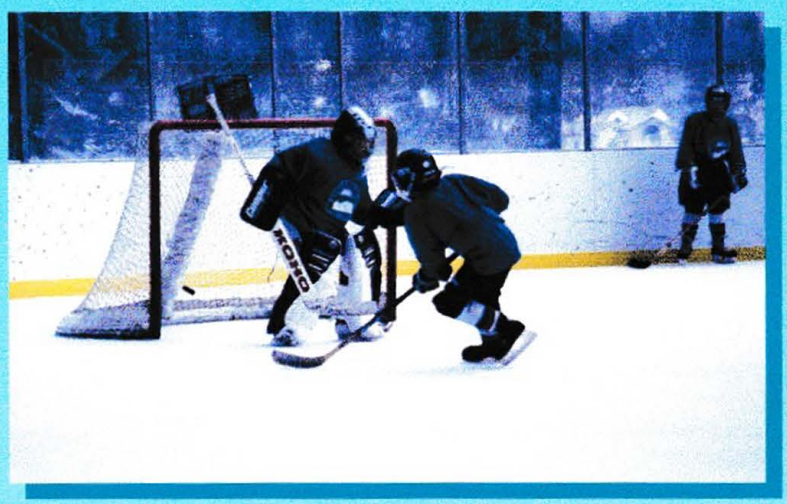
Breckenridge Ice Arena

Feasibility Study:



III. PROBLEMS/ISSUES/OPPORTUNITIES

A. Weather Conditions

- The weather conditions in Breckenridge vary greatly from season to season and even from day to day. At 9685.25 feet above sea level, the Breckenridge Outdoor Ice Arena is exposed to all of nature's elements as well as dust and debris brought in by the wind. The existing sun screens are effective, but they do not offer 100% protection. Thus, snow, sun, altitude, wind and extreme cold all play havoc with the quality of the ice.

- The resulting poor ice conditions contribute to greater maintenance responsibilities (and associated costs), ice "downtime" when no one is able to skate (and lost revenue), and perhaps most importantly, dangerous skating conditions that may arise before rink staff have identified a problem.

B. Ice Quality

- As the temperature becomes warmer, the ice becomes soft and slow. During the spring, temperature changes can range from 10 to 50 degrees each day, thereby causing ice conditions to vary throughout the day.

- The sunscreen does not fully protect the ice from the sun's rays. Direct sunlight on the ice causes soft spots, or melts the ice until it became very thin.

- Rain on the ice causes hazardous slushiness and soft spots.

- When it is very cold, the ice hardens, shrinks and becomes brittle (crystallizes). When brittle, the ice breaks its bond with the concrete below it. Chunks of ice can be skated out and the ice has separated from the concrete floor by as much as 10 feet in the past, creating a safety problem for skaters. When these conditions occur, there is no choice but to remove the entire sheet of ice. Even in ideal conditions, this process has taken three days (while the rink remained closed) for ice removal/replacement. Ice arena staff have indicated that, in the event of adverse weather conditions, the ice removal/replacement process will take much longer.

- Wind coming in from the sides of the arena is diverted by the Plexiglas shields and wind screens, however, dust and debris is still brought in during windy conditions and settles on the ice. Foreign debris on the ice creates safety problems for skaters and increases maintenance responsibilities.

- The extreme cold conditions, dryness in the air, low pressure from being at high altitude, and constant temperature changes all contribute to poor ice conditions.

C. Maintenance Issues

During this past winter, the ice arena experienced two major problems with the sun screens:

- snow accumulation
- inability to adjust the screens to the proper angles based upon the sun's position.

Snow gathering on the screens adds weight to the screens and creates problems.

- When the snow melts off the screens the water falls to the ice and creates bumps making it difficult to skate.
- Snow accumulation on the screens is too much weight for the screen system to hold. The rink has to be shut down until snow is removed from the screens (in heavy snows this process takes hours).

Staff must remove the snow from the screens as soon as possible after it falls to control these problems. They currently use long rods to push the snow upward out of the pockets and off the screens to the ice below. They then must remove the fallen snow from the ice. After the ice has been cleared, even a light wind blows the remaining snow from the screens onto the ice, which leaves new snow piles across the ice that must be cleared.

According to the sunscreen manufacturers/designers, *XXXXX and XXXXX, Inc. of Denver*, the screens were not designed to carry a snow load. It is impossible for these screens not to have some snow accumulation. Since they cannot support snow in the pockets, 24-hour staff coverage will be required to ensure that snow is removed as it accumulates.

D. Downtime

Because of heavy snow and the time it takes to remove it, programs have to be postponed, games are delayed and a lot of man-hours are spent improving ice conditions. Likewise, the shutdown of the arena to remove dangerously unstable ice and replace it can take three or more days.

The estimated total labor costs to remove and replace the ice and associated lost revenue from canceled programs are $X,XXX.XX (taken from 03/10-03/13/98 closure).

2. Associated Revenue Losses

These figures are estimates based on Ice Arena staff calculations of hours and days in which ice-time was unavailable to meet user demand.

--$XX per hour for ice rental x 188 hours lost to unmet demand (turn-away) = $XXXX.XX
--$XX per hour for ice rental x 209.5 hours lost to operational downtime (unplayed games, canceled programs, ice removal/replacement) = $XX,XXX.XX

Total estimated annual revenue losses = $XX,XXX.XX

E. Revenue

Having diverse sources of ice arena revenue means the operation is not counting on one revenue source to produce all of its income. Projected numbers for the future are a good estimate, since they are based on current usage. Having a combination of many revenue sources means that if one source does not perform as well as projected; it will not drastically affect total revenue. A year's total revenue is combined from all four of the usage seasons.

The existing ice arena has consistently offered diverse sources of revenue. However, the rising user demand must be met if revenue is going to remain, at the very least, stable. The unavailability of ice-time will at some point, force user groups to utilize nearby facilities providing desirable hours for their activities and games. This would not be the case if the demand were not so great and continuing to escalate. The risk is, therefore, not only in providing ice-time for new users, but in maintaining the ice-time for current users as well.

IV. POTENTIAL SOLUTIONS

A. Needs

Looking at current usage, the existing outdoor arena is at full capacity for primetime hours and at 50% capacity for non-prime time scheduled hours. With prime time capacities at maximum, there is need to consider methods for increasing usage hours that would fall into the prime time category. Non prime time hours (between 10 a.m. and 5 p.m., M-F) are fully programmed. However, programmed hours occurring during the normal work/school day do not reach capacity.

Prior to evaluating the benefits and drawbacks of these options, the Parks and Recreation Department staff reviewed the year and one-half of operation and compiled a list of items needed to improve the quality of service and provide a better product at the ice arena. This list provides information as to what is necessary to meet current and future needs of the ice rink and offer direction for the three potential solutions. Their list includes:

- Better quality of ice
- Consistent quality of ice
- Better amenities; additional locker rooms, add showers, improved office area.
- Better viewing area
- Additional hours for prime time usage
- Increase programs
- Program development
- Better environment for skaters (not 10° below zero when skating)

Whatever option is taken, the Parks and Recreation Department and Ice Arena staffs feel these needs must be met.

OPTION ONE:

Roof over the Existing Outdoor Arena

The lowest cost potential solution is to build a roof over the existing ice arena. The estimated cost for building a wood structure roof is $XXX,XXX.XX.

Below is a list of the advantages a roof structure will offer, and the disadvantages, or problems which remain unresolved after building a roof over the existing outdoor arena:

The ADVANTAGES of a roof are that it would:

- reduce snow accumulating on the ice
- prevent the sun from melting the ice
- reduce manpower time needed to maintain the ice
- not require continual adjustments, as do the sun screens
- increase playing time for users because the ice quality would be more consistent
- increase user time otherwise affected by maintenance downtime
- permit summer activities without cancellation

The DISADVANTAGES of a roof are that it would

- not provide control over ambient temperatures, which is a main factor in maintaining ice quality (extreme cold would still be a factor)

- not keep staff from having to remove and replace ice when ice quality disintegrates because of cold temperatures
- not increase desirable morning usage hours because of harsh cold (except in late spring and summer)
- not keep the ice from contamination by outside debris
- not increase quality of amenities, provide additional locker rooms, add showers, improve the viewing area or office area

Anticipating a larger roof, one that would accommodate future growth, may be in the best interest of the community and the user groups if such a structure is considered.

OPTION TWO:

Enclose the Outdoor Arena

Although an enclosure costs more than a roof, (at an estimated $X,XXX,XXX.XX for a framed, fabric enclosure or $X,XXX,XXX.XX for a steel and concrete enclosure) it offers more in terms of solving many of the problems associated with an open-air ice arena --as currently exists in Breckenridge. It meets many of the needs identified previously in this study as outlined below:

The ADVANTAGES of an enclosure are that it would:

- greatly improve quality of ice
- increase prime time and non-prime time hours
- increase programming opportunities
- make it a year-round facility by adding summer programs
- provide more opportunities for a greater number of users to enjoy the rink
- increase revenues

The DISADVANTAGES of an enclosure are that it would:

- not provide many of the necessary features at the base price--such as lighting and restrooms or desired amenities --like locker rooms, showers, increased viewing area, or an office
- not allow for future growth and expansion
- have a limited structural life (if the fabric enclosure were chosen)
- present difficulties in retrofitting the existing structure (if the fabric enclosure were chosen)

D. Income Opportunities/Projections

YEAR 2000 REVENUE PROJECTIONS:

- With the existing outdoor facility ENCLOSED
  Revenue projection (at the current ice rental rate) = $XXX,XXX.XX
  Revenue projection at $XXX per hour ice rental rate = $XXX,XXX.XX.

- With an additional INDOOR STRUCTURE (while the existing outdoor rink remains operating and unchanged) = $XXX,XXX.XX
  Indoor rink (year-round operation) at $XXX per hour = $XXX,XXX.XX
  Outdoor rink (7 month operation, Oct. to April) at $XX per hour = $XXX,XXX.XX

This would be a 56% increase in revenue from the year 2000 at the $XXX an hour rate and a 24% increase in revenue from the year 2000 at the $XX an hour rate.

Enclose outdoor	$XXX,XXX	42% ($XX rental)	$XXX,XXX	42%
Enclose outdoor	$XXX,XXX	79% ($XXX rental)	$XXX,XXX	42%
2 rinks (indoor & outdoor)	$XXX,XXX	56% ($XXX rental)	$XXX,XXX	20%
2 rinks (indoor & outdoor)	$XXX,XXX	24% ($XX rental)	$XXX,XXX	20%

E. Relevant Data from Other Ice Arenas

1. Vail, Colorado

2.

XXXXX XXXX, Rink Manager at the John A. Dobson Arena, indicated that in light of experience, they should have built a bigger ice arena. In fact, the Vail community is currently considering the idea of building a second indoor arena in order to meet all of the ice-time and multi-use demands, which currently exist and continues to increase. XXXXX recommends that the use(s) of the facility be clearly identified before the design/construction take place. Some other details regarding the existing, indoor Vail ice arena are as follows:

- 85% of overall revenues are from ice-related activities
- 15% of overall revenues are from non ice-related activities (i.e.: concerts and conventions)
- Ice activities take precedence over non-ice activities from October through April in order to meet the ice time demand.
- Youth Hockey gets most of the primetime hours. All other hours are divided between the other user groups.
- Hours of operation are from 6 am to 12 am.

2. Aspen, Colorado

XXXXX XXXXXX, Rink Manager at the Aspen Ice Garden, told us that the Aspen rink was built in 1964 as an outdoor ice arena with a roof. In the 1980s the decision was made to enclose the rink because of the difficulties exposure to the elements posed in maintaining good ice quality. Additionally, the demand for ice time became so great, that enclosure was seen as an immediate solution to the limited usage time that was available.

Because the demand for ice time continues to increase, Aspen is currently reviewing the option of building another ice arena. This one would be designed and built as an indoor skating facility. XXXXX believes the Aspen community will decide to go ahead with building the new arena. He says there is a lot of support for it.

Some other details regarding the existing, enclosed Aspen ice arena is as follows:

- The operational season is from June 8 to April 21 (10.5 months a year).
- 13-14% of overall revenue is derived from public recreational skating. 50%
- of overall revenue is derived from Hockey. There are over 400 teams total (men's, women's, and youth).
- The Hockey School generates a third of the overall revenue alone.
- The Figure Skating Club generates about $XXX,XXX annually and accounts for about 40% of the usage.
- The estimated costs for operations are $XXX,XXX per year (including salaries and overhead) with $XXX,XXX of that going to maintenance and upkeep.
- Maintenance costs went down when the rink was enclosed because less manpower was used in maintaining ice quality.
- Revenues went up significantly because demand filled the increased hours and weeks of operation, more programs were implemented, and user fees increased among other reasons.
- The indoor rink meets the needs of the community while the existing outdoor rink tends to be more of an attraction for tourists and infrequent recreational skaters.

3. Steamboat Springs, Colorado

XXXX XXXXXXX, Rink Manager at Howelsen Ice Arena, told us that the Howelsen (indoor) Ice Arena was build in 1996 as an ice-related activities only facility (not multi-use), and that the Steamboat Springs outdoor arena was build in 1990. The operational season for Howelsen is from October to May (8 months). Other details about Howelsen are:

- It was paid for by private funding and a low-interest bank loan.
- There are 4 adult hockey teams, one being a women's team.
- There are 170 youths playing hockey.

- The arena offers private skating lessons, beginning hockey clinics for youths and adults and drop-in hockey all as part of its programming.

4. Jackson Hole, Wyoming

XXX XXXX, the Snow King Center Ice Arena Manager, indicated that he would prefer that when the 53,000 square foot arena was built in 1983, it was designed having two more locker rooms, bigger locker rooms, a meeting area, and a bigger storage area. As a multi-use facility, Snow King Arena hosts ice-related activities (60% of their operation) in addition to four regularly scheduled events (such as concerts, conventions, banquets, and community events), which constitutes 40% of the ice arena operation. Other information about the Snow King Ice Arena is that:

- It was funded by a $X.X million bond --payable each month, and $XXX,XXX.XX privately funded.
- There are 15 hockey teams utilizing ice-time.
- Arena staff teaches the lessons and clinics, not pros.
- The operational season is from mid August through April.

V. CONCLUSIONS/RECOMMENDATIONS

A. Summary of Findings

In our research to date, we have discovered that the available ice time of the existing outdoor rink is falling below the needs of the user groups. Because of weather conditions common to Breckenridge and the effects these conditions have on the quality of the ice, as well as the presence of foreign debris, the inadequacy of the sun screens to protect the ice from snow, rain and sun, and the exposure to the cold --which not only adversely affects the ice but also reduces the number of comfortable hours available for ice-related activities, it is clear that there is a need for an enclosed ice arena of some type if the Breckenridge community is going to support ice-related sports and other recreational activities.

There are several options available for meeting this challenge. Of these choices, it appears that, while all offer some solutions to the current problematic conditions, none are without their disadvantages.

The roof option is likely to be only a temporary fix that will still leave the ice exposed to extreme weather conditions. Also, the roof will not provide much in the way of improving the arena's amenities. Essentially, it will just be a better sunscreen.

The enclosure option vastly improves the quality and consistency of the ice and available ice time. The base cost, nevertheless, does not include necessary items, such as lighting or locker rooms and showers. The fact that the fabric enclosure has

a 10 to 15 year life span adds to the cost when replacement is figured in. The structural steel/concrete enclosure appears to be the better choice if an enclosure is chosen. It will have the life expectancy of any solid steel/concrete building, will solve all of the problems with poor ice quality and consistency, will extend the hours and months of operation, will be able to utilize all of the existing maintenance equipment and refrigeration hardware, and will be easier to fund than the more expensive option of building a second arena as an indoor facility.

The only downside of committing between $X.X million and $X.X million on a steel/concrete enclosure (depending on whether or not the locker room/shower amenities are added) is that it will not accommodate growth beyond the scope of extending the hours and months of operation. Once the additional hours of operation are filled up, no more will be available and user saturation will have been met. It may be useful to note that Aspen has already gone through this whole process by adding an enclosure to their open-air ice arena, and is now realizing that it does not meet the increasing needs of the community and the user groups.

Finally, the prospect of building a new, indoor ice arena is an interesting one. Clearly, an indoor arena would meet all of the requirements for improving ice quality and increasing ice time. More programs could be established to meet user demand and the Town of Breckenridge would have a new amenity to add to its mix. The only potentially challenging issues with this plan are how to fund it and where to put it. It appears from all other data we have accumulated thus far, the user demand is there and they are willing to pay higher prices for rental time, clinics and the like in order to have an indoor arena. As an example of just how successful an indoor ice arena can be for a resort community, the Dobson Arena in Vail is so busy they are considering building a second one just to meet the growing demand. Although Dobson enjoys an active multi-use calendar, the primary demand is coming from ice-related activity user groups.

The Town of Breckenridge should decide now if a likelihood exists that an indoor rink will become necessary in a few years, and if the existing outdoor rink would be enclosed no matter the presence of an indoor rink. If the outdoor arena would likely be enclosed in any case, it may be the first logical step to enclose it now and build an outdoor arena when the demand calls for it.

However, if the preference is to have the outdoor arena remain open air, it would be prudent to consider the cost differential between enclosure and building an indoor facility and opt for paying the higher capital cost of building an indoor arena now --in anticipation of rising demand. At an additional $X.X million, the indoor arena would accommodate growth and is certainly going to be cheaper to build now than it will be in 3 or 4 years.

Of course, these are decisions the Town and its Officials need to make.