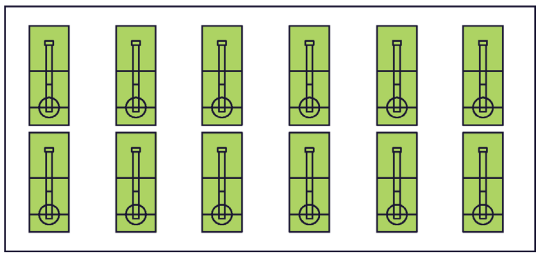
U8/U9
2 x 35m x 70m (plus 5m runoff)



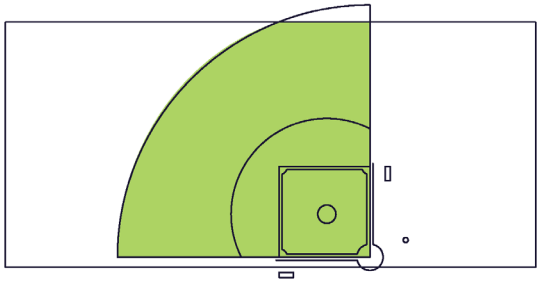
U6/U7
4 x 25m x 50m



FAST PITCH - MINIMUM
2 x 18.29m bases x 60.96m fence



INDOOR CRICKET
12 x 12m x 30m
(specialized netting required)



FAST PITCH - MAXIMUM
18.29m bases x 76.2m fence

Figure 6.8: *Artificial Turf Amenity spatial and athletic training flexibility*

TOURNAMENT HOSTING - ARTIFICIAL TURF

In contrast to the other core amenities, the artificial turf amenity is not designed specifically to host major tournaments. This is due to spatial restrictions and the use of turf space as an off-season substitute for outdoor sports. It is anticipated that local or provincial level tournaments, league finals, or festival-style sport events will be hosted successfully in the artificial turf space.

A permanent seating capacity of +/-500 spectators is provided at an upper level to support this objective.

7.0 Site Test-Fit

Conceptual layouts have been prepared to test fit the Amenity Mix within the site having consideration of the guiding principles of maximizing programming opportunities, operational efficiency, competition capability and flexibility.

Site Access and Parking

The facility is ideally situated on the northeast corner of the Foothills Athletic Park, easily accessed from Crowchild Trail and University Drive and within close proximity to transit.

Consistent with the facility's flexibility objectives, parking areas should be flexible to accommodate unique tournament requirements (e.g., team bus parking) and daily operations. Site and vehicular flow control measures (e.g., closing off certain circulation paths during events) can create added flexibility depending on the size of tournaments and associated parking requirements.

The below diagrams show a parking structure to accommodate required vehicular parking, however a shared parking arrangement with McMahon Stadium could be explored to minimize parking construction costs. The extreme peak usage of McMahon Stadium parking suggests shared parking would be an efficient use of valuable land if an agreement can be reached.

Opportunities also exist to improve vehicular and pedestrian circulation through the Foothills Athletic Park while providing additional outdoor public amenity and plaza space. A primary consideration of site test-fit is a parking allowance. Initial reporting suggests that +/-1,000 vehicular parking stalls will be required but further detailed studies will occur during concept and detailed design phases.

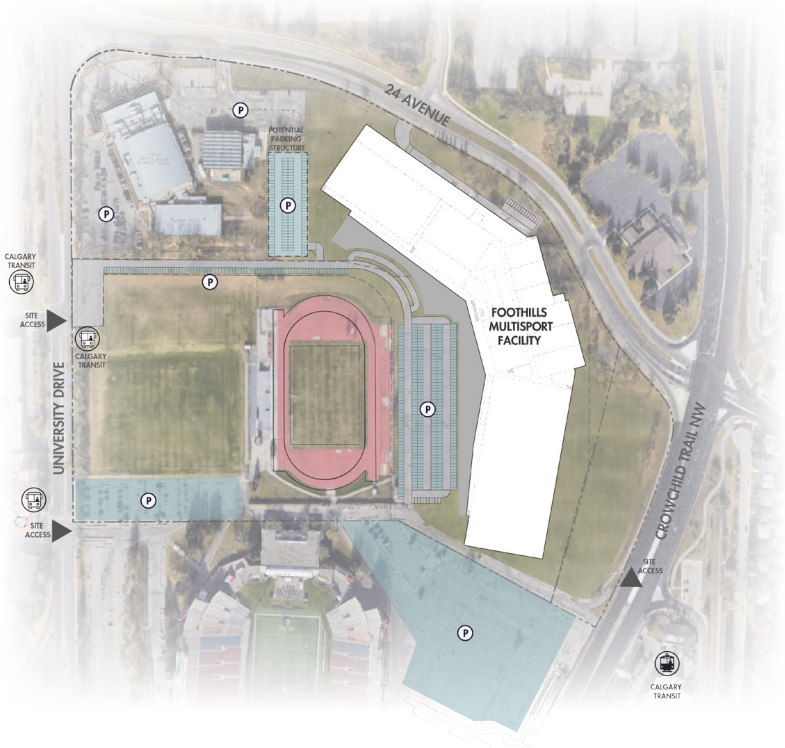


Figure 7.1: *Foothills Multisport Fieldhouse site test-fit, site access*

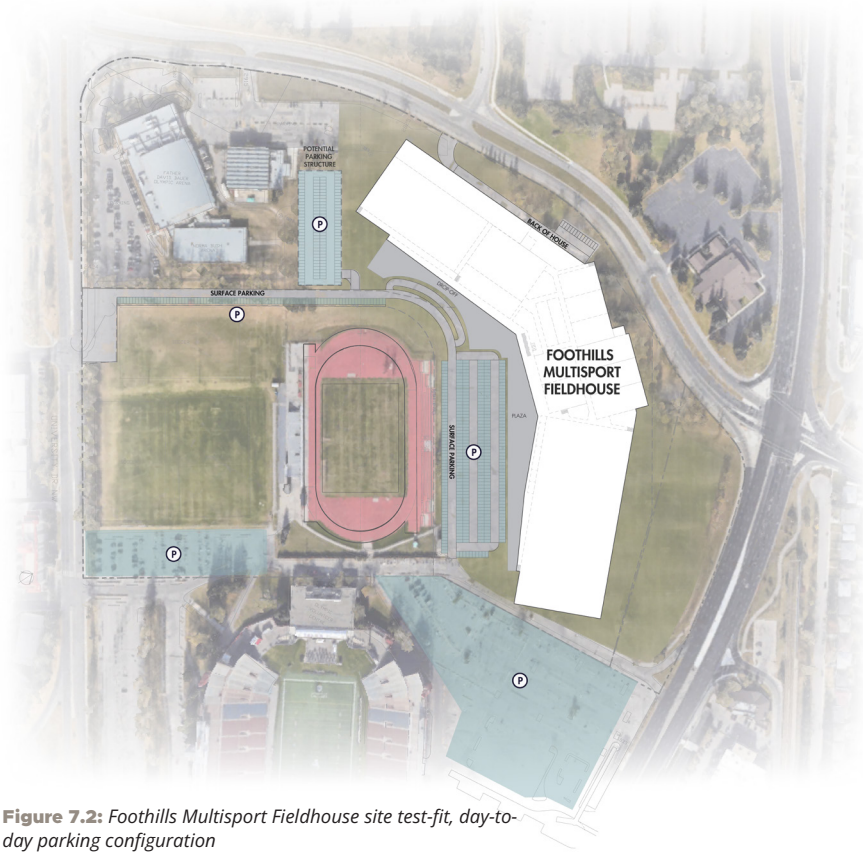


Figure 7.2: *Foothills Multisport Fieldhouse site test-fit, day-to-day parking configuration*

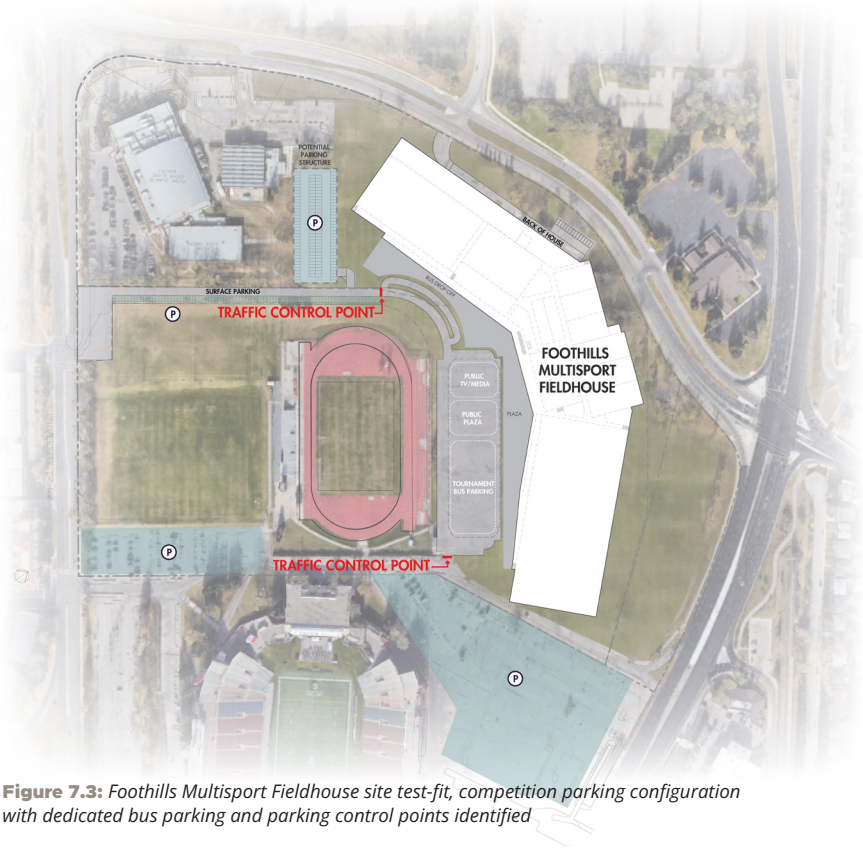


Figure 7.3: *Foothills Multisport Fieldhouse site test-fit, competition parking configuration with dedicated bus parking and parking control points identified*

Facility Test-Fit

The facility's layout is arranged such that common spaces are central and provide logical access to the various amenities. The facility is built over two floors, with the main floor housing core amenity spaces and major supporting amenities (e.g., change facilities, locker rooms, storage areas, etc.) and the upper floor housing a public concourse, spectator areas, fitness centre and tenant spaces (e.g., retail, restaurant, sports medicine).

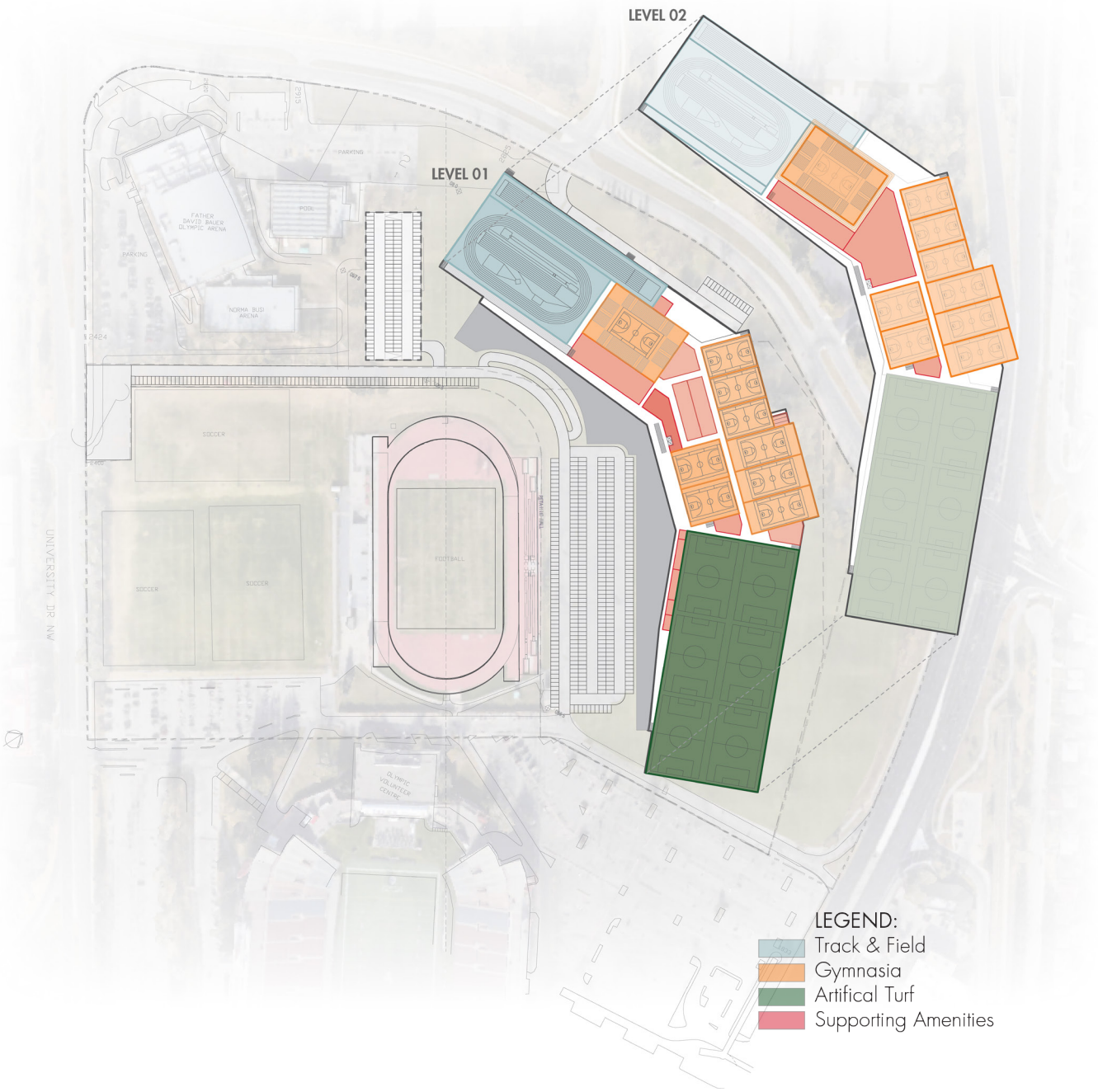


Figure 7.4: *Foothills Multisport Fieldhouse level 01, and 02 plan on site*

TRACK AND FIELD

USER EXPERIENCE

Important analysis has been performed to understand user experiences as they move through the facility. This assists in establishing operational protocols, understanding required adjacencies and developing successful conceptual design functional plans.

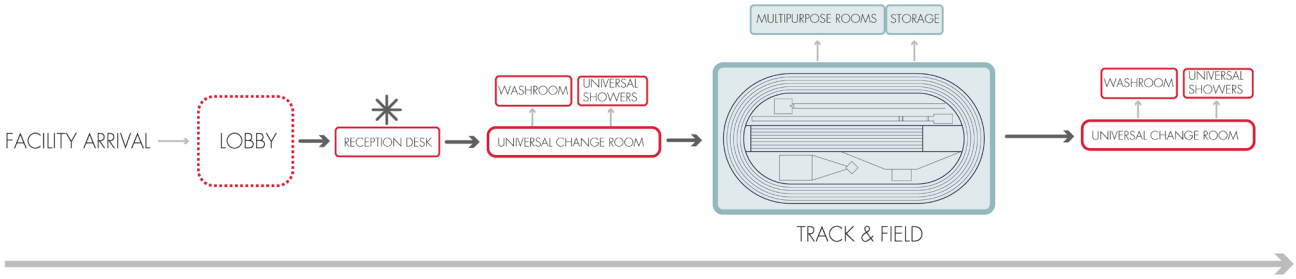
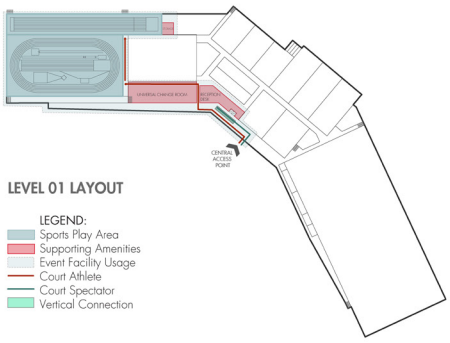


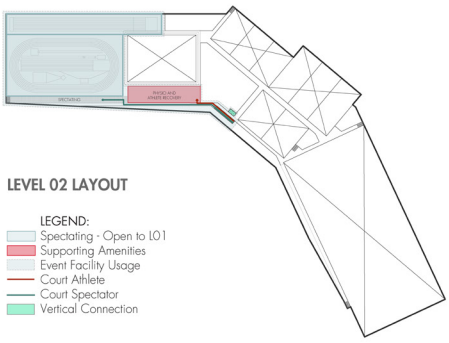
Figure 7.5: *Track and Field user experience diagram*

TOURNAMENT HOSTING

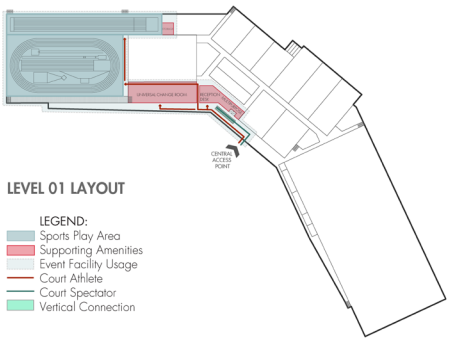
The facility can scale up from regional Track and Field events to large world-class and elite level competitions. As shown in the figures below, the Track and Field events optimize adjacent programs which are flexible to accommodate programs for athletes, spectators, and tournament specific requirements. These additional requirements may include (but are not limited to) meeting rooms, media and broadcasting, interview rooms, doping control, team rooms, medical, physiotherapy, food services, etc.

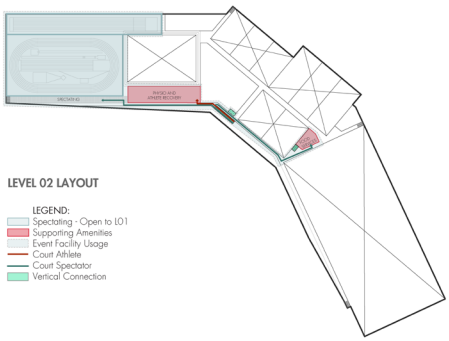
Low-Impact Competition Configuration:



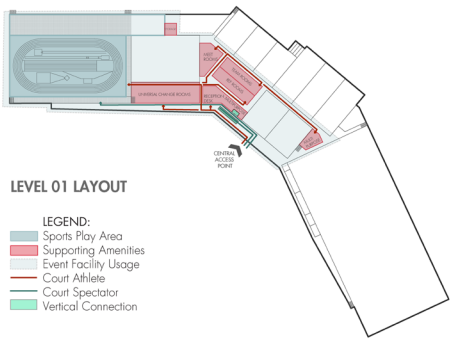


Medium-Impact Competition Configuration:





High-Impact Competition Configuration:



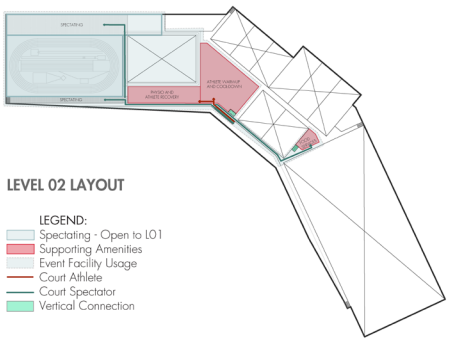


Figure 7.6: *Foothills Multisport Fieldhouse, Track and Field Amenity hosting capability*

GYMNASIA

USER EXPERIENCE

The conceptual layout considers efficient movement for users of the gymnasia with use of a control point (reception desk) to manage flows.

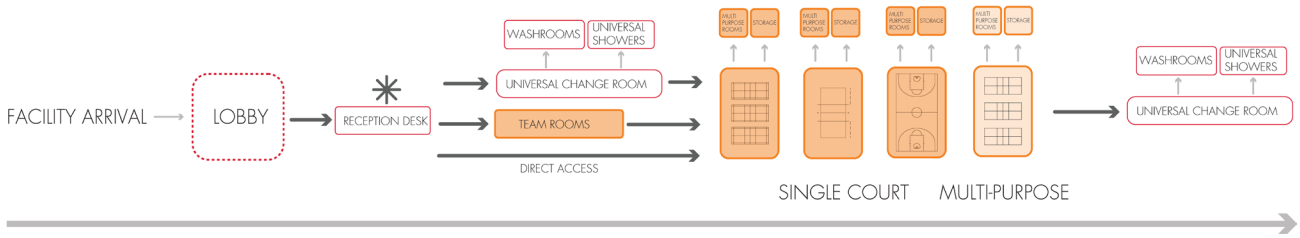
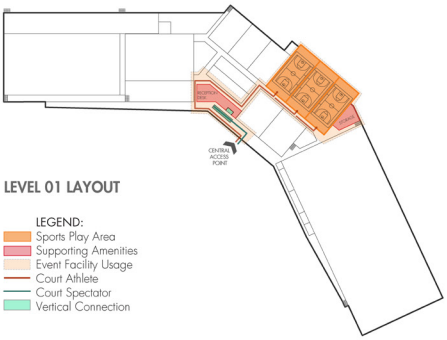


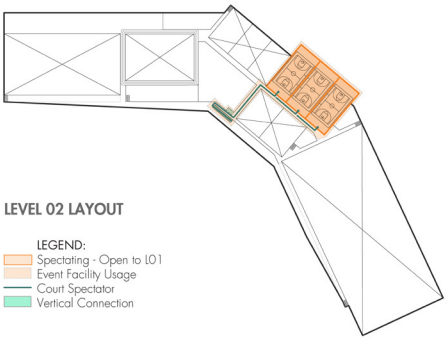
Figure 7.7: *Gymnasia user experience diagram*

TOURNAMENT HOSTING

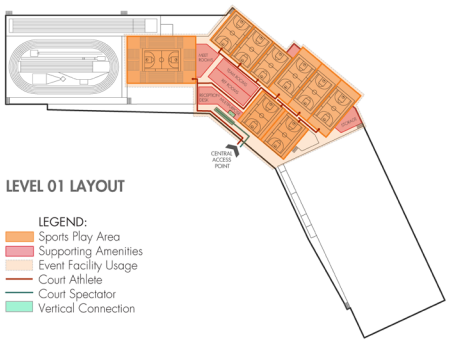
The facility can scale up from regional tournaments that may use a portion of the available courts all the way up to events which could optimize the whole facility. Large-scale tournaments would use the flexibility of the track and field facility and would implement temporary event flooring to meet the court requirements. The feature court can be used to either host multiple games or can it can utilize the retractable bleacher seating to host games with larger seating requirements (feature court, final games, etc.). Based on tournament requirements, the facility can use the flexibility of the multipurpose rooms to accommodate programs for athletes, spectators, and tournament specific requirements. These additional requirements may include (but are not limited to) meeting rooms, media and broadcasting, interview rooms, doping control, team rooms, medical, physiotherapy, food services, etc.

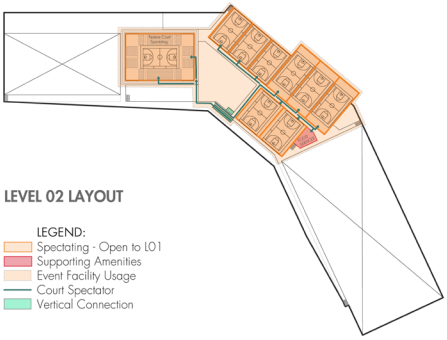
Low-Impact Competition Configuration:



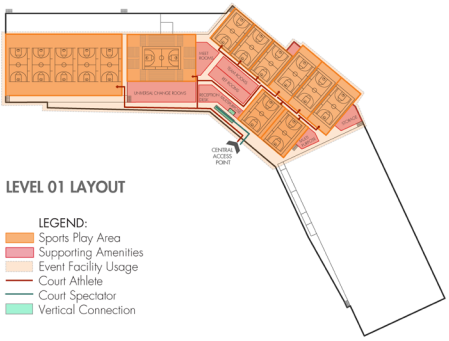


Medium-Impact Competition Configuration:





High-Impact Competition Configuration:



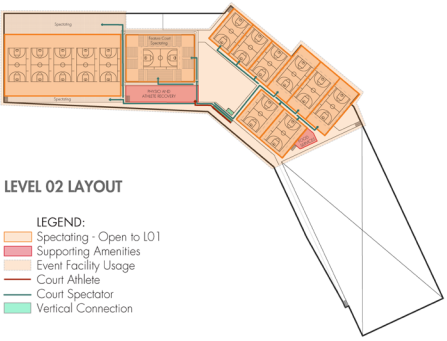


Figure 7.8: *Foothills Multisport Fieldhouse, Gymnasia Amenity hosting capability*

ARTIFICIAL TURF

USER EXPERIENCE

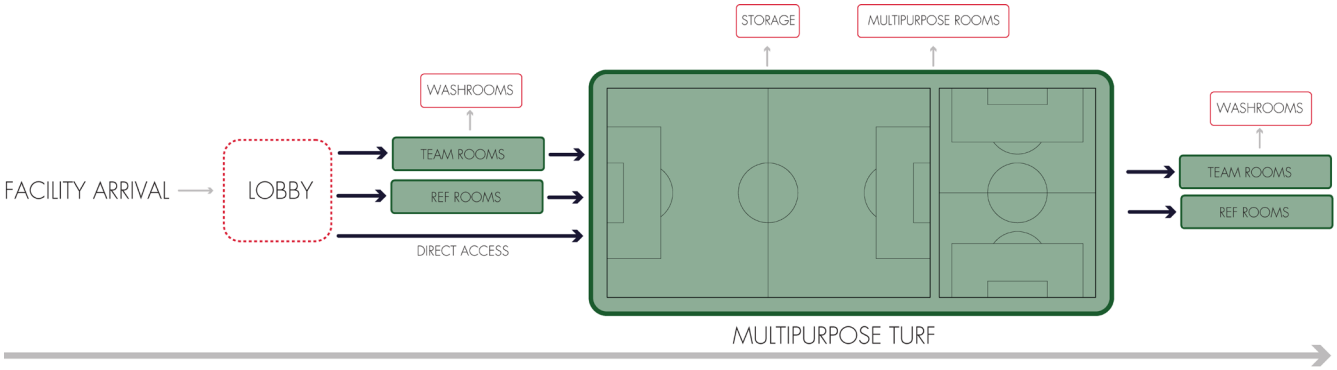
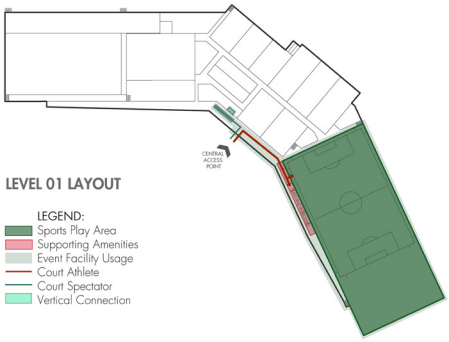


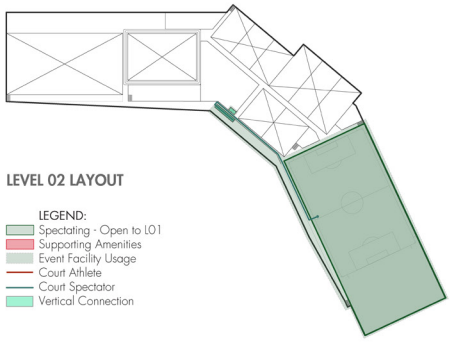
Figure 7.9: *Artificial turf user experience diagram*

TOURNAMENT HOSTING

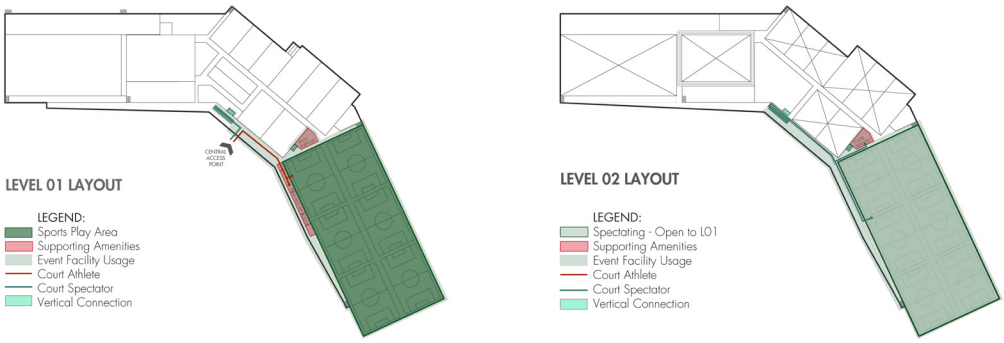
The artificial turf amenity can be used to host regional and youth tournaments. The figures below show the ability to optimize adjacent programs which are flexible to accommodate programs for athletes, spectators, and tournament specific requirements. The adjacent programs may be used to accommodate additional team rooms, ref rooms, medical, physiotherapy, food services, warm-up/cool-down, etc.

Low-Impact Competition Configuration:





Medium-Impact Competition Configuration:



High-Impact Competition Configuration:

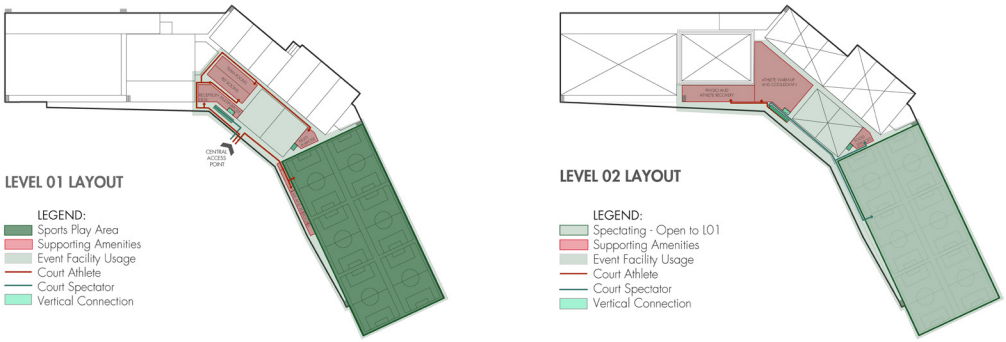


Figure 7.10: *Foothills Multisport Fieldhouse, Artificial Turf Amenity hosting capability*

8.0 Targeted Engagement

The Foothills Multisport Fieldhouse Engagement sought to:

- Understand the wants and needs of various groups
- Provide a basis for comparison among groups
- Learn about changes or trends in public opinion, sport and recreation
- Obtain quantitative results relative to the needs of potential users
- Seek feedback on initial recommendations

Further engagement with user groups and the public will occur at later project stages.

THE FOOTHILLS + MCMAHON CONCEPT PLAN, SEPTEMBER 2021

The City of Calgary in partnership with the University of Calgary created a concept plan for the City-owned Foothills Athletic Park and University-owned McMahon Stadium lands, The Foothills + McMahon Concept Plan. The Plan was informed by public and stakeholder groups who were engaged throughout the following three phases:

- Phase One – Explore
- Phase Two – Create
- Phase Three – Share

In total, the engagement for the Foothills + McMahon Concept Plan project in 2021 resulted in 2,135 online survey responses, 16,616 unique visitors to the project site, six potential user group meetings, one site tour with 20+ participants, 1,440 total video series views and 15 virtual webinars.

2021 ENGAGEMENT RESULTS SUMMARY SPECIFIC TO THE FIELDHOUSE:

- Many participants expressed support and excitement for the project, with some saying they would like the fieldhouse to be developed as quickly as possible. Many also stated that they liked the multi-sport design and recreation focus of the project.
- The proposed fieldhouse is one of the most valued aspects of the proposed project with specific mention of the indoor track. Many survey respondents also stated they would like to see this aspect of the project prioritised and built soon.
- An increase in uses, particularly year-round uses, was favoured by survey respondents.

Foothills Multisport Fieldhouse Amenity Refinement Study Engagement

STAKEHOLDER IDENTIFICATION AND CATEGORIES OF ENGAGEMENT

Building on extensive engagement for the Foothills + McMahon Concept, engagement for the Study targeted the following groups:

- Sports organizations and sector influencers
- Community associations

Goal: to gather sport and community feedback to understand priorities and inform the amenity mix.

SPORTS ORGANIZATIONS AND SECTOR INFLUENCERS

Sports organizations (organized users who rent space for sport or participate in registered programs) and sector influencers (experts with insight into operation models) were engaged to help inform the Baseline Amenity Mix.

Primary Engagement Tactics:

- Targeted online survey
- Digital communications (website and email)
- Link to Council and Committee material

Secondary Engagement:

- Open Houses
- Targeted digital meetings (Teams)

COMMUNITY PARTICIPANTS

Community and public representatives were invited to provide insight into the Baseline Amenity Mix with a focus on individual health and wellness outcomes and quality of life.

Primary Engagement:

- Online survey
- Digital communications (website and email)

Secondary Engagement:

- Open Houses
- Targeted digital meetings (Teams)

RESULT HIGHLIGHTS OF THE TARGETED ONLINE SURVEY

Total Responses from Sport User Groups: **131**

SPORT TO BE PLAYED WITHIN THE FACILITY	NUMBER OF RESPONDENT GROUPS INDICATING USE OF THE FACILITY FOR THE CORRESPONDING SPORT:
Soccer	49
Track and Field	46
Basketball/Volleyball	33
Baseball	15
Futsal	14
Football	10

Table 8.1: *Foothills Multisport Fieldhouse, Artificial Turf Amenity hosting capability*

Other sports mentioned by respondents: Badminton, field lacrosse, indoor cricket, indoor field hockey, padel, rugby, tennis, wrestling, youth flag football, boxing, box lacrosse, hockey shooting lane, gymnastics, capoeira, lawn bowling, softball, fencing, ultimate frisbee, floorball, dryland training.

30% of the responses were from organizations with **2,500 or more members**. **10%** have **over 1,000** members and **33%** have **between 250 and 1,000 members**.

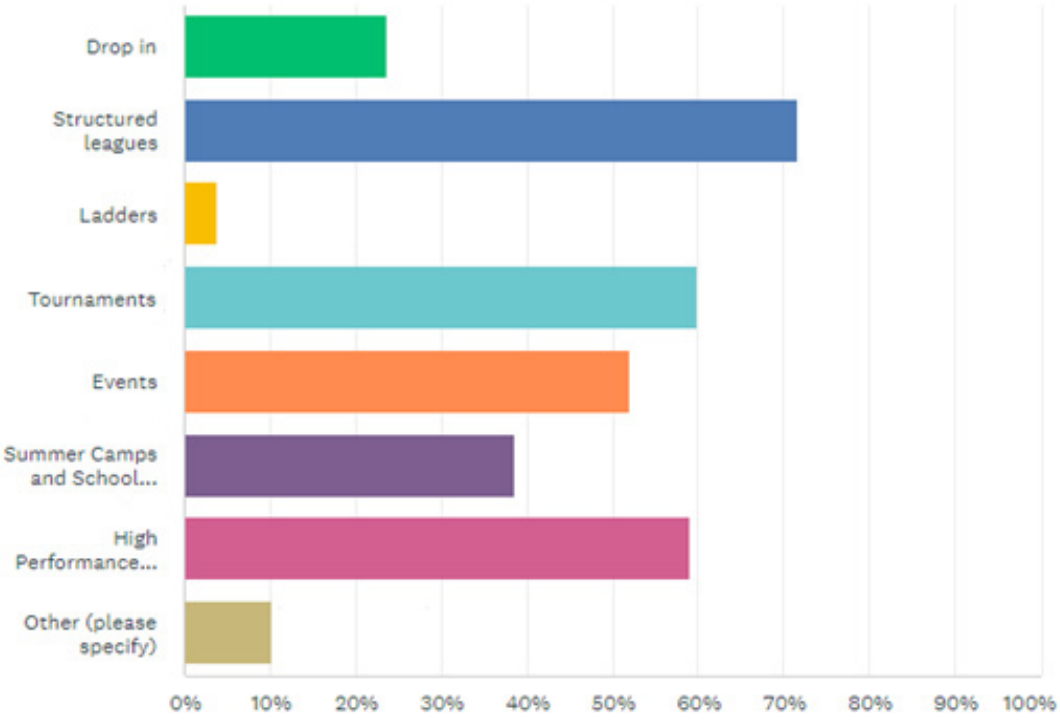


Figure 8.1: *Various types of programming offered by respondent groups and their members*

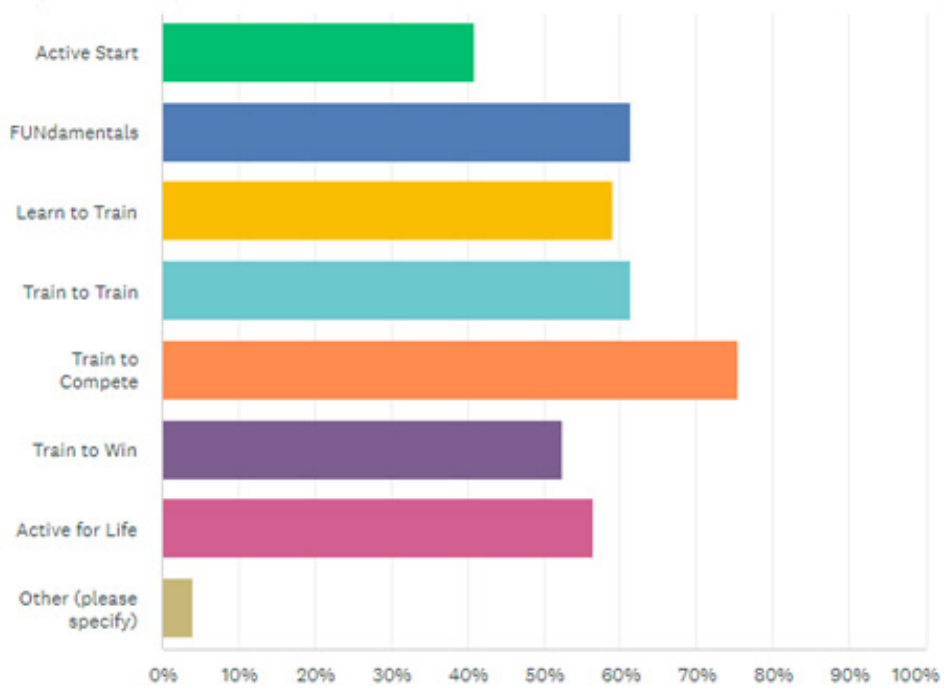


Figure 8.2: *Programming offered by respondent groups relative to criteria that falls under sportforlife.ca*

Of respondent groups participating in tournaments, **63%** of respondents indicated that a typical tournament lasts **2-3 days** and **28% stated 3-5 days**.

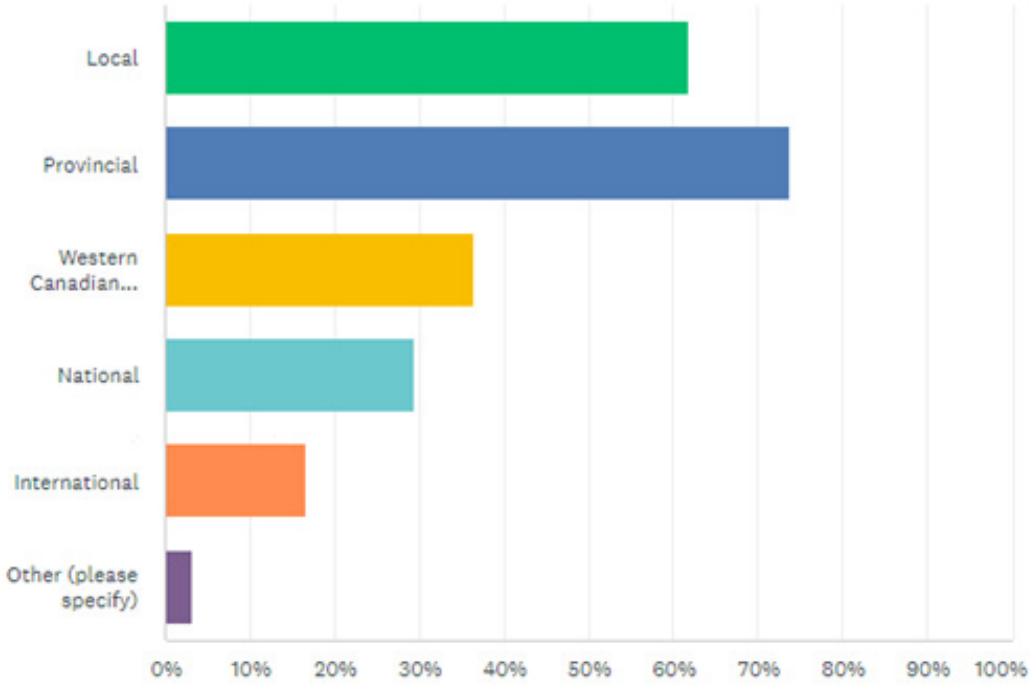


Figure 8.3: *Tournament experience by level of competition*

51% of respondent groups considered the Fieldhouse to have a **substantial positive impact on sport tourism hosting abilities**, while **35%** stated it would have a **positive impact.**

In terms of the importance of support amenities required to host regular play/leagues/tournaments/events, groups responded as follows:

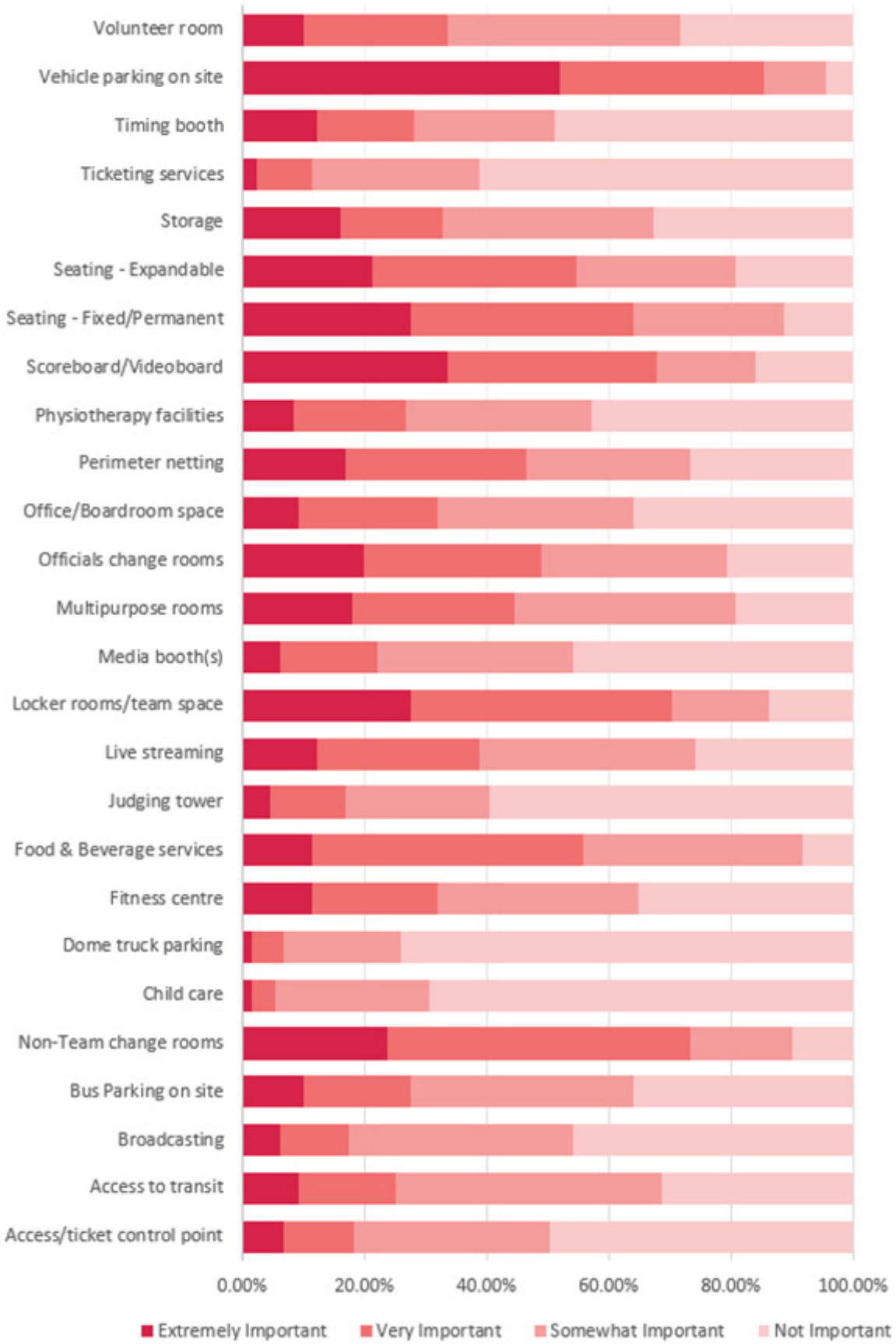


Figure 8.4: *Importance of supporting amenities required to host regular play, leagues, tournaments and events*

OPEN HOUSE ENGAGEMENT CONTENT

Following the online survey outreach to sport organizations, sector influencers and community associations, three open house sessions occurred on the evenings of May 30, 31 and June 1, 2023 to provide interested parties with an overview of the conceptual amenity test fit, amenity mix and program.

There was a total of 60 guests representing sport organizations, community associations, and interested members of the general public. The open house was an opportunity for guests to share specific views and feedback on the project and to ask any questions from the project team in a face-to-face setting. Guests could provide comment in person, on comment boards within the room, or via a QR Code specific to each core amenity.

The summary of feedback considered the following key themes:

- A strong need to consider developing sports such as cricket, field hockey, padel, and pickleball.
- A desire to explore alternative sport hosting opportunities such as gymnastics.
- A need to understand the displacement of current users on the proposed site of the Fieldhouse, including short term displacement strategies and long-term access to amenity strategies.
- A need to understand the access priorities and rental priorities and find a balance between organized sport users and access for the general public.
- Parking is one of the most significant concerns, with anticipated high utilization and a user group that primarily accesses facility by vehicle there will be a high demand for parking availability.
- With the intention of hosting events and tournaments, the need for bus parking and visitor parking was a high priority.
- Access for ingress and egress at high utilization times will need to be carefully considered if the user experience and traffic management strategy is to be successful.
- Strong positive feedback on site and amenity layout.
- Interest in how the proposed Fieldhouse would align with the surrounding commercial development and residential development opportunities.
- The need to ensure spaces have adequate sound proofing and the need to ensure that noise pollution is minimized between venues and within specific sport spaces.
- The need to ensure proper control and access points to the overall facility and within the facility itself. This was expressed as a safety consideration for vulnerable guests.
- There was positive feedback specific to the event hosting opportunities and potential within the proposed layout and the opportunities this facility would present for sport tourism and local host organizations.
- There was strong positivity and support for the need of this facility and the desire amongst those in attendance to see this project advance after lengthy planning and prior work.

Conclusion

Following the results of the online survey and the open house sessions, it is the position of the Foothills Multisport Fieldhouse Study project team that the conceptual amenity test fit, amenity mix and program overview should remain as proposed. Suggestions relating to design issues and programing considerations (such as on-site parking, expandable and fixed seating, scoreboards/videoboards, locker rooms/team space, food and beverage services and non-team changing rooms) have been recorded and will be revisited at a later phase of this project.

Overall, upon the conclusion of this phase of outreach, there is strong support for the advancement of the project and strong support for the proposed concept design.

9.0 Cost & Operations

Capital Cost Considerations

The facility will be implemented according to the "Design Guideline for City of Calgary Recreation Facilities." This document will serve as a guiding tool to provide minimum requirements on components that affect the serviceability, durability, sustainability and anticipated life expectancy of a facility. In addition, this document will help maximize functionality and efficient operation as well as avoid unnecessary expenses (i.e., capital and operational) and premature obsolescence of facilities.

Further investigation of recreation facility design and design guidelines will occur along with relevant material and forecasting so that the facility is not only designed for the current community needs but also the future needs of the city.

Additional factors that could impact the baseline cost estimate for construction are outlined below. Further analysis through concept and detailed design phases will inform strategies in these areas to provide the best value for Calgarians.

The facility, based on the program and amenity mix proposed in this Study, is expected have a total project cost of **approximately $380 million**.

SUSTAINABILITY

If sustainability targets over and above The City of Calgary's current mandated standards are pursued, the capital building cost would be expected to increase. The inclusion of sustainability components can require intricate design decisions and analyses to understand benefits. These discussions will occur during concept and detailed design.

Several sustainability initiatives could be pursued for a building of this type:

- LEED
- Net Zero Carbon
- Net Zero Energy
- Living Building Challenge
- WELL Certification

Each initiative has parameters and requirements that would impact component and system specifications. Pursuing these initiatives would likely increase construction costs but could potentially reduce operating and maintenance costs. Clear direction on sustainability targets is required at the concept design phase.

RESILIENCE

The Calgary Emergency Management Agency (CEMA) has indicated the potential use of the Fieldhouse as an emergency social services centre. While this decision is subject to a future review of plans and City direction for code interpretation, CEMA recommends that new community facilities and additions be built beyond minimum code requirements.

It is not yet clear if resiliency and/or shelter requirements would increase project costs. The project may incorporate best practices in Disaster Risk Reduction and building community resilience per UN, Public Safety Canada, and Emergency Management industry standards. Planned supporting amenities (e.g., showers, washrooms, cooking facilities, large assembly spaces for gathering and/or sleeping, etc.), could meet most requirements. Further analysis is required to understand the implications of supporting this potential use.

ACCESSIBILITY

Accessibility is a key consideration for public buildings, particularly a building of this type that functions as an inclusive community hub. Code minimums are a pre-requisite of any facility but additional standards can be applied to support universal access. The most common certification currently available is the Rick Hansen Certification, which considers all accessibility challenges, not just mobility issues. When implemented early on in a project, intelligent design decisions can minimize cost implications of added accessibility design. Clear direction on accessible design targets is required at the concept design phase.

Core to the facility's design intention will be the inclusion of accessibility and inclusive design as the fieldhouse seeks to serve the community as a whole. As a baseline, to maximize access and inclusion, the facility will be designed according to The City's Access Design Standards and the Alberta Barrier Free Design Guide. These design standards and guidelines will help optimize the following areas to ensure a holistic building design that serves the community:

- Vehicular Access
- Exterior paths of travel
- Building entrances
- Interior paths of travel
- Washrooms
- Special interior features
- Any additional special requirements

The "Alberta Barrier Free Design Guide" will help identify, design and implement features with the following considerations:

- Barrier-free design
- Site development
- Circulation
- Public Facilities
- Fire Safety
- Communication
- Design basics for persons with disabilities and seniors

Future Operating Model Assumptions

To better understand the potential operating impacts of a facility of this size and amenity mix, a preliminary operating model will be developed to examine the facility's ability to generate revenue, ensure amenities are kept to the highest possible quality and, over the long-term, contribute to lifecycle maintenance and replacement. The operating model will be a robust tool to gain understanding of the potential needs for annual operating funding and perspective on the possible financial earnings and ensure financial viability prior to proceeding to subsequent design stages. The model will continue to be refined and adapted as the project moves into detailed design.

There is no single facility of the exact size or amenity mix of what is proposed for the Fieldhouse therefore the assumptions for the operating model will come from a variety of comparable facilities with similar amenities as proposed in the Fieldhouse. Benchmark amenities should be as close to the size and make up to what is proposed, operating in cold weather environments and in operation for more than one year in Calgary or elsewhere.

OPERATING MODEL CONSIDERATIONS / ASSUMPTIONS

EXPENSES	
Considerations	**Assumptions**
General operating	General operating categories: • Utilities • Cleaning and maintenance • Insurance • Security Calculations will be based on averages from multiple facilities to create a m2 expense rate for the facility overall.
Staffing	Staffing estimates will be based on: • Hours of operation: 6 a.m. to 11 p.m. (approximately three shifts per day). • Variety of staffing types: supervisors, labourers, programming, reception, facility attendants, etc. • Average total compensation packages for each staffing type.
Lifecycle/asset replacement	To accommodate annual replacement of individual amenities and essential mechanical systems, 2% and 5% will be allocated respectively.
REVENUES	
Considerations	**Assumptions**
Rates and fees	To develop an operating model, utilization will primarily consider revenue opportunities through the rental of the amenities by sport user groups or event hosting. Permits • Rates and fees will be based on current City of Calgary hourly rates for gymnasia and artificial turf. Indoor track rates will be compared utilizing information obtained from three similar facilities. Seasonality • Peak: September – April • Non-peak: May – August • Primetime: Mon to Fri, 4 p.m. to 11 p.m.; Sat and Sun, 6 a.m. to 11 p.m. Estimated utilization • Estimated facility usage will be based on a combination of user input through targeted engagement and baseline comparable facilities willing to provide their seasonal usage. • Fitness facility drop-in fees will be taken into consideration. • Initial estimates indicate the facility will be utilized at a rate of 85-90% primetime during peak season and between 35-50% primetime non-peak season.
Commercial spaces	The Fieldhouse will have commercial space opportunities for services such as physiotherapy, childcare and food services. Revenues will be based on The City's current commercial rate.
Sponsorship and advertising	This information will be derived from valuations for local facilities regarding naming rights, interior amenity or supporting infrastructure sponsorship and advertising.
Exclusions	The following items will not be considered as revenue opportunities: • Event hosting sponsorship, advertising or media rights. • Hourly paid parking for facility use.

Table 9.1: *Future Operating Model Considerations and Assumptions for Revenue and Expenses*

The operating model will take into account seasonal revenue fluctuations to determine annual performance.

The demand for indoor amenities will begin in September of each year, peak from November through March and then decline again in April. From May through September, the artificial turf amenity will continue to be used by sport user groups as demand for artificial turf in the outdoor season remains high. The gymnasia and indoor track amenities, while still expected to be used, are expected to be in far less demand in the summer months.

Social Return on Investment

The Fieldhouse project and the proposed redevelopment of the Foothills Athletic Park presents a unique opportunity to enhance quality of life and community health, promote economic resiliency and growth, and create needed recreation and sport opportunities in Calgary's northwest. The Fieldhouse will act as a catalyst for development and create immediate sport, recreation, and health benefits and inspire future private and public investment.

In 2022, Constellation Consulting Group prepared and delivered a Social Return on Investment analysis (the "SROI"). This document was prepared as part of the Foothills + McMahon Master Plan and is fundamental for understanding the social and economic returns of development. At the time of the report submission, the methodology and approach was supported. It is not within the intended scope of the Study to redevelop the SROI model but rather validate the investment output would be maintained based on design and operational recommendations.

The SROI was based on a 30-year development timeline and includes impacts associated with construction and operation of the Fieldhouse. Based on an analysis of the Fieldhouse development and adjacent lands (for commercial and residential development), the SROI suggests a return of **$4.37 for each dollar invested.**

SOCIAL RETURN ON INVESTMENT OVER TIME PER DOLLAR INVESTED					
1.04	1.94	2.71	3.36	3.91	4.37
After 5 Years	After 10 Years	After 15 Years	After 20 Years	After 25 Years	After 30 Years

**Data Source (Foothills + McMahon Redevelopment Social Return on Investment Analysis Report - Constellation Consulting Group 2022)*

Table 9.2: *Social Return on Investment Over Time Per Dollar Invested*

The Fieldhouse development has been identified as the catalyst for achieving the Foothills + McMahon Concept Plan vision of the redevelopment of this area into a dynamic, four-season mixed-use recreation and entertainment village anchored by the Foothills Athletic Park and McMahon Stadium. The Fieldhouse is critical for catalyzing commercial and residential growth and is the single greatest driver of the SROI impacts. For example, the SROI concluded that Fieldhouse returns would surpass initial investment (capital and operating) within five years of development. Between years five and 30, The City of Calgary would realize a surplus benefit at a steady growth rate.

Observations as part of the Study align with projected returns associated with the Foothills + McMahon Redevelopment, including individual and community benefits. 76% of the value of the redevelopment is directly attributable to increased participation in recreation (health, wellbeing, quality of life), job creation and residential growth. The remaining 24% would be experienced by the community through the availability of health services and other indirect impacts such as economic spin-off, reduced crime and increased community cohesion.

The observations within the Study maintain a standard that at minimum will maintain the SROI valuations expressed within the 2022 report. Based on the recommended design concept, and the SROI ratio of 1:4 shall be maintained and opportunity exists for future growth. It is recommended that as final design and final business planning is completed at a later phase of this project work, an updated SROI model be developed as a baseline measurement tool for evaluating performance and success.

10.0 Closing Remarks

Findings and Outcomes

The Foothills Multisport Fieldhouse plan originated based on the need for improved year-round access to indoor space to practice, train, play, compete and host. Since 2010, the proposed Fieldhouse remains an important priority for Council. The development of this investment remains an important civic infrastructure project to meet the growing and diversifying population and allowing the Calgary to serve current and future community sporting needs, while attracting events and positioning Calgary as a leading sporting destination.

The Study has:

- Established the baseline amenity mix for the Fieldhouse based on the needs and feedback of sport and community as centered around track and field, gymnasia and artificial turf field amenities.
- Conducted a site test fit applying the general principles of maximizing programming opportunities, operational efficiency, competition capability and flexibility.

Refined Amenity Mix

The track and field amenity design is driven by sanctioning requirements for hosting indoor World Athletic competitions becoming a priority. With no competition capable indoor venues available in Calgary, the Fieldhouse can provide the only 200m indoor track meeting hosting requirements. A hydraulic banked track can provide flexible use, from community use to elite and world-class training and competition. An adjacent 130m, 10-lane sprint track will provide additional training opportunities as well as space for temporary spectator seating during competitions. Approximately 1,000 permanent spectator seats are proposed with potential to provide an additional 4,000 temporary seats.

The gymnasia Feature Court (3,000 seat capacity), six single courts and two multi-activity courts (MACs) will provide the required critical mass and flexible spaces to support mainstream and emerging sports both today and in the future.

The artificial turf field will include a FIFA regulation soccer field and additional flexible turf area. Approximately 500 spectators seats are proposed with temporary seating as necessary during competitions. This full-size, clear-span space will provide flexibility required by community users that is currently limited in Calgary, due to aging infrastructure.

Ancillary space will improve the recreational and sport performance opportunities within each core amenity while supporting amenities will support site activation and commercial opportunities.

The resulting impact is a refined and modernized facility layout that includes 8,600 square metres of Track and Field space, 9,829 square metres of Gymnasia and Court space, 13,028 square metres of Turf Field space and 4,436 square metres of supporting public amenities.

The revised program should play host to more than 1 million annual visitors and should offer the opportunity to generate significant sport tourism economic growth that will materially impact the visitor economy through the opportunity for Calgary to host all levels of indoor sporting events. The Social Return on Investment should generate in excess of $4.00 for each dollar invested and should meaningfully enhance the quality of life of the user and those indirectly impacted with the addition of the new facility.

The work within this Study provides a modernized and current assessment of many opportunities offered by the Fieldhouse for The City of Calgary. Based on the work of this Study, the need for the Foothills Multisport Fieldhouse remains high, the support from those engaged in the process remains very positive, and the opportunity to meet the growing needs of Calgarians while improving the event ready position of Calgary is optimal.