

# Dimond Park Ice Arena Feasibility Study

## SUMMARY OF FINDINGS





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Prepared For

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By

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# Summary of Findings

## Project Background

The Sports Management Group was retained by the Juneau Community Foundation (JCF) to conduct a feasibility study for a potential indoor ice arena located in the Mendenhall Valley. The objective of the study is to provide an unbiased and independent analysis of the likely participation and probable operating costs, revenue potential, and cost recovery for the facility. If constructed, the site for the ice arena is in Dimond Park on property owned by the CBJ. The City's Parks and Recreation Department would operate the ice arena. The CBJ currently owns and operates the Treadwell Ice Arena, located in Douglas, approximately 11 miles from Dimond Park. The feasibility study assumes Treadwell continues its current operation.

The Feasibility Study includes:

- Analysis of operating costs, revenue and cost recovery at Treadwell Ice Arena
- Analysis of the current participation and demand for ice hockey and figure skating
- Demographic and trends analysis
- Benchmarking study
- Needs assessment
- Projections of operating costs, revenue and cost recovery for a new ice arena

This report summarizes the Feasibility Study findings.

## Analysis Of Treadwell Ice Arena Operations

An analysis of the user demand, operating expenses, and revenue for the Treadwell Ice Arena is informative, if not predictive, of the operation of a similar ice facility located in the Valley.

The Treadwell Ice Arena, located in Douglas, is currently the only indoor ice facility available to the Juneau community. The 31,300sf facility was constructed in 2003 and operates with ice from mid-August to the end of April. The facility is open approximately 474 hours per month, on the following schedule\*:

Monday – Friday	6am to 11:30pm
Saturday	8am to 12am
Sunday	8am to 11pm

\* Schedule varies based on seasons and competitions.

## OPERATING COSTS

The Sports Management Group analyzed six years of Treadwell Ice Arena operating budgets (FY2006 - FY2012). The Treadwell Ice Arena is a valued community asset that is heavily subsidized, as are other CBJ recreational facilities. Fiscal year 2012 operating costs at the Treadwell Ice Arena totaled \$742,553 with \$364,497 in revenue. The cost recovery rate, or percentage of the total expense paid from revenue, was 49.1%, with the city subsidizing 50.9% or \$378,066. As with all facilities of this type, the majority of the operating cost is attributable to wages and benefits, utility costs, and maintenance expense.



In FY2012, wages and benefits totaled \$453,028, utility costs were \$156,982, and maintenance expense was \$81,400 for a total of \$691,410. These three expense categories represent 94.2% of the total operating budget.

Wages and benefits represent 61% of the total operating costs. This expense is higher than the industry "target" of 50%-55%. An analysis finds the staffing an appropriate level for the effective supervision and operation of the facility. The higher percentage rate is attributable to the high cost of labor in Juneau. The implication for a second facility is that it will require similar staffing to Treadwell, at a similar cost.

## REVENUE

The revenue from ice rentals is the income driver for most ice arenas and Treadwell is not an exception. Ice rental income totaled \$233,322 or 64% of revenue in FY2012. To increase this revenue, the city must increase ice rentals or charge a higher hourly rate for the rentals. This requires balancing the need for increased revenue with hourly rates that are not a barrier to hockey or skating participation. Daily and monthly drop-in revenue is the next highest category at \$64,400. Other revenue is derived from equipment rentals, skate sharpening, summer programs, classes, vending, and locker rentals and totals \$48,450. Rental rates and fees appear to be within the range of other facilities in the State.

## TREADWELL ICE RENTAL DEMAND

The demand for ice rentals is lower than in previous years and the facility is not at capacity during prime time hours. Prime-time rentals are available for existing teams that want to grow and for new teams to form. The challenge has been in growing teams. Like most youth sports throughout the country, youth participation has been declining. On a national level, this has been attributed to a number of factors including costs, time commitment, overly competitive and aggressive play and behavior, to name a few.

## Benchmarking Study

Analysis of the Treadwell Ice Arena operations provides useful data to base the projections of financial performance for a second ice facility in Juneau. It is also instructive to compare the performance of the Treadwell Ice Arena to similar indoor ice facilities in peer communities located in Alaska. For this purpose, a Benchmarking Study was conducted. Six communities were asked to participate; however, only three provided the requested information. The following facilities were included in the Study:

Kevin Bell Arena, *Homer*  
Big Dipper, *Fairbanks*  
Brent Memorial Ice Arena, *Wasilla*  
Tahkini Ice Arena, *Whitehorse*

The facilities that did not participate included: Curtis Menard (Wasilla), MTA (Palmer), and Kodiak Ice Arena.

Each facility operator was sent a questionnaire and interviewed by phone. The requested information included:

- Size and features of the facility
- Annual participation data
- User fees, rental rates, and other revenue sources
- Operating structure
- Total annual operating costs
- Total annual revenue
- Annual cost recovery and funding mechanism for operating subsidy, if any

Table 1, on the following page, compares cost and revenues for those facilities. Detailed information from the Benchmarking Study is located in the Appendix.

**Table 1** Benchmarking Study Data Comparison

	CITY & BOROUGH OF JUNEAU <i>Treadwell Arena</i>	MATANUSKA-SUSITNA BOROUGH <i>Brett Memorial Arena</i>	FAIRBANKS NORTH STAR <sup>1</sup> BOROUGH <i>Big Dipper Ice Arena</i>
<b>2010 Population - City</b>	30,711	7,831 Wasilla	31,535 Fairbanks
<b>2010 Population - Borough</b>	30,711	88,995	97,581
<b>FACILITY INFORMATION</b>			
Year opened	2003	1984	1982
Facility size	31,300sf	39,200sf	63,845sf
No. of rinks	1	1	1
Ice surface	200' x 85'	200' x 85'	200' x 85'
Seating capacity	250	750 seated, 750 standing	2000 spectators
Lobby	60' x 25' not heated	yes	yes
Ticket sales	yes	yes	yes - 2
Concessions	yes - small	yes - contracted	yes - 4
Skate rental/sharpening	yes	yes	yes
Public restrooms	yes	yes	yes - 8
Referee/family changing	yes - 1		yes - 1
Locker rooms	6 team	4 team, 1 small women's	6 team
Lockers for rental	55		
Storage for user groups	4	12 lockers	no
Zamboni garage	20'x15'	yes	yes
Staff area	yes		
<b>OPERATIONS INFORMATION</b>			
Months open	mid Aug to end of Apr	11 months a year	11 months a year
Prime-hours rental rate	\$235	\$195	youth \$160 adult \$210
Non-prime hours rental rate	\$150	\$145	youth \$110 adult \$150
Prime hours paid gate			adult \$275
Staff	5-FT, 8PT	4-FT, 9-PT	4-FT (2 custodial), 2-PT, 4 Temp
<b>REVENUE</b>			
Contributed Support			
Clinics/Classes	\$13,344	\$19,498	
Ice Rental	\$233,322	\$198,009	
Daily Pass & Monthly Revenue	\$64,411	\$105,740	
Sales, Service, Rentals	\$35,106	\$36,777	
Juneau Douglas High Off-set	\$18,400		
<b>FY11-FY12 Total Revenue</b>	<b>\$364,587</b>	<b>\$360,618</b>	<b>\$332,150</b>
<b>OPERATING COSTS</b>			
Salaries & Wages (gross)	\$278,524	\$317,514	\$275,333
Benefits	\$174,504	\$217,872	\$158,676
Utilities - electric, oil, propane	\$156,982	\$127,718	\$276,000
Other expenses	\$52,805	\$87,852	\$287,956
Repairs and Maintenance	\$81,400	\$18,600	\$2,035 rest w/Public Works
<b>FY11-FY12 Total Expense</b>	<b>\$742,153</b>	<b>\$769,566</b>	<b>\$1,000,000</b>
<b>Subsidy</b>	<b>(\$377,566)</b>	<b>(\$408,948)</b>	<b>(\$668,000)</b>
<b>Cost Recovery</b>	<b>49.1%</b>	<b>46.8%</b>	<b>33.2%</b>

**Table 1** Benchmarking Study Data Comparison

	HOMER HOCKEY ASSOCIATION <i>Kevin Bell Arena</i>	CITY OF WHITEHORSE, YT <i>Tahkini Arena</i>
<b>2010 Population - City</b>	5,003 Homer	23,276
<b>2010 Population - Borough</b>	55,400 Kenai Pen.	33,897 (Yukon Territory)
<b>FACILITY INFORMATION</b>		
Year opened	2005	1975
Facility size		17,000 sf
No. of rinks	1	1
Ice surface	200' x 85'	200' x 85'
Seating capacity	yes - no heat	1,535
Lobby	yes	yes
Ticket sales	yes	rental facility
Concessions	yes	no
Skate rental/sharpening	yes	no
Public restrooms	yes	yes
Referee/family changing	yes - 1	yes
Locker rooms	4 team	yes
Lockers for rental		
Storage for user groups	yes - 4 cages	yes
Zamboni garage	yes	yes
Staff area		
<b>OPERATIONS INFORMATION</b>		
Months open	mid-Sept to mid-April	October-March Ice Surface
Prime-hours rental rate	\$260	
Non-prime hours rental rate		
Prime hours paid gate		
Staff		1-Ft
<b>REVENUE</b>		
Contributed Support	\$88,854	
Clinics/Classes	\$2,350	
Ice Rental	\$131,250	
Daily Pass & Monthly Revenue	\$22,992	
Sales, Service, Rentals	\$48,854	
Juneau Douglas High Off-set		
<b>FY11-FY12 Total Revenue</b>	<b>\$294,300</b>	
<b>OPERATING COSTS</b>		
Salaries & Wages (gross)	\$40,644	
Benefits	\$4,388	
Utilities - electric, oil, propane	\$90,256 Incl. water	
Other expenses	\$66,230	
Repairs and Maintenance	\$16,990	
<b>FY11-FY12 Total Expense</b>	<b>\$308,765</b>	
<b>Subsidy</b>	<b>(\$14,451)</b>	
<b>Cost Recovery</b>	<b>95.3%</b>	<b>50%-60%</b>



The conclusions that can be drawn from the analysis are as follows:

- The Big Dipper has a cost recovery of 33.2% compared to Treadwell at 49.1%. Energy cost at the Big Dipper is \$119,000 higher than Treadwell. Wages and benefits are similar between Treadwell and Big Dipper. Treadwell generates approximately \$32,000 more in revenue.
- The Brett Memorial Ice Arena is one of two ice arenas in Wasilla. The population of the City and Borough of Matanuska-Susitna is nearly triple the population of the CBJ. The operating cost for Brett Memorial is slightly higher than Treadwell and the revenue is slightly lower. Staffing costs are \$82,358 higher than Treadwell. Overall cost recovery is 46.8% compared to Treadwell's 49.1%. Brett Memorial has the lowest hourly rental rates, at \$195 for primetime and \$145 for non-primetime.
- The Tahkini Arena is a "rental only" facility, managed and operated by the staff of the Canadian Games Centre. The operating costs and revenues are combined with the ice operation at the Games Centre and could not be separately identified. Cost recovery is estimated to range between 50%-60%.
- The Kevin Bell Ice Arena, owned and operated by the Hockey Association, has significantly reduced its operating cost through salary savings. The arena operation relies on a dedicated group of volunteers, who work thousands of hours each year. The expense for permanent staffing and benefits total just \$44,000. The fee for ice time rental, the primary source of revenue, is \$260 per hour– the highest of the facilities surveyed. Utility costs are nearly \$75,000 less than Treadwell. To sustain the operation, this non-profit fundraises and secures grants of approximately \$50,000 annually.

## Needs Assessment & Demand Analysis

It is necessary to understand the demand for ice to estimate use and the revenue generated by that use.

Demand was assessed by several methods:

- Planning standards and guidelines
- Demographic analysis
- Analysis of current and historical participation data
- Interviews with stakeholders
- Staff interviews

Stakeholder interviews conducted by The Sports Management Group were supplemented with stakeholder input captured by the CBJ Parks and Recreation Department during a public outreach process in July and August 2012.

### PLANNING STANDARDS AND GUIDELINES

There are not state or local standards for the provision of community indoor ice. The National Park and Recreation Association (NRPA) published guidelines in 1998, and qualified them with the following statement:

*"The purpose of these guidelines is to present park and recreation space standards that are applicable nationwide for planning, acquisition, and development of park, recreation, and open space lands, primarily at the community level. These standards should be viewed as a guide. They address minimum, not maximum, goals to be achieved. The standards are interpreted according to the particular situation to which they are applied and specific local needs."*

The NRPA standard for an indoor ice arena is 1 per 100,000 population with a service area of one (1) hour travel time. Juneau has one arena for 31,725 residents and nearly all residents are within less than one hour of travel time.

## DEMOGRAPHIC ANALYSIS

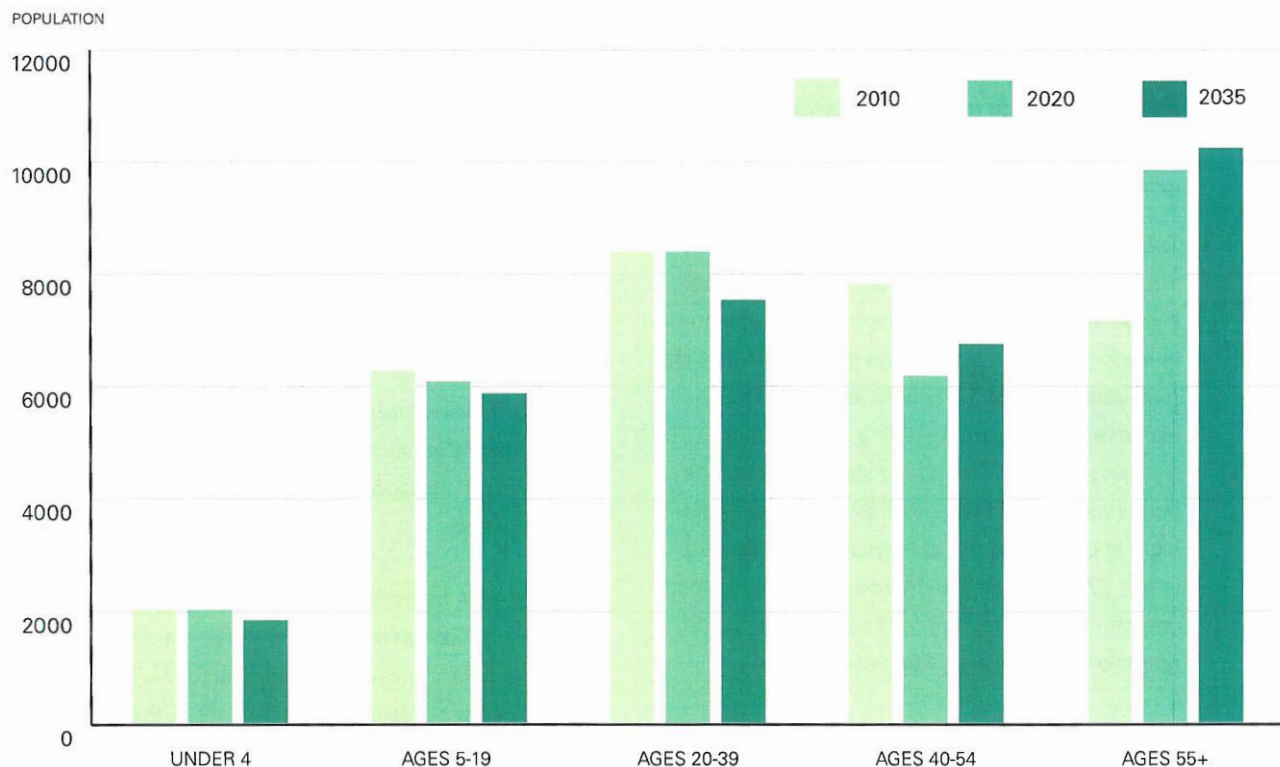
Understanding the demographic characteristics of the City is an important factor in projecting needs. Populations are not static entities and their evolution over time has changing implications for recreation activity demand. The total population is important because it represents the pool of potential participants. With access limited to boat or plane, population outside Juneau does not factor into the demand or participation.

The population of the City and Borough of Juneau at the 2010 Census was 31,275. Children between the ages of 5 and 17 years comprised 23.2% (7,255) of the population, compared to an average of 26.1% for the State.

The population of children is an important consideration in demand since they comprise the largest user groups for the ice programs. Youth development in hockey and skating is also essential to building and maintaining future adult participation in these sports.

Other demographic trends affecting Juneau's population include a decline in the average household size over the last 30 years. In 1980, the average household size was 2.74 persons. In 1990, the average was 2.66. In 2000, the average declined to 2.60 and continued to decline to 2.46 in 2010. This trend is also seen in the decreasing population of children under the age of 18. In the 1980's, birth rates were nearly 20 births per thousand. Birth rates in Juneau have continued to decline and, in 2010, there were approximately 13 births per 1,000 persons.

**Table 2** CBJ Demographic Age Groups, 2010-2035





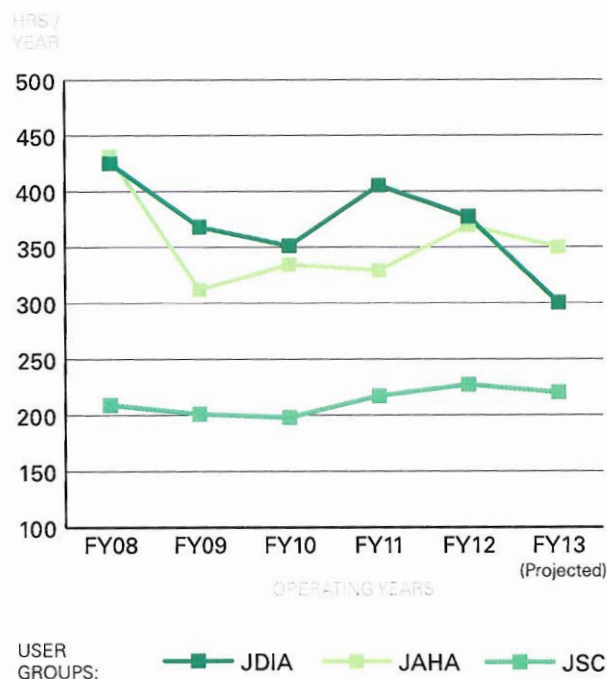
State of Alaska population projections show a decrease in the number of children every 5 years between now and 2035. In 2010, the population of 5-19 year olds was 6,248. The State projects the population of 5-19 year olds to decrease to 2,822 by 2035. By 2035, the State also projects a decrease in the population of 20-39 years (-859) and 40-55 years (-1,081)—the prime market for adult programs. These factors suggest that over time, the likely demand for ice hockey and skating will decline. Table 2 shows that, over the next ten to twenty-five years, Juneau will have an increasingly older population aged 55 and older, a decreasing middle-aged population, and a smaller population of youth and teens.

## PARTICIPATION

The CBJ recently reported the total participation and the requests for ice rental time. This data was used to analyze current demand and project future rates of participation.

**Table 3** Treadwell Ice Arena User Group Actual Hours

Source: CBJ Parks & Recreation, October 29, 2012 Presentation



Participation reached its high in FY2006 at 52,222 participations. In FY2012 that figure decreased to 44,157. Ice time rentals by youth and adult hockey have dropped from their FY2008 high, and continue the downward trend from the previous year. Only Juneau Skating Club has remained relatively constant. Table 3 illustrates the decline.

## SUMMARY

The significant findings of the Needs Assessment & Demand Analysis is summarized, as follows.

- The demand for ice time is generally met; however, there is competition for prime-time hours and the addition of a second ice facility would allow existing users to access ice at more convenient times.
- There is no evidence that there is likely to be a significant increase in the number of hockey or figure skating participants with a second arena located in the Valley.
- Among stakeholders, there is some interest in a second sheet of ice; however, stakeholder opinion is divided regarding the preferred location of a second sheet—Treadwell or Dimond Park. There is some concern as to whether two sheets of ice are financially sustainable.
- The demand for year-round ice is very limited and primarily desired for camps and/or clinics. The demand is insufficient to warrant year-round operation.
- The University of Alaska Southeast (UAS) has expressed an interest in a Valley ice arena for intramural club hockey, classes, and events. Treadwell has capacity to accommodate the club hockey team and some classes.

- Thunder Mountain High School has expressed interest in forming a hockey team and believes with an ice arena in Dimond Park, it could likely field a 40-person team. Note: Treadwell has ice rental time available for this team should it be formed.
- The convenience of an ice facility in the Valley would result in increased participation and new users. Conversely, some will be persons currently using Treadwell, for whom a facility in Dimond Park is more convenient – resulting in a change of location, not an increase in total participation. This will result in reduced participation at Treadwell and increased subsidy.

## Ice Arena In Dimond Park

### PLANNING ASSUMPTIONS

The feasibility study is based on a series of assumptions that are listed below:

1. A facility of approximately 31,300 square feet with similar space components as the Treadwell Ice Arena.
  - One (1) NHL sheet of ice 200' x 85'
  - Spectator seating for 250
  - Six (6) locker rooms
  - Family/referee locker room
  - Skate rental and sharpening shop
  - Lobby with staff area
  - Concessions area
  - Zamboni garage
  - Two public restrooms
2. The CBJ Parks and Recreation will operate the facility.
3. The facility will employ energy-efficient design to reduce operating costs (see Energy Efficiency section).

4. The facility will provide ice on a seasonal basis and using the same schedule as Treadwell Ice Arena.
5. Hours of operation, fees and rental rates, and programming will be the same at both facilities.

## Energy Efficiency

### SYSTEM DESIGN

The Sports Management Group consulted with Alaska Energy Engineering regarding design options to reduce energy costs for a Valley ice arena. Alaska Energy Engineering also provided estimates of the potential energy savings. It is important to note that this building has not been designed or engineered and that these energy cost estimates are preliminary. The figures are based on similar facilities and/or studies for comparable facilities. If the project proceeds, a detailed analysis of the type of system, capital costs, and on-going savings is required.

The assumption used for this study is that the design would include a refrigeration heat recovery system. Alaska Energy Engineering performed an energy audit and predicted that the refrigeration heat recovery is sufficient to handle all the other loads. During periods when heating loads are low, the excess heat is dumped outdoors. The heat recovered would be use to: 1) heat the ground under the ice sheet, 2) condition the air in the building, 3) heat domestic hot water, and 4) dehumidification of the building. Alaska Energy Engineering estimates energy costs to be 35% of the energy cost for Treadwell. To be conservative, the financial pro forma uses 40% of the Treadwell energy expense.

A second alternative is a geothermal system. The use of geothermal becomes an issue of higher capital costs versus higher energy efficiency than achieved with the refrigeration heat recovery system. This alternative, and any others that could further reduce energy cost, would be studied if the project proceeds.



## Valley Ice Arena Operating Costs And Revenue Potential

The projection of operating costs and revenue that follow include the following assumptions:

- Hours of operation for the Valley arena are the same as Treadwell
- Participation in hockey and figure skating increases by 10%
- 25% of ice rental time is transferred from Treadwell
- Drop-in skate participation increases 100%
- New participation in classes and learn-to-play increases by 60%
- Energy costs will be 40% of Treadwell cost using refrigeration heat recovery

### PROBABLE OPERATING COSTS

Operating and maintaining a new ice arena in the Valley is projected to cost less than Treadwell. The difference is primarily attributable to energy savings and a reduction in maintenance costs since the building and its systems are new. As with most facilities of this type, the expense for salaries and benefits represents the largest percentage of operating cost. Staffing costs are driven in part by the hours of operation and the study assumes the building operates the same 118.5 hours per week as Treadwell. It also assumes the CBJ will use the same staffing structure as Treadwell. The probable operating expense in 2013 dollars is summarized in Table 4.

If the energy savings are not as great as anticipated and the cost is 60% of the current cost rather than 40%, the probable operating cost increases by \$31,000 to \$619,500. Worst case, energy costs are the same as Treadwell, which brings the operating cost for the new facility to \$682,482.

**Table 4** 2013 Projected Operating Expenses

Salaries and Benefits	\$410,000
Advertising & Marketing	\$5,000
Office Supplies and Printing	\$900
Telephone & Internet	\$4,100
Insurance - General Liability	\$3,200
Insurance - Worker's Comp	\$3,900
Utility Costs (40% of Treadwell cost)	\$63,000
Water	\$1,400
Sewer	\$4,900
Refuse Disposal	\$2,100
Repairs and Maintenance	\$60,000
Other Expenses	\$30,000
<b>Total Expense</b>	<b>\$588,500</b>

### PROBABLE REVENUE

The revenue potential is based on the assumption that ice rental is 25% of the current Treadwell rentals.

**Table 5** 2013 Probable Revenue

Lessons and Learn to Play	\$10,000
Ice Rental	\$63,000
Daily Pass Revenue	\$20,700
Monthly Revenue	\$19,300
Services, Equip Rental & Vending	\$10,000
Special Events	\$10,000
<b>Total Revenue</b>	<b>\$133,000</b>

The cost recovery is estimated at 22.5%, requiring \$455,500 to be funded from some other source. That funding source has not been identified.



If ice rentals increase to 50% of the current ice rentals at Treadwell, revenue would increase to \$196,000. For context, Treadwell reports that approximately 560 user group participants generate \$251,722 in ice rentals.

It is possible to operate the Valley ice arena fewer hours than Treadwell currently operates. For example, if the facility is open from 3:30pm to 9:30pm, there would be some savings, primarily in wages and benefits. Assuming a savings of \$70,000, the anticipated cost recovery improves to 25.6% with a net loss of \$385,500.

## Findings

Competing demand for access to ice during prime-time hours is a challenge for nearly every ice arena manager. Youth teams prefer to practice right after school and adults want to practice immediately after work. By offering extended operating hours, the Treadwell facility has made ice time available to interested users; however, not always at their preferred time of day. This is a separate issue from the assessment of whether there is sufficient additional demand for ice time to support the operation of a second ice arena.

The Needs Assessment finds that the demand for additional ice time is insufficient to fully utilize or financially sustain a second ice arena located in the Valley. Ice arenas rely on consistent and regular ice rental time to generate the majority of the operating revenue. This study does not find significant additional demand for ice rental time at Treadwell or at a new facility in the Valley. Treadwell is not currently operating at capacity and there is no indication that significant growth in hockey or figure skating is to be expected.

A second ice facility would be used, and would provide the skating community more of the "premium" prime-time hours that they desire.

There would be twice the prime-time hours for essentially the same number of users. Residents would be able to choose between two facilities in vying for preferred time slots. This would result in a decreased use of the Treadwell facility in exchange for preferred time at Dimond Park. While this is a convenience to users, it is not financially sustainable without incurring increased operating subsidies.

"Financial feasibility," as used in this study, is the capacity of the proposed facility to generate sufficient revenue to fund operating cost. The CBJ subsidizes the Treadwell facility at 51% and the anticipated subsidy for a second ice arena is estimated to be 78.3% (\$460,500). The CBJ, the likely operator of a new facility, has indicated there is not an available funding source to subsidize the operation of a second arena, or to fund an increased subsidy for Treadwell Ice Arena. The financial feasibility of a second ice arena could possibly be met under specific conditions. These conditions would likely include a combination of a) higher demand for team rentals with the associated revenue, b) fewer hours of operation, c) an alternative staffing model, and d) a funding partner. The funding partner could be a non-profit organization that is committed to raising funds for on-going operations or preferably, funding for an operations endowment that provides a reliable income stream. Any alternative model requires independent study to assess the financial feasibility of that alternative.

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<sup>1</sup> The Parks and Recreation Manager reported the total annual operating expenses for the Ice Arena are approximately \$1 million. There are significant costs incurred by the operation that are charged to the Fairbanks North Star Borough Parks and Recreation Department budget. These include:

- Repairs and Maintenance
- Water and Sewer
- Refuse Disposal
- Insurance and Bonding
- Bank Fee Charges
- Telephone and Data Lines
- Dues and Membership Fees