

**Seating Expansion Feasibility Study  
Cumberland County Civic Center**

**Phase One**

**Portland, Maine**

**Prepared for  
Cumberland County Civic Center  
Board of Trustees  
Expansion Committee**

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## Foreword

Finne & Associates completed this phase of a study of the feasibility of expanding the seating of the Cumberland County Civic Center during October, November, and December of 1995 under a contract with the Cumberland County Civic Center Board of Trustees dated September 20, 1995.

Since they began play in the Civic Center in the fall of 1993, the Portland Pirates have consistently sold out the building for their games. The Pirates feel the need for increased seating. The Board of Trustees wished to study the market for increased seating in the Civic Center from the perspective of all events and the totality of the building's operations. The purpose of this study is to document the number of additional seats that the Portland market will support in the Cumberland County Civic Center.

The major parts of this phase of the study analyze the historical performance of the Civic Center, the Pirates, and the American Hockey League. In Phase Two we will examine the revenue and expense that will be generated by additional seating capacity and evaluate the economic impact of the additional visitors to Portland.

We interviewed many people during the course of gathering data for the study. We are grateful to them for their time and input. However, the conclusions reached in this study are entirely our own.

December 8, 1995

# Executive Summary

## Cumberland County Civic Center

- ▶ In recent years the Civic Center has been used for just under 150 event days a year. This level of use is somewhat lower than use in the past primarily because of declines in the number of concerts and wrestling matches booked.
- ▶ *Total* attendance at Civic Center events is currently about seven percent higher than the building's long term experience. *Average* attendance at events in the past two years is about 30 to 33 percent higher than the historical average attendance experienced over the previous 16 years.
- ▶ About 64 percent of all Civic Center events are held on Friday, Saturday, and Sunday. More than 80 percent of all events are held in the seven month period from October through April. The Civic Center is presently very heavily booked on the prime weekend days in the fall, winter, and early spring.
- ▶ The Pirates positive contribution to the Civic Center's financial operation can be seen most clearly in increased concession sales. Net concession sales increased by almost \$190,000 between 1993 and 1994.
- ▶ Major users are very positive about the Civic Center and the strength of the Portland market. They perceive no ticket price resistance in the Portland market.
- ▶ Both figure skating shows and non-country music concert promoters would find about 10,000 seats advantageous in the Civic Center. Additional seats could also bring the Civic Center back into serious consideration by the Ringling Brothers Circus and Disney on Ice.

## Portland Pirates

- ▶ The Portland Pirates have filled Civic Center seats to 85 and 91 percent of capacity in their first two seasons. More than half of all of their games achieve a box office attendance of more than 95 percent of the Civic Center's seating capacity for hockey. The Pirates have far surpassed the Mariners in attendance.
- ▶ Attendance in the first ten games of the 1995-96 season are significantly lower than in the beginning of either of the last two seasons. Robust season ticket sales suggest that this poor start to the season does not represent an erosion of the Pirates most enthusiastic fan base.
- ▶ Paid season ticket holders own about 27 percent of all Civic Center seats. Comp season ticket holders own another 9 percent of seats. If these seat holders use only two out of three of the tickets they hold this accounts for *all* of the difference between box office and turnstile attendance.
- ▶ The economic value of these unused tickets amounts to about \$125 per season ticket for the entire season. Holding a season ticket guarantees the holder a good seat and eliminates many trips to the box office to purchase tickets. We suggest that fans consider the season tickets a good value even when they know that they will not be able to attend all 40 games.
- ▶ The Pirates have raised ticket prices significantly during their tenure in Portland. All ticket revenue rose about \$1.00 per ticket between the 1993-94 and 1994-95 seasons. Season ticket revenue went up a similar amount between last season and this season.
- ▶ We think that box office attendance is the appropriate base to use to project future seating needs and attendance.
- ▶ Pirates ownership sees little opportunity to raise team revenue other than a seating expansion. He feels that he could sell out a total of 8,000 seats for about 20 games a

year. Increased revenue will allow the team to spend more on better players and thus support a winning record and advancement to the playoffs.

### **American Hockey League**

- ▶ The American Hockey League is currently in a period of growth and expansion. With high average attendance and a third place rank in the league, the Portland Pirates have had a stellar first two seasons.
- ▶ Regression analysis of league data shows that we can reliably predict AHL teams' average attendance by an equation that relates attendance to time (season), team rank, market area population, team age, and market area population density.

### **Market Area**

- ▶ The Augusta Civic Center, the UNH arena in Durham, and the new Lowell arena have little potential to compete directly with the Cumberland County Civic Center.
- ▶ With a little creative handling, we think that the new Quebec Major Junior Hockey League expansion team in Lewiston could become a positive factor for the Civic Center and hockey in the region.
- ▶ The two buildings that could impact the Civic Center the most, the Manchester arena and the Portsmouth amphitheater, each have a somewhat uncertain status at this time.
- ▶ It is possible (although perhaps remotely) that the announcement of a significant expansion and renovation of the Civic Center might defuse one or both of these potential competitive facilities.
- ▶ Expansion and renovation of the Civic Center would make it possible to compete more directly with these new facilities in Manchester and Portsmouth.
- ▶ The Civic Center has a little more than a half a million people in its primary market area and about 1.2 million in its total market area to draw from. Growth over the next ten years will be moderate and concentrated in the secondary market area.
- ▶ The Civic Center market area has been losing and will continue to lose population in the young adult sector of the population that most heavily supports sports and entertainment events. However, this trend is expected to reverse at about the turn of the century and the market area will be adding people in this age range.
- ▶ Per capita incomes in the Civic Center market area are strong and we expect them to increase over the next decade. Civic Center ticket sales are supported by about \$125 million in income available for expenditures on tickets to live events.

### **Conclusions**

- ▶ Based upon the results of our seating expansion feasibility study, we believe that the Civic Center should consider adding 2,500 seats to its existing building capacity. This seating expansion will accommodate a winning Pirates team through the year 2000 and an average team through the year 2005. Additionally, the seating expansion would encourage the booking of dates by the Ringling Brothers Circus and Disney on Ice as well as a few other high attendance entertainment events. Although the number of event days would go down slightly, total attendance would increase over the next ten years. The Civic Center might consider adding the seating in two or more phases in order to maintain the public's perception of scarcity of seats for events.
- ▶ This study was undertaken to evaluate the market feasibility only of expanding the seating capacity of the Civic Center. The conclusions of this study are based on market considerations only and do not address whether or not it is financially feasible to expand the Civic Center's seating capacity. Before embarking on any expansion plan, the Civic Center must address the financial feasibility of the plan.

## Section One

# Cumberland County Civic Center

In this section we present a detailed analysis of market trends for the Cumberland County Civic Center for the past three years. We base this analysis on documents provided by the Civic Center and on interviews with current major users. We also compare the Civic Center to the Providence (RI) Civic Center. The Providence Civic Center provided data for this comparison. The purpose of this section is to evaluate how the Civic Center is operating now as a baseline for projections of future events and attendance.

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### History

The Cumberland County Civic Center opened in 1977. It has 6,726 permanent seats in a cuneiform configuration on four sides of a 17,000 square foot floor containing a 85' by 200' ice rink. The building is on a very constrained downtown site surrounded by streets on three sides and a parking garage on the fourth side. The Civic Center was built with \$7 million in private donations and a \$2 million bond. This bond has been paid off and recently refinanced.

The Cumberland County Recreation District, a state authority, manages the building. The Civic Center was somewhat controversial at the time it was built. Two American Hockey League teams have played in the building. The Civic Center has been without hockey only one season since it opened. The popularity and winning record of the Maine Mariners was influential in winning over public opinion concerning the Civic Center's contribution to community life.

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### Trends in Events

The Civic Center keeps most of its operating and financial records on a January 1 through December 31 fiscal year. However, this calendar incorporates two half hockey seasons and makes the analysis of hockey's contribution to the Civic Center's operations difficult. Wherever possible, we reorganized the data according to a September through August operating year in order to incorporate whole hockey seasons into our analysis. This reorganization of the data also allowed us to analyze data for a period ending just before our study began.

Arenas and other public facilities usually record their usage in terms of *event days*. Each performance or game for which the patron must pay a new admission is a separate event day. For example, two performances of the circus on one calendar day constitute two event days.

The table following shows the event days in the Civic Center from September 1992 through August 1995. The 1992-93 hockey season was the only season in its history that the Civic Center did not have an AHL hockey team. That year is correspondingly lower in total events. Additional ice shows and consumer shows that year did not begin to compensate for the loss of hockey.

**Events Held in the Cumberland County Civic Center,  
September 1992 through August 1995**

	<u>Event Days</u>		
	1992-93	1993-94	1994-95
<b>Sports</b>			
Pirates	0	48	44
Other Ice Hockey	2	3	5
Basketball	3	5	4
High School Basketball	6	5	7
Wrestling	3	2	2
Other Sports	3	0	1
Roller Hockey	<u>0</u>	<u>11</u>	<u>0</u>
Subtotal	17	74	63
<b>Entertainment Events</b>			
Concerts	13	14	16
Shows	37	22	29
Dirt Events	2	3	0
Tour Rehearsals/Filming	<u>0</u>	<u>5</u>	<u>0</u>
Subtotal	52	44	45
<b>Exhibit Events</b>			
Trade Shows	6	7	8
Consumer Shows	<u>15</u>	<u>7</u>	<u>10</u>
Subtotal	21	14	18
<b>Other Events</b>			
Conventions	5	9	12
Graduations	3	3	4
Public Skating	8	3	1
Miscellaneous	<u>1</u>	<u>0</u>	<u>2</u>
Subtotal	17	15	19
<b>Total Event Days</b>	<b>107</b>	<b>147</b>	<b>145</b>

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

With the coming of the Portland Pirates in fall of 1993, the Civic Center's event schedule increased to just under 150 event days annually. The Cumberland County Civic Center is primarily a sports and entertainment facility. In the last two years sports have accounted for 43 to 50 percent of total event days and entertainment events have accounted for about 30 percent of total event days.

Like similar facilities in other cities without a convention center, the Civic Center serves a limited number of trade show, consumer show, and convention events annually. These types of events constitute about 15 to 20 percent of total event days. Unlike some other arenas, the Civic Center does not have meeting rooms or catering facilities to support these events.

How is the Civic Center doing compared with earlier years? The table following shows that in the past two years the Civic Center has held about 20 percent fewer event days than it averaged in the previous 16 years. Most of the long term decrease is in basketball games, wrestling matches and concerts. Civic Center management feels that concert activity at the Great Woods Amphitheater south of Boston may have diminished concert activity in Portland.

Many facilities have experienced a decline in the number of concerts and wrestling matches. The rising cost of mounting a concert tour discourages sponsors. The massive growth in amphitheaters in recent years has provided a profitable alternative to arenas for many concert tours. And the slipping value of the dollar on the international market has fueled the extent of international touring by U.S. performers and wrestlers, resulting in fewer events available for booking in U.S. facilities.

## Long Term Trends in Events Held in the Cumberland County Civic Center, 1977 to 1995

	<u>Event Days</u>		
	Average 1977-1992	1993-94	1994-95
<b>Sports</b>			
Professional Hockey	43	48	44
Other Ice Hockey	5	3	5
Basketball	10	5	4
High School Basketball	10	5	7
Wrestling	5	2	2
Miscellaneous Sports	2	11	1
Figure Skating Competitions	<u>2</u>	<u>0</u>	<u>0</u>
Subtotal	77	74	63
<b>Entertainment Events</b>			
Concerts and Performing Arts	30	14	16
Family Shows	30	22	29
Dirt Events	<u>2</u>	<u>3</u>	<u>0</u>
Subtotal	62	39	45
<b>Other Events</b>			
Conventions, Trade Shows and Consumer Shows	34	23	30
Graduations	<u>2</u>	<u>3</u>	<u>4</u>
Subtotal	36	26	34
<b>Total Event Days</b>	<b>175</b>	<b>139</b>	<b>142</b>

Note: Excludes Miscellaneous Events, Public Skating, Tour Rehearsals, and Filming

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

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## Trends in Total Attendance

In the last two years the Civic Center has served about 580,000 to 590,000 patrons annually. In these years the Pirates account for 45 to 47 percent of all attendees at Civic Center events. In the past three years about 50 percent of all patrons were attending sports events and about 35 percent were attending entertainment events.

In 1992-93 total attendance shrank to about 360,000 because of the lack of hockey, but show attendance greatly increased due to a greater number of entertainment events in

that year. Most other events show a great deal of stability in their contributions to total attendance over this period.

**Total Attendance at Events Held in the Cumberland County Civic Center, September 1992 through August 1995**

	1992-93	1993-94	1994-95
<b>Sports</b>			
Pirates	0	275,739	267,546
Other Ice Hockey	10,619	11,829	16,065
Basketball	14,432	11,535	14,869
High School Basketball	20,542	19,762	20,206
Wrestling	9,483	6,174	8,642
Roller Hockey	0	28,651	0
Other Sports	<u>16,336</u>	<u>0</u>	<u>6,126</u>
Subtotal	71,412	353,690	333,454
<b>Entertainment Events</b>			
Concerts	78,064	88,647	70,386
Shows	121,556	63,358	97,478
Dirt Events	8,001	7,293	0
Tour Rehearsals/Filming	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	207,621	159,298	167,864
<b>Exhibit Events</b>			
Trade Shows	19,500	6,965	13,000
Consumer Shows	<u>27,230</u>	<u>12,906</u>	<u>16,283</u>
Subtotal	46,730	19,871	29,283
<b>Other Events</b>			
Conventions	19,000	36,300	42,000
Graduations	11,880	10,530	11,740
Public Skating	3,030	992	397
Miscellaneous	<u>1,000</u>	<u>0</u>	<u>3,603</u>
Subtotal	34,910	47,822	57,740
<b>Total Attendance</b>	<b>360,673</b>	<b>580,681</b>	<b>588,341</b>

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

Although the total number of events held in the Civic Center is down somewhat from earlier years, *total attendance has not similarly declined*. Average annual attendance at Civic Center events averaged 550,900 in the years 1978 through 1992. In 1994-95 total attendance of 588,300 was about seven percent higher than the long term average.

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## Trends in Average Attendance

The focus of this analysis is the need for additional seating in the Civic Center. Trends in average attendance is one of the most important kinds of data we can look at. The Civic Center has the following maximum seating capacities:

Hockey/Circus/Dirt Event	6,733
Basketball	8,011
Ice Show (no stage)	7,347
Ice Show (Disney type)	5,313
Concert (end stage)	8,797
Concert (center stage)	8,749

*Average attendance in any category of event is unlikely to approach seating capacity. Less desirable seats are often difficult to sell and individual events vary in their popularity. The table following shows average attendance at Civic Center events during the past three years.*

Some types of events show substantial increases in their average attendance over this three year period. Pirates average attendance increased about 6 percent from the 1993-94 season to the 1994-95 season. Average attendance at wrestling matches increased about 36 percent over the three year period. Average attendance at shows increased substantially from 1993-94 to 1994-95.

Other events show decreases in average attendance in this time period. Concert average attendance decreased about 43 percent from 1993-94 to 1994-95. Basketball and non-AHL hockey games also decreased in average attendance over the three year period.

Average attendance at all events increased about 3 percent from 1993-94 to 1994-95. The Civic Center's 16 year analysis of events and attendance showed that average attendance at all events from 1977 through 1992 was 3,035. This is substantially lower than the annual average attendance of 3,950 in 1993-94 and 4,058 in 1994-95. *Recent average attendance at Civic Center events is about 30 to 33 percent higher than the historical average attendance experienced over the previous 16 years.*

**Average Attendance at Events Held in the Cumberland County Civic Center, September 1992 through August 1995**

	1992-93	1993-94	1994-95
<b>Sports</b>			
Pirates		5,745	6,081
Other Ice Hockey	5,310	3,943	3,213
Basketball	4,811	2,307	3,717
High School Basketball	3,424	3,952	2,887
Wrestling	3,161	3,087	4,321
Other Sports	5,445		6,126
Roller Hockey		2,605	
Subaverage	4,201	4,780	5,293
<b>Entertainment Events</b>			
Concerts	6,005	6,332	4,399
Shows	3,285	2,880	3,361
Dirt Events	4,001	2,431	
Subaverage	3,993	3,620	3,730
<b>Exhibit Events</b>			
Trade Shows	3,250	995	1,625
Consumer Shows	1,815	1,844	1,628
Subaverage	2,225	1,419	1,627
<b>Other Events</b>			
Conventions	3,800	4,033	3,500
Graduations	3,960	3,510	2,935
Public Skating	379	331	397
Miscellaneous	1,000		1,802
Subaverage	2,054	3,188	3,039
<b>Average All Events</b>	<b>3,371</b>	<b>3,950</b>	<b>4,058</b>

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

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## **Building Capacity Constraints**

Increases in average attendance do not tell the whole story. Even when average attendance is well below the Civic Center's capacity for a particular category of event, that event may often sell out and have a market appeal that would allow higher attendance if more seats were available. The table following shows the number of event days when more than 80 percent of the seats that are available are sold.

## High Attendance Events, Cumberland County Civic Center, September 1992 through August 1995

	Number of Event Days with Attenu- dance more than 95 Per- cent of Capacity	Number of Event Days with Attenu- dance 80 to 95 Percent of Capacity	Percentage of Event Days With High Attendance
Pirates	45	16	<b>69%</b>
Other Hockey	2	1	30%
Basketball	2	0	17%
High School Basketball	0	1	6%
Wrestling	0	0	0%
Concerts	5	5	<b>23%</b>
Shows	1	10	13%
Dirt Events	0	0	0%

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

More than two-thirds of Pirates games have very high attendance and more than half of them have sold out in the past two seasons. Although only about 13 percent of show performances can be classified as having high attendance, remember that most of these shows do a series of performances some of which are on weekdays. About one-fourth of concerts have high attendance and almost one in nine sells out.

Another statistic that can inform us about building constraints is the percentage of the total seating available to them that each category of event uses. Of all the tickets they could sell, what proportion do they actually sell? The table below shows the percent of total available capacity used by each major category of event. We calculated these percent of building capacity figures for each individual event in the three year period and then cumulated them by event type.

**Percent of Total Building Capacity Used By Events  
Held in the Cumberland County Civic Center, Sep-  
tember 1992 through August 1995**

	<b>Percent of Building Capacity Used</b>
Pirates	88%
Other Hockey	57%
Basketball	58%
High School Basketball	42%
Wrestling	40%
Concerts	63%
Shows	55%
Dirt Events	45%

*Source: Finne & Associates based on documents provided by the Cum-  
berland County Civic Center*

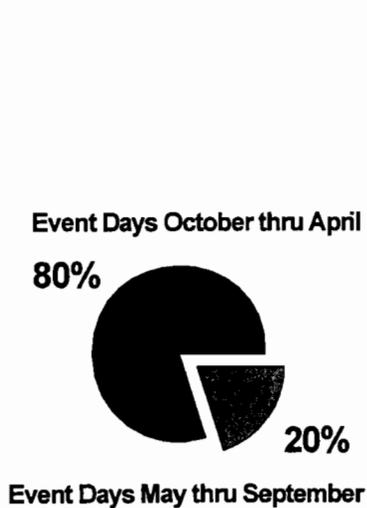
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## **Seasonality of Events**

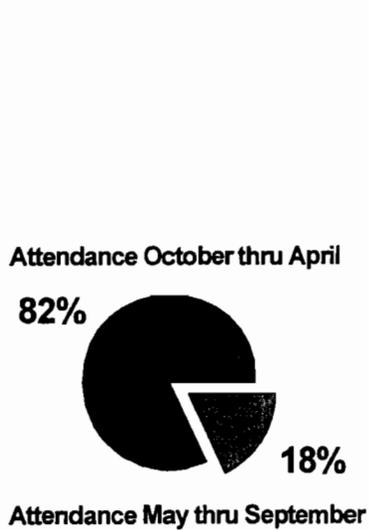
Arenas tend to have highly seasonal event patterns. Many people go on vacations and prefer outdoor activities in the summer months. The rapid development of amphitheaters in recent years has taken warm weather concert activity almost entirely outdoors.

The table following shows event and attendance patterns at the Civic Center by month. More than 80 percent of all events are held in the seven months from October through April. More than 82 percent of all attendance is in this same seven month period.

## Seasonality of Events and Attendance, Cumberland County Civic Center, September 1992-August 1995



	<u>Event Days</u>			<u>Percent (3 Years)</u>
	1992-93	1993-94	1994-95	
September	3	4	11	5%
October	15	20	16	13%
November	7	13	16	9%
December	16	17	18	13%
January	5	16	15	9%
February	17	11	12	10%
March	16	22	19	14%
April	14	11	23	12%
May	4	12	5	5%
June	5	9	8	6%
July	3	9	0	3%
August	<u>1</u>	<u>3</u>	<u>2</u>	<u>2%</u>
<b>Total</b>	<b>107</b>	<b>147</b>	<b>145</b>	<b>100%</b>
<b>Percent October thru April</b>	<b>85%</b>	<b>75%</b>	<b>82%</b>	<b>80%</b>



	<u>Attendance</u>			<u>Percent (3 Years)</u>
	1992-93	1993-94	1994-95	
September	13,902	17,588	29,751	4%
October	60,781	74,917	66,370	13%
November	35,372	80,122	92,291	14%
December	31,634	47,199	67,911	10%
January	12,202	61,855	50,697	8%
February	48,122	49,883	52,989	10%
March	57,969	80,598	78,776	14%
April	52,035	49,909	96,581	13%
May	13,275	63,744	17,553	6%
June	18,518	23,921	30,636	5%
July	10,803	18,084	0	2%
August	<u>2,727</u>	<u>12,861</u>	<u>4,786</u>	<u>1%</u>
<b>Total</b>	<b>360,673</b>	<b>580,681</b>	<b>588,341</b>	<b>100%</b>
<b>Percent October thru April</b>	<b>84%</b>	<b>77%</b>	<b>86%</b>	<b>82%</b>

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

## Day of the Week Event Patterns

Most people prefer to go out to sports and entertainment events on weekends. Any building manager or promoter knows that weekend events tend to draw better than week-day events. The table following shows that 64 percent of all Civic Center events are on Friday, Saturday, and Sunday. In 1994-95 the Civic Center held 40 events on Saturdays. Almost two thirds of all patrons come to the Civic Center on weekends.

### Comparison of Event Days and Attendance at the Cumberland County Civic Center by Day of the Week, September 1992 through August 1995

		<u>Event Days</u>			<u>Percent (3 Years)</u>
		1992-93	1993-94	1994-95	
<b>Event Days on Weekends</b>  <b>64%</b> <b>Event Days on Weekdays</b> <b>36%</b>	Monday	8	10	8	7%
	Tuesday	10	10	10	8%
	Wednesday	12	25	18	14%
	Thursday	11	12	11	9%
	Friday	21	28	31	20%
	Saturday	27	35	40	26%
	Sunday	<u>18</u>	<u>27</u>	<u>27</u>	18%
	<b>Total</b>	107	147	145	
	<b>Percent on Weekend</b>	<b>62%</b>	<b>61%</b>	<b>68%</b>	<b>64%</b>
			<u>Attendance</u>		
		1992-93	1993-94	1994-95	
<b>Attendance on Weekends</b>  <b>66%</b> <b>Attendance on Weekdays</b> <b>34%</b>	Monday	25,520	25,583	26,604	5%
	Tuesday	32,812	39,733	29,065	7%
	Wednesday	46,626	100,810	81,603	15%
	Thursday	39,587	32,157	37,257	7%
	Friday	79,170	125,685	140,261	23%
	Saturday	91,996	169,020	191,766	30%
	Sunday	<u>44,962</u>	<u>87,693</u>	<u>81,785</u>	14%
	<b>Total</b>	360,673	580,681	588,341	
	<b>Percent on Weekend</b>	<b>60%</b>	<b>66%</b>	<b>70%</b>	<b>66%</b>

Source: Finne & Associates based on documents provided by the Cumberland County Civic Center

More than one event can be held in the Civic Center in a day. Many family shows hold matinees and evening performances on Saturdays. Multiple performances of a concert or multiple basketball games also occur, although more rarely. The following table shows the number of Fridays, Saturdays, and Sundays booked in the last three years, whether with one event or up to three.

**Weekend Days Booked, Cumberland County Civic Center, September 1992 through August 1995**

	<u>Days Booked with Events</u>		
	1992-93	1993-94	1994-95
Friday	19	27	30
Saturday	24	34	35
Sunday	16	24	25

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

There are approximately 30 weekends in the seven month period when most events take place. Last year the Civic Center was booked on 30 Fridays, 35 Saturdays, and 25 Sundays. There are only limited opportunities for seeking additional rentals during the summer months. Concert tours are set up for amphitheaters during this period. Family shows do not generally tour during the summer. Traditional basketball and hockey seasons are in the winter. *The Civic Center is presently heavily booked on prime weekend dates.*

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## **Financial Performance**

The financial data to which we had access uses January through December fiscal years. Nevertheless, we can see the impact of the Pirates on the Civic Center's financial performance.

Unlike many public facilities, the Civic Center generates an operating surplus from its operations. We do not include any subsidy from the county as a part of revenue nor do we include depreciation or contingency as a component of expense. Depreciation does not represent a real expenditure of funds.

Without full years of hockey, 1992 and 1993, taken together, approximate a break even position. However, in 1994 the Civic Center produced an operating surplus of almost \$190,000. *Most of the increased revenue comes from the food and beverage concessions at hockey games. Event income increased little as a result of Pirates games.* Increases in advertising revenue and ice rental also make some contribution to revenue. Although hockey also generates some additional expense in maintenance, security, and utilities, the additional concession income more than offsets these extra costs.

**Operating Revenue and Expense, Cumberland County  
Civic Center, 1992 through 1994**

<b>Revenue</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>
Events Income (net)	\$479,586	\$466,167	\$487,786
Concessions (net)	\$355,615	\$311,223	\$500,926
Advertising	\$36,248	\$9,012	\$23,931
Interest	\$29,863	\$22,119	\$44,642
Ice Rental	\$41,464	\$49,059	\$58,275
Scoreboard		\$45,813	\$46,999
Miscellaneous	<u>\$9,688</u>	<u>\$7,274</u>	<u>\$7,791</u>
	\$952,464	\$910,667	\$1,170,350
<b>Expenses</b>			
Payroll and Benefits	\$381,587	\$404,257	\$333,169
Professional Services	\$18,584	\$28,093	\$24,895
Maintenance, Repairs, Supplies	\$72,654	\$86,605	\$109,365
Security	\$0	\$3,849	\$10,546
Utilities	\$231,315	\$240,804	\$298,631
Insurance	\$99,972	\$102,988	\$104,149
Office Costs	\$41,734	\$37,527	\$39,082
Telephone	\$13,607	\$11,994	\$14,289
Memberships/Travel	\$10,545	\$12,636	\$14,608
Advertising	\$6,408	\$8,300	\$8,940
Group Sales	\$19,870	\$21,292	\$21,198
Miscellaneous	<u>\$11,175</u>	<u>\$19,732</u>	<u>\$3,625</u>
	\$907,451	\$978,077	\$982,497
<b>Surplus or Deficit From Operations</b>	<b>\$45,013</b>	<b>(\$67,410)</b>	<b>\$187,853</b>

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

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## Concession Trends

Concession sales are an important key to an arena's profitable operation. Hockey not only brought more patrons to the Civic Center to purchase food and beer, but hockey fans tend to spend more on concessions. Per capita concession sales in 1994 were almost 30 percent higher than in the two previous years.

### Annual Per Capita Concession Sales, Cumberland County Civic Center, 1992-1994

	1992	1993	1994
Food	\$1.29	\$1.18	\$1.46
Beer, Wine & Alcohol	<u>\$0.27</u>	<u>\$0.27</u>	<u>\$0.48</u>
<b>Total</b>	<b>\$1.56</b>	<b>\$1.45</b>	<b>\$1.94</b>

*Source: Finne & Associates based on documents provided by the Cumberland County Civic Center*

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## Comparisons With the Providence Civic Center

The Providence Civic Center is about 75 percent larger and about five years older than the Cumberland County Civic Center. The seating capacities of the two buildings compare as follows:

	Providence Civic Center	Cumberland County Civic Center
Hockey	11,940	6,733
Basketball	13,106	8,011
End Stage Concert	14,514	8,797

Although the Portland and Providence markets are similar New England markets in terms of audience tastes and income levels, the Providence market has about 60 percent more population in a tight dense urban area, as compared to Portland's more spread out and more rural market area.

The Providence Civic Center and the Cumberland County Civic Center had close to the same number of event days in 1994-94, but Providence had almost twice as many attendees at events. The Providence Civic Center hosts fewer convention and trade show events than the Cumberland

County Civic Center because the nearby Rhode Island Convention Center can serve flat floor events. The Providence Civic Center is home to the AHL Bruins as well as Providence College Basketball.

As the following table shows, AHL Hockey is the attendance mainstay in both buildings, with college basketball a close second in Providence. Although Providence hosted half as many of concerts as the Cumberland County Civic Center, the two buildings had very similar total concert attendance. The U.S. Figure Skating Championships (here classified under shows) boosted Providence's show event days and attendance in 1995.

### Comparison of Event Patterns in the Providence Civic Center and the Cumberland County Civic Center, 1994-95

	Providence Civic Center July 1994 thru June 1995				Cumberland County Civic Center September 1994 through August 1995			
	Event Days	Total Attendance	Average Attendance	Estimated Percent of Building Capacity Used	Event Days	Total Attendance	Average Attendance	Estimated Percent of Building Capacity Used
AHL Hockey Games	47	404,110	8,598	72%	44	267,546	6,081	90%
Other Ice Hockey	3	22,387	7,462	62%	5	16,065	3,213	48%
Basketball	28	267,824	9,565	73%	11	35,075	3,189	40%
Wrestling	3	12,473	4,158	29%	2	8,642	4,321	54%
Concerts	8	68,788	8,599	59%	16	70,386	4,399	50%
Shows	36	256,887	7,136	75%	29	97,478	3,361	63%
Dirt Events	5	30,870	6,174	52%	0	0		
Exhibit Events	4	10,711	2,678		18	29,383	1,632	
Conventions	6	60,000	10,000		12	42,000	3,500	
All Other Events	<u>11</u>	<u>10,778</u>	980		<u>8</u>	<u>21,866</u>	2,733	
Total	151	1,144,828	7,582		145	588,441	4,058	

Note: We estimated percent of building capacity used by dividing average attendance by estimated building capacity for that type of event.

Source: *Finne & Associates based on documents provided by the Cumberland County Civic Center and the Providence Civic Center*

The two buildings are remarkably similar in their weekend and seasonal patterns, as the following table shows.

**Weekend and Seasonal Patterns in the Providence  
Civic Center and the Cumberland County Civic  
Center, 1994-95**

	<u>Providence Civic Center</u>		<u>Cumberland County Civic Center</u>	
	Number	Percent	Number	Percent
Events on Weekends	104	69%	98	68%
Attendance on Weekends	778,669	68%	413,812	70%
Events October thru April	122	81%	119	82%
Attendance October thru April	932,743	81%	505,615	86%

*Source: Finne & Associates based on documents provided by the Cum-  
berland County Civic Center and the Providence Civic Center*

Although these two buildings have similar event patterns, their financial profiles are quite different. While the Cumberland County Civic Center generated an operating surplus in 1994, the Providence Civic Center operated at an almost half million dollar loss.

**Comparison of Revenue and Expenses, Providence  
Civic Center and Cumberland County Civic Center**

	<u>Providence Civic Center</u>	<u>Cumberland County Civic Center</u>
Revenue	Year Ending 6/94	Year Ending 12/94
Event Income	\$692,582	\$487,786
Concessions	\$752,414	\$500,926
Advertising	\$304,018	\$23,931
All Other	<u>\$868,936</u>	<u>\$157,707</u>
Total Revenue	\$2,617,950	\$1,170,350
Total Expenses	\$3,110,744	\$982,497
<b>Net Operating Profit/Loss be- fore Deprecia- tion or Debt Service</b>	<b>(\$492,794)</b>	<b>\$187,853</b>

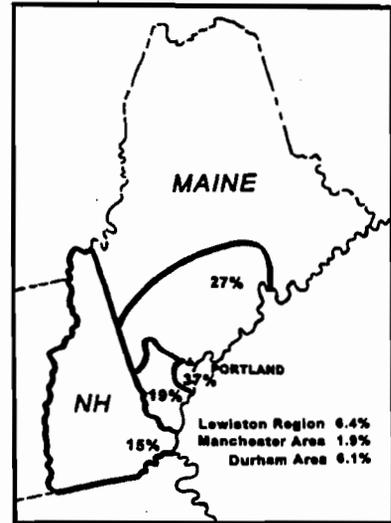
*Source: Finne & Associates based on documents provided by the Cum-  
berland County Civic Center and the Providence Civic Center*

## Civic Center Market Area

The Civic Center management prepared a geographical analysis of their mailing list that had been compiled from the credit card orders for seven figure skating events. The following table and map summarize this analysis.

### Origin of Credit Card Orders for Seven Ice Skating Events, Cumberland County Civic Center

Geographic Origin	Percent of Total Orders
Portland Metro Area	37%
Southern Maine including all of York County and part of Cumberland County	19%
Elsewhere in Maine, Bangor and south	27%
New Hampshire	15%
Other States	2%
Total	100%



Source: Finne & Associates based on documents provided by the Cumberland County Civic Center

We also interviewed the Civic Center manager as to his perception of the market area for all Civic Center events. He drew three market areas (primary, secondary, and tertiary) on a map for us. The areas he outlined on the map encompassed the counties listed in the following table and shown on the following map.

## Management Perception of the Cumberland County Civic Center Market Area

### Primary Market Area

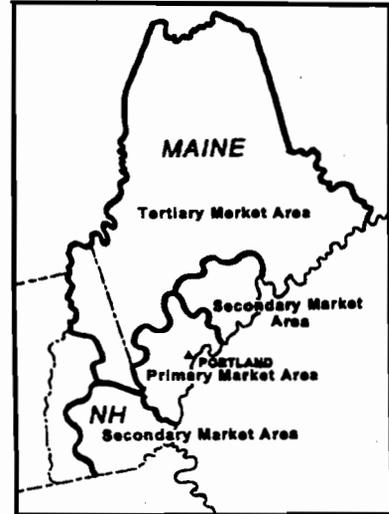
York County  
Cumberland County  
Androscoggin County  
Sagahoc County

### Secondary Market Area

Kennebec County  
Lincoln County  
Knox County  
Part of Waldo County  
Strafford County, NH  
Rockingham County, NH  
Part of Merrimack County, NH

### Tertiary Market Area

Rest of Maine  
Coos County, NH  
Carroll County, NH



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## User Input

An important aspect of our research for this study is interviews with major Civic Center users. The following paragraphs summarize their comments. We also interviewed the manager and the owner of the Pirates and discuss those interviews in Section Two.

### Figure Skating Shows

We interviewed two promoters of figure skating shows. One stated that he thought that Portland was the best market in the country for figure skating shows. The market for figure skating is largely adult females.

Both promoters thought that they could easily use a building seating 10,000 for their event in Portland. Larger buildings work well for figure skating shows because the promoter is reluctant to do two shows and thus pay the performers twice. As one of these promoters put it, he can make more money selling out 10,000 seats once than he can selling out 6,000 seats twice. One of these promoters is planning to play the new University of New Hampshire arena in Durham, but the other evaluated it as too small for his show.

Tickets to Stars on Ice averaged about \$25.00 last year and the promoter plans to raise ticket prices by about ten percent next year. In general, figure skating show promoters are very positive about the Civic Center and its market.

### **Disney on Ice**

Disney on Ice last played the Civic Center in October of 1994 and is considering dates in February of 1997. They consider the 5,200 ice show capacity of the Civic Center on the small side for their show. They are considering playing the new UNH arena in Durham. They do not advertise their Portland run in New Hampshire.

Their calculations of attendance show that they used 65 percent and 63 percent of the Civic Center's capacity for their last two runs. They consider this a very favorable market indication. They feel that they could sell more seats at one or two of their performances. Tickets for their last run in Portland ranged from \$10.50 to \$18.50. These prices are at a level slightly higher than in some other comparable markets.

### **Circus**

The Kora Shrine Circus has been held at the Civic Center for the last ten years. They play seven shows over a Monday, Tuesday, and Wednesday of the school system's spring recess. Ticket prices range from \$2.50 to \$7.00. Attendance at the Shrine Circus averages about 3,000 per show, far below building capacity. For their one ring circus patrons particularly dislike the end seats in the Civic Center. Additional seating would be an advantage for the Shrine Circus only if the new seats were on the sides of the arena.

The Ringling Brothers Circus last played the Civic Center in 1989. They view the Civic Center's 7,000 seat capacity for the circus as very limited given the transportation costs to Maine. Nevertheless, their last run in Portland played at 58 percent of building capacity which they view as good considering that the dates were over Memorial Day weekend. They are reluctant to play the Civic Center currently because the Shrine Circus is scheduled at a time too near dates that they can consider.

### **Sesame Street Live**

Sesame Street is very pleased with their experience in the Civic Center. Its half house configuration works well for their show, as does the rigging, loading, and sound. The fact that the Civic Center co-promotes Sesame Street gives them a loyalty and commitment to return.

They have considered the possibility of playing the new UNH arena but dismissed it because they do not think the

Durham market is as strong as Portland's market. They often play the Augusta Civic Center but view the Portland market as stronger.

Their ticket prices are \$9.50 and \$7.50, about the same as other comparable markets. They plan to raise ticket prices a little this year. Since they play a half house they do not think that an expansion of the Civic Center's seating would affect their event at all.

### **Concerts**

The Don Law company promotes many concerts in the Civic Center. It is one of the smallest buildings in which they promote and is too small for many of the current tours. They would view any increase in seating as advantageous to the kind of concerts they promote. They feel that if the Civic Center had more seats that they would promote more concerts in Portland. They have no interest in promoting in the new UNH arena. They also feel that the market for the planned 10,000 seat arena in Manchester may not be as strong as the Portland market. They feel that the ticket prices they can charge in Portland are equal to those in any other market in which they promote.

By contrast, New England Country Festivals feels that the seating in the Civic Center is just right for their shows. They point out that the building is comparable in size to many Canadian buildings and that it fits well in a tour routed to these buildings. This promoter feels that increased seating would not bring increased attendance at country music concerts or bring more events. He states that the Civic Center is the best building in Maine for his shows. He has booked one act into the new UNH arena in Durham but does not plan on using the building often.

### **High School Basketball**

Maine's high school division A semi-final games are held in Portland each year and the division A championship every other year. Tickets are \$6.00 and \$2.00. They find the building very workable for their games but somewhat expensive to rent and use. Attendance at these games is quite variable depending on which schools make the play-offs. They would use any extra seating in the Civic Center only at a few games in occasional years. At most, even at these high attendance games, they feel they would only sell 300 or 400 more tickets. They are concerned that expansion might drive the rental rate out of their range.

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## Key Findings

- ◆ In recent years the Civic Center has been used for just under 150 event days a year. This level of use is somewhat lower than use in the past primarily because of declines in the number of concerts and wrestling matches booked.
- ◆ *Total* attendance at Civic Center events is currently about seven percent higher than the building's long term experience. *Average* attendance at events in the past two years is about 30 to 33 percent higher than the historical average attendance experienced over the previous 16 years.
- ◆ About 64 percent of all Civic Center events are held on Friday, Saturday, and Sunday. More than 80 percent of all events are held in the seven month period from October through April. The Civic Center is presently very heavily booked on the prime weekend days in the fall, winter, and early spring.
- ◆ The Pirates positive contribution to the Civic Center's financial operation can be seen most clearly in increased concession sales. Net concession sales increased by almost \$190,000 between 1993 and 1994.
- ◆ Major users are very positive about the Civic Center and the strength of the Portland market. They perceive no ticket price resistance in the Portland market.
- ◆ Both figure skating shows and non-country music concert promoters would find about 10,000 seats advantageous in the Civic Center. Additional seats could also bring the Civic Center back into serious consideration by the Ringling Brothers Circus and Disney on Ice.

## Section Two

### Portland Pirates

The Pirates began playing in the Cumberland County Civic Center in the fall of 1993. They have had robust attendance and a winning record throughout their first seasons. They sell out many games and feel the need for increased seating. The purpose of this section is to document the Pirates history in Portland as a basis for projecting their future attendance.

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#### Team History

The Pirates moved to Portland from Baltimore. The team's owner feels that the team suffered in Baltimore from competition with major league sports in the area. He evaluated two cities as possible homes for his team: Portland and Syracuse. Both cities had previously had AHL teams, and he felt that the support for hockey was stronger in Portland. He thinks that strong youth and college hockey programs strengthen support for an AHL team in Portland.

He feels that the Pirates success in Portland is due to two major factors:

- ♦ He increased his number of free agent players. These players stay with the team longer than farm players and develop a following in the community.
- ♦ He remarketed the team as family entertainment with promotions and half time shows attractive to children.

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#### Box Office and Turnstile Attendance

Two attendance figures are reported for Pirates games: box office and turnstile. According to the Pirates' contract with the Civic Center, both the building and the team have the rights to complimentary tickets. In October 1995, Pirates records showed that they had issued 632 complimentary season tickets to the Civic Center, team sponsors and advertisers, team staff and players, and miscellaneous others such as booster club officers, mascots, announcers, and doctors.

Two factors account for the difference between turnstile and box office attendance. One factor is that certain people

with comp tickets enter the Civic Center with the team before the turnstiles are in place. The second factor, and we suspect the major factor, is that some people who hold comp tickets or paid season tickets do not always use their tickets. The following table shows Pirates box office and turnstile attendance for their tenure in Portland.

**Portland Pirates Box Office and Turnstile Attendance, October 13, 1993 thru November 8, 1995**

	Average Box Office Attendance	Average Turnstile Attendance	Percent by Which Box Office Attendance Exceeds Turnstile Attendance
<b>1993-94</b>	5,727	5,115	10.7%
<b>1994-95</b>	6,140	5,357	12.8% <i>(see note)</i>
<b>1995-96 (10 games)</b>	n/a	4,476	n/a

*Note: includes effect of snowstorm*

*Source: Finne & Associates based on data provided by the Cumberland County Civic Center*

The tables above and following imply that more than 10 percent of paid or complimentary season ticket holders or other ticket holders do not show up for games. We think that this is probably true for several reasons. The Pirates sell at least 12 percent of their season tickets to people who live far from the Portland metropolitan area. With an average single game ticket value of \$9.30, a missed game does not represent a large economic loss. Many of these out of town season ticket holders may purchase the season ticket for assurance of a good seat and the convenience of not having to go to a Ticketmaster outlet or the Civic Center box office. Sponsors and advertisers may view their tickets similarly, as a way to have good seats for the games they wish to attend. The fact that there are more "no shows" on Wednesdays than on weekend days supports this reasoning.

## Portland Pirates Box Office Versus Turnstile Attendance by Day of Week, 1993-1995

	Percent by Which Box Office Attendance Exceeds Turnstile Attendance	
	1993-94	1994-95
Wednesday	15.5%	15.3%
Friday	12.3%	10.1%
Saturday	5.2%	11.8% <i>(see note)</i>
Sunday	14.0%	11.3%

*Note: without effect of snowstorm*

*Source: Finne & Associates based on data provided by the Cumberland County Civic Center*

However, all this being said, the point may be moot. Neither the Pirates nor the Civic Center (unlike every major airline) can responsibly sell or otherwise distribute more tickets than they have seats, whether the holders of those tickets occupy the seats or not. *We believe that box office attendance should be the basis for planning future seating needs and projecting future attendance.*

---

## Attendance Trends

Tables presented in Section One showed that the Pirates had a total box office attendance (including playoff games) of 275,700 in their first season and 267,500 in their second season. With average box office attendances of 5,745 and 6,081 the Pirates were operating respectively at 85 and 91 percent capacity in their first two seasons. *More than half their games these two years had a box office attendance of more than 95 percent of the building's capacity.*

However, the beginning of the 1995-96 season has not been so rosy. The Pirates have had an average turnstile attendance of only about 4,500 in their first ten games. At this point we have access only to turnstile attendance figures for the 1995-96 season. Having made the case for box office attendance as the most reasonable to use as the basis for planning, we would like to return briefly to turnstile attendance in order to facilitate comparison of the current season with the previous two seasons.

Do all seasons start slowly? The following table shows total and average turnstile attendance for the first ten games of each season. *Attendance in the current season is 15 percent lower than the same period last year.*

**Portland Pirates Total and Average Turnstile Attendance for the First Ten Games of Each Season**

	<b>Total Attendance</b>	<b>Average Attendance</b>	<b>Change from Previous Year</b>
1993-94	50,111	5,011	
1994-95	52,700	5,270	5.2%
1995-96	44,764	4,476	-15.1%

*Source: Finne & Associates based on data provided by the Cumberland County Civic Center*

The first ten games of the 1995-96 season took place on one Monday, two Wednesdays, three Fridays, and four Sundays. The table following shows turnstile attendance by day of the week for this season and the past two seasons. These data show that the declines in attendance are distributed on all playing days with Saturdays a little less down than Wednesdays, Fridays, and Sundays.

In the 1993-94 season Saturday attendance was much higher than Friday and Sunday attendance. The leveling of Friday, Saturday, and Sunday attendance in the 1994-95 season implies that the Pirates instituted special advertising or promotions for Friday and Sunday games. In the long run, this practice has the potential to raise total attendance within the seating constraints of the present building.

**Portland Pirates Average Turnstile Attendance by Day of the Week**

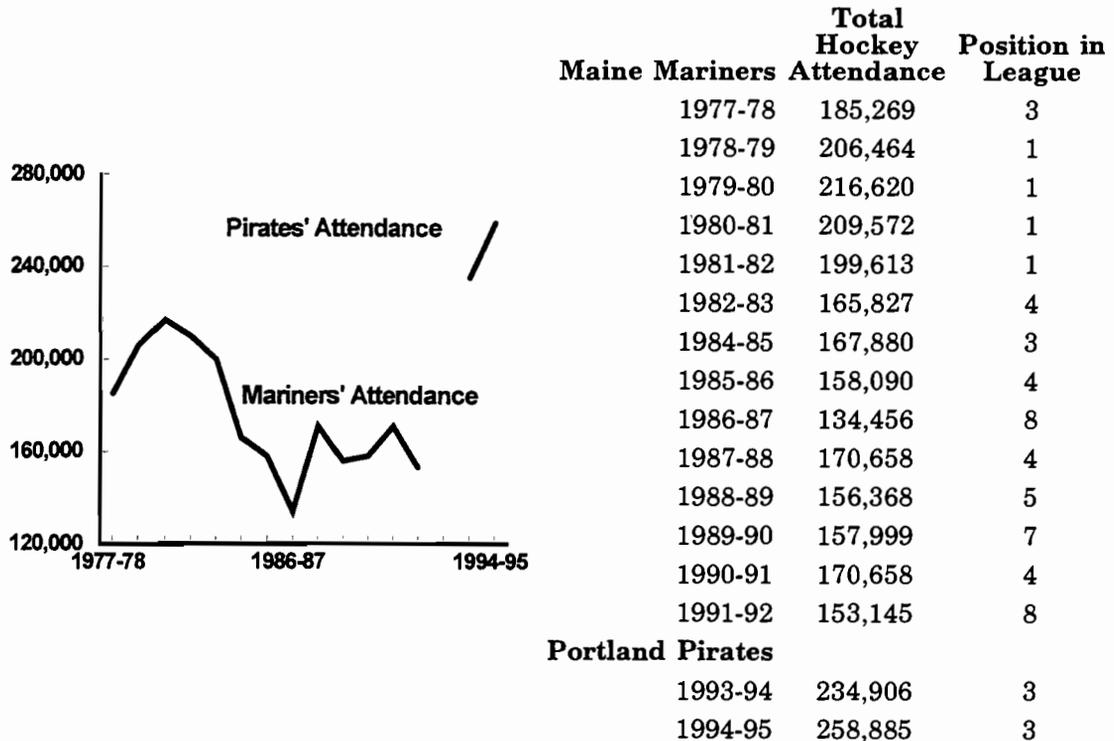
	<b>1993-94</b>	<b>1994-95</b>	<b>1995-96</b>	<b>Change from 1994-95 to 1995-96 Season</b>
Monday			2,736	
Wednesday	4,265	4,657	4,069	-12.6%
Thursday		6,397		
Friday	4,731	5,345	4,575	-14.4%
Saturday	6,319	5,538	5,042	-9.0%
Sunday	4,781	5,477		
Average	5,115	5,357	4,476	-16.4%

*Source: Finne & Associates based on data provided by the Cumberland County Civic Center*

How has the Pirates attendance compared with that of the Maine Mariners who played in the building from 1977 to 1992? The following table shows attendance at the 40

games of the regular playing season. The Pirates average total attendance for their first two seasons of 247,000 is 41 percent higher than the Mariners average total (40 game) attendance of 175,000 for their 14 seasons in the Civic Center.

**Total Attendance at Maine Mariners and Portland Pirates Regular Home Games, 1977 to 1995**



Source: Documents provided by the American Hockey League

Looking at the data on long term attendance we see two phenomena that we investigate in Section Four in an analysis of American Hockey League trends. First, as the Mariners' tenure in Portland grew longer, their attendance went down. Second, when they were playing well they had higher attendance.

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## Game Schedule

Saturday attendance at Pirates games is the highest in all years. It stands to reason that a schedule with fewer weekend dates could have a serious impact on total attendance. The table that follows shows the Pirates' game schedule by day of the week for the last two seasons and for the current

season. If anything, the schedule for the current season appears quite advantageous in terms of the number of Saturdays scheduled. Team management points out that the home game schedule for 1995-96 is heavily concentrated in October and February with too few games in December and January, and that this could negatively affect attendance.

### Pirates Regular Games Scheduled by Day of Week

	1993-94	1994-95	1995-96
Monday	0	0	1
Tuesday	0	0	1
Wednesday	12	6	6
Thursday	0	1	0
Friday	9	13	8
<b>Saturday</b>	<b>13</b>	<b>15</b>	<b>18</b>
Sunday	<u>6</u>	<u>5</u>	<u>6</u>
Total	40	40	40

*Source: Finne & Associates based on documents provided by the Portland Pirates and by the Cumberland County Civic Center*

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## Ticket Revenue Trends

The Pirates have been pleased with their season ticket sales in their first three seasons. The table following shows season ticket sales and per game average price. Since the Pirates sell full season tickets, 20 game tickets, and 10 game tickets, they convert sales figures into "season ticket equivalents." Thus two 20 game tickets or four 10 game tickets equal one full season ticket. Almost 27 percent of all seats belong to paid season ticket holders. Another 9 percent of all seats belong to comp season ticket holders.

### Portland Pirates Season Ticket Sales

	Paid Season Ticket Equivalents	
	Number	Average Price
1993-94	1,132	\$7.76
1994-95	1,802	\$8.28
1995-96 (through 10/9/95)	1,809	\$9.30

*Source: Documents provided by the Portland Pirates*

Since the Pirates continue selling 10 and 20 game packages throughout the season, their season ticket sales could be higher for the 1995-96 season than for the 1994-95 season. *The Pirates have been able to sustain healthy sales and raise season ticket prices substantially.* Prices for the 1994-95 season were \$.52 higher than for the previous season. This year, season ticket prices are \$1.02 higher than last year. *It seem safe to conclude on a preliminary basis that this year's early season sluggish attendance does not represent an erosion of their hard core fan, base who are spending even more on season tickets.*

Box office ticket revenue also shows a per ticket increase of almost one dollar between the 1993-94 and 1994-95 seasons. The table following shows total and per capita ticket revenue. This revenue incorporates the season ticket revenue.

### Portland Pirates Box Office Ticket Revenue

	Total Revenue	Per Capita Revenue
1993-94	\$1,489,784	\$7.28
1994-95	\$1,761,911	\$8.22

*Source: Finne & Associates based on data provided by the Cumberland County Civic Center*

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## Concession Revenue Trends

In Section One we saw that concession revenue was the largest impact of the Pirates on Civic Center total revenue. In 1994, overall annual Civic Center concession sales averaged \$1.94 per person. *Hockey fans eat and drink more than other Civic Center patrons.* The table following shows that hockey fans spent \$3.77 per capita on food and beverages last season. The amount they spent increased only a small amount between the first and second seasons.

## Total and Per Capita Food and Beverage Revenue at Portland Pirates Games

	1993-94	1994-95
<b>Total Revenue</b>		
Food	\$541,178	\$618,820
Beverage	<u>\$178,520</u>	<u>\$188,639</u>
Total	\$719,698	\$807,459
<b>Per Capita Revenue</b>		
Food	\$2.65	\$2.89
Beverage	<u>\$0.87</u>	<u>\$0.88</u>
Total	<b>\$3.52</b>	<b>\$3.77</b>

Source: Finne & Associates based on data provided by the Cumberland County Civic Center

Other data show that people spend more on concessions at Wednesday games than at other games. This may be because there are fewer children at these games or because more people may combine a weekend game with dinner out and thus purchase less food at the Civic Center concession stands on weekends.

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## Lease With Civic Center

The current lease of the Portland Pirates with the Cumberland County Civic Center is in effect through the 1998-99 season (three seasons past the current season) and is renewable for three years after that. The major provisions of the current lease are as follows:

The Cumberland County Civic Center gets:

- ◆ 3 percent of regular season ticket revenue,
- ◆ 5 percent of playoff game ticket revenue,
- ◆ 60 comp tickets,
- ◆ all revenue from permanent advertising (scoreboard, etc.),
- ◆ reimbursement for all personnel expenses incurred at each game, and
- ◆ a weekly box office fee.

The Portland Pirates get:

- ♦ preference for 55 dates including 25 Saturdays or Sundays,
- ♦ 8 percent of concessions plus \$1.00 per person of turnstile attendance over 5,501 but less than 6,000 (with a slightly different provision during the play-offs) or 12 percent of concessions when turnstile attendance is more than 6,000,
- ♦ a portion of permanent advertising revenues if existing sponsors renew at a higher level,
- ♦ all new temporary game advertising revenue (dashers, Zamboni, etc.),
- ♦ game day and limited other practice time,
- ♦ all novelty and program revenue,
- ♦ \$2.00 for every car parked in city garage or 2/3 of parking fee if fee is more than \$3.00,
- ♦ the right to issue approximately 538 comp tickets, and
- ♦ all broadcast revenue.

The Pirates must also:

- ♦ pay all costs associated with the games (officials, etc.).

From our brief analysis of the Civic Center's events and operating revenue and expenses presented in Section One it appears that the major consequences of this lease are that the Pirates:

- ♦ do not bring in any more event revenue than would other arena events
- ♦ make a small contribution to ice rental and advertising revenue
- ♦ cover most of the extra expenses that they cause the building to incur except for extra utility expenses
- ♦ generate concession sales at games that produce almost all of the building's net gain from the Pirates tenure
- ♦ block a lot of prime weekend dates some of which might be booked with other high revenue events

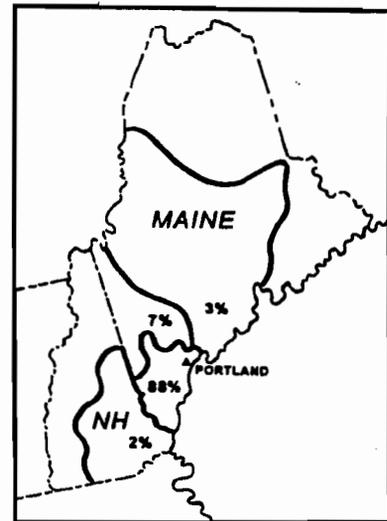
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## Market Area

The Pirates provided data on the geographic origin of their season ticket sales. Those people who will commit to attending enough games to make it worth the investment in a season ticket tend to live fairly near Portland. The following table and map summarize the origin of Pirates 1995-96 season ticket sales as of the end of October, 1995.

### Geographic Origin of Pirates 1995-96 Season Ticket Sales as of October 30, 1995

	Percent of Total Season Ticket Sales
Cumberland and York Counties	88%
Oxford and Androscoggin Counties (Lewiston area)	7%
Rest of Maine (excluding northern and easternmost regions)	3%
Southeastern New Hampshire	2%



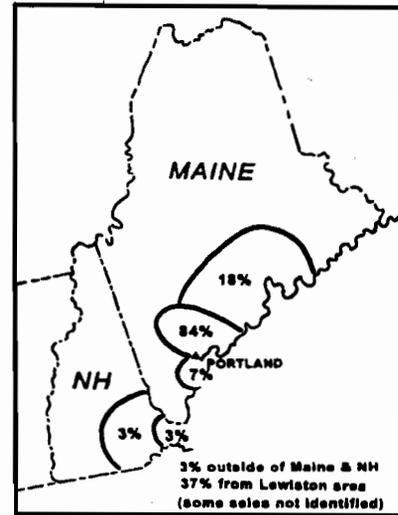
*Source: Documents provided by the Portland Pirates*

The Pirates also sell a limited number of tickets through Ticketmaster. Total tickets sold this way are between two and three percent of total tickets sold. As one might expect, Ticketmaster sales in Portland are low. These people can as easily come to the Civic Center box office. The table and map following summarize Ticketmaster sales. About 37 percent of all Ticketmaster sales are at the Coconuts Store in Auburn. This is the closest Ticketmaster outlet to the Lewiston market.

## Geographic Origin of Ticketmaster Sales of Tickets to Portland Pirates Games, 1994-95 Season

	Percent of Total Ticketmaster Sales
Portland area	7%
Area north of Portland including Lewiston, Brunswick, and Auburn	64%
Augusta-Waterville area	18%
Southeastern New Hampshire	6%
Other States	3%

*Note: Does not add to 100 percent because some sales not identified as to place*

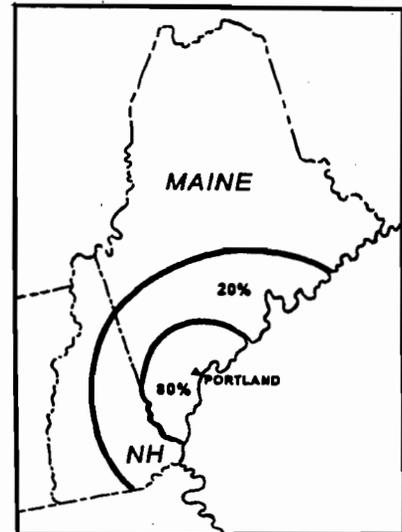


*Source: Finne & Associates based on documents provided by the Portland Pirates*

We also asked the Pirates General Manager what he thought the market area for the Pirates was. He drew the following area on a map for us.

### Pirates' Management Perception of Team Market Area

	Percent of Total Attendees Coming From This Area
Cumberland, York, Androscoggin, and Sagadahoc Counties	80%
Remainder of Maine from south of Bangor and eastern New Hampshire	20%



*Source: Interview with Pirates General Manager*

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## Pirates Perceived Needs

The Pirates owner feels that in order to remain competitive he must spend heavily on the best players available to him. In order to spend as much as he would like on players he must produce more revenue from games. He feels that he has sold all of the advertising that he can in the Portland market, and he says that he is hesitant to raise ticket prices more. Selling more seats is the only way he sees to generate more revenue.

He feels that he could sell out 8,000 seats for about 20 games a year. The revenue from those extra ticket sales would generate income that he could spend on good players. The team would advance to the playoffs and both the team and the building would benefit. The Pirates General Manager thought that the team had the potential to market some box seats as well.

The team owner also feels that new AHL franchises and teams that are considering moving are looking at arenas in the 8,000 to 12,000 seat range. To stay competitive with these teams he feels that he must be able to have the revenue from a building with comparable seating.

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## Key Findings

- ◆ The Portland Pirates have filled Civic Center seats to 85 and 91 percent of capacity in their first two seasons. More than half of all of their games achieve a box office attendance of more than 95 percent of the Civic Center's seating capacity for hockey. The Pirates have far surpassed the Mariners in attendance.
- ◆ Attendance in the first ten games of the 1995-96 season are significantly lower than in the beginning of either of the last two seasons. Robust season ticket sales suggest that this poor start to the season does not represent an erosion of the Pirates most enthusiastic fan base.
- ◆ Paid season ticket holders own about 27 percent of all Civic Center seats. Comp season ticket holders own another 9 percent of seats. If these seat holders use only two out of three of the tickets they hold this accounts for *all* of the difference between box office and turnstile attendance.
- ◆ The economic value of these unused tickets amounts to about \$125 per season ticket for the entire season.

Holding a season ticket guarantees the holder a good seat and eliminates many trips to the box office to purchase tickets. We suggest that fans consider the season tickets a good value even when they know that they will not be able to attend all 40 games.

- ◆ The Pirates have raised ticket prices significantly during their tenure in Portland. All ticket revenue rose about \$1.00 per ticket between the 1993-94 and 1994-95 seasons. Season ticket revenue went up a similar amount between last season and this season.
- ◆ We think that box office attendance is the appropriate base to use to project future seating needs and attendance.
- ◆ Pirates ownership sees little opportunity to raise team revenue other than a seating expansion. He feels that he could sell out a total of 8,000 seats for about 20 games a year. Increased revenue will allow the team to spend more on better players and thus support a winning record and advancement to the playoffs.

## Section Three

# American Hockey League

We were very fortunate that the American Hockey League provided excellent data for use in this study. We prepared demographic data for each AHL team that played between 1991 and 1995 and subjected the demographic data and the team attendance and performance data to regression analysis. The purpose of this analysis was to build a statistical model that we can use to predict Pirate's future attendance and seating needs in Portland under different scenarios. This section presents the results of this analysis.

---

### History

The American Hockey League began with nine teams in 1962. The following 20 years saw the league grow to eleven teams while average and total attendance decreased. The decade of the 1990's has been one of new growth for the AHL. In the 1994-95 season 16 teams played to a total of almost 3.2 million fans during their regular season games. Attendance was up more than 12 percent over the previous season. There are new teams in Baltimore (MD) and Greensboro (NC) this season and new teams are planned for Lowell (MA) and Lexington (KY) for the 1996-97 season. Proposed new arenas in both Wilkes-Barre (PA) and Manchester (NH) are said to be in discussion with AHL teams.

Growth in the American Hockey League mirrors national trends of growth in minor league sports. Arena football began with four teams and is now beginning its 10th season with 16 teams. New minor league baseball teams have been drawing so well that the major leagues have instituted new rules governing how close their stadiums can be to major league stadiums. Both the International Hockey League and the East Coast Hockey League posted strong gains in attendance last season. Many feel that the cost of attending major league sports is one factor driving fans to minor league games. In 1995 an average ticket to a National Hockey League game cost just under \$35, about four times what it cost to attend a Portland Pirates game.

The Pirates owner offered some insights into the future of the American Hockey League. It is his evaluation that the Canadian teams in the league are generally weak and in smaller buildings and markets where they cannot produce sufficient revenue to cover team costs. With the establishment of new teams in Maryland and North Carolina, he

sees the geographic center of the league as moving south. Although hockey is thought to be a cold climate sport, the success of the East Coast hockey league in southern states has helped to change that principle. He feels that the rapid growth in the number of arenas in the U.S. gives teams a good deal of latitude in looking for new homes. If the league does move south, Portland will be at the northern edge of the league rather than at its center as it is now.

---

## Pirates Relative Performance

By any measure the Pirates have had a stellar first two seasons. Last season they sold out more of their building's capacity than any other team in the league. They ranked third in the league both years. Looking at these league team statistics suggests variables to test in our regression analysis. Average attendance seem to correlate with the team's rank. This table suggests that there may be a number of other teams in the league whose total attendance is constrained by building capacity.

### Summary of American Hockey League Attendance Statistics, 1993-94 and 1994-95 Seasons

	<u>1993-94 Season</u>			<u>1994-95 Season</u>		
	<u>Average Attendance</u>	<u>Team Rank</u>	<u>Percent of Building Capacity Used</u>	<u>Average Attendance</u>	<u>Team Rank</u>	<u>Percent of Building Capacity Used</u>
<b>Providence (RI) Bruins</b> Providence Civic Center	9,203	1	77%	9,015	1	76%
<b>Hershey (PA) Bears</b> Hersheypark Arena	6,233	2	86%	6,558	2	90%
<b>Portland (ME) Pirates</b> Cumberland County Civic Center	<b>5,872</b>	<b>3</b>	<b>87%</b>	<b>6,472</b>	<b>3</b>	<b>96%</b>
<b>Rochester (NY) Americans</b> War Memorial	5,646	4	81%	6,103	4	87%
<b>Syracuse (NY) Crunch</b> Onondaga County War Memorial				5,888	5	95%
<b>Saint John (NB) Flames</b> Harbor Station	5,205	5	85%	5,824	6	95%
<b>Albany (NY) River Rats</b> Knickerbocker Arena	3,526	9	54%	5,484	7	84%
<b>Worcester (MA) Ice Cats</b> Centrum				5,473	8	44%
<b>Cape Breton (NS) Oilers</b> Centre 200	4,604	6	97%	4,235	9	89%

	<u>1993-94 Season</u>			<u>1994-95 Season</u>		
	Average Attendance	Team Rank	Percent of Building Capacity Used	Average Attendance	Team Rank	Percent of Building Capacity Used
<b>Binghamton (NY) Rangers</b> Broome County Veterans Memorial Arena	3,915	8	84%	4,190	10	90%
<b>Adirondack (NY) Redwings</b> Glens Falls Civic Center	3,974	7	83%	4,105	11	85%
<b>Springfield (MA) Falcons</b> Springfield Civic Center	3,189	13	43%	3,976	12	53%
<b>St. John's (NF) Maple Leafs</b> St. John's Memorial Stadium	3,506	10	93%	3,421	13	91%
<b>Fredricton (NB) Canadiens</b> Aitken University Centre	3,478	11	94%	3,382	14	91%
<b>Cornwall (ON) Aces</b> Cornwall Civic Complex	2,187	16	54%	2,502	15	62%
<b>Prince Edward Island (PE) Senators</b> Charlottetown Civic Center	2,296	15	69%	2,430	16	73%
<b>Hamilton (ON) Steelhawks</b> Copps Coliseum	3,349	12	19%			
<b>Moncton (NB) Hawks</b> Moncton Coliseum	2,798	14	41%			

Source: Finne & Associates based on documents provided by the American Hockey League

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## Variables Tested in the Regression Analysis

Linear regression analysis is a widely accepted statistical method to measure the relationships between two or more measurable quantities. In some cases we only want to be able to describe what has happened in the past. Usually, however, we also want to use our findings about what has happened in the past to help us predict the future. Regression analysis uses a procedure to identify the best equation that we can use to predict future values of our dependent variable.

We used regression analysis to test the hypotheses that attendance (our *dependent variable*) at AHL hockey games could be reliably predicted by one or more of the following variables (our *independent variables*):

- ♦ population
- ♦ population density
- ♦ time (in this case designated by season)
- ♦ the team's rank in the league

- ♦ the age of the team in that market
- ♦ whether the team was in its first two years in that market (the so called "honeymoon period")
- ♦ how far north the team was
- ♦ the miles to the nearest other AHL team
- ♦ the number of teams within 100 miles
- ♦ whether the team was U.S. or Canadian

Appendix C shows the data that we tested in our regression analysis.

---

## The Regression Equation

Our procedure began with analysis of all of the variables and removed those that showed no reliable relationship with attendance. The variables that *do not* predict attendance are:

- ♦ Miles to the nearest AHL team or number of AHL teams within 100 miles. We have been told of the competitive effect of a nearby team in the same league and also of the synergistic effect as fans attend away games of their home team. Our analysis suggests that these factors balance one another and that a nearby team makes no net difference in attendance.
- ♦ Whether the team is Canadian or how far north the team is. Previous studies of hockey attendance have shown these factors to be important predictors of hockey attendance. We think that the growing popularity of hockey as well as the establishment of many minor league teams south of the areas where outdoor hockey is a popular sport have negated the effects of the traditional northern connection of hockey.
- ♦ Whether the team is in the first two years of its residence in a city, the often mentioned "honeymoon period." As team age did prove to be a factor in predicting attendance, our data suggest that the honeymoon factor may be much longer than two years. The Pirates owner thinks that the real "honeymoon period" may be only a few months long .

The degree of fit of a regression model is measured by its *Index of Determination* (also known as its *R Squared*). This is a number between 0 and 1. The closer to 1 the Index of Determination, the stronger the relationship is between the dependent variable and the independent variables. Our most

successful model had an Index of Determination of .93, considered very high in this kind of analysis. All of the standard statistical tests of the independent variables that appear in the regression equation showed them to be reliable predictors of attendance. For the statistically minded, the complete results of the regression analysis are shown in Appendix C.

$$\begin{aligned}\text{Average Attendance} &= 5,766 \\ &+ (379 \times \text{season}) \\ &- (292 \times \text{rank}) \\ &- (.00048 \times \text{population}) \\ &- (21 \times \text{team age}) \\ &+ (3.04 \times \text{population per square mile})\end{aligned}$$

Linear regression analysis optimizes the fit of the equation to the data used in the analysis. Thus if the equation is one that "makes sense," it is reasonable and appropriate to expect that, when you apply the equation to instances that were not a part of that original data set, the errors in prediction will be somewhat larger. If the equation does not "make sense" (that is, reflect reasonable market behavior), we should be very reluctant to rely upon it regardless of its apparent statistical strength. Fortunately the equation that is the result of this analysis reflects market behavior that is entirely plausible.

- ♦ **Season** A team's average attendance tends to grow by about 379 a season; this statistic captures the growing popularity of minor league hockey and the increasing success of the AHL in promoting it.
- ♦ **Rank** This statistic says that a team's average attendance will tend to drop by about 292 for each place that they drop in the league ranking. Moving up from fourth place to first should gain the team about 900 fans in average attendance. Rank has a very strong relationship to total attendance.
- ♦ **Population** This statistic says that AHL teams tend to do better in the *smaller* market areas. Note that a regression equation like this one cannot be used predictively *outside* of the range of the original numbers that we used to generate the equation. In

other words, one *cannot* conclude from this statistic that an AHL team would do well in an isolated community of 10,000 people.

- ♦ **Team Age** This statistic says that all other things being equal, a team will tend to drop slightly in average attendance the longer that it stays in a particular city. This may be why minor league teams in many leagues seem to move from city to city.
- ♦ **Population Per Square Mile** This statistic says that dense market areas produce higher average attendance than spread out market areas. Logically, this is because more people will find it easy to come to games because they do not have so long a drive as they do in a spread out market.

The final table in Appendix C shows the actual attendance that each of the AHL teams experienced in our analysis period as compared to the average attendance that our regression equation predicts. On the average the equation tends to predict too high or too low by 339 attendees. The largest difference between actual and predicted attendance is a little over 1,000.

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## Key Findings

- ♦ The American Hockey League is currently in a period of growth and expansion. With high average attendance and a third place rank in the league, the Portland Pirates have had a stellar first two seasons.
- ♦ Regression analysis of league data shows that we can reliably predict AHL teams' average attendance by an regression equation that relates attendance to time (season), team rank, market area population, team age, and market area population density.

## Section Four

# Market Area

We discussed aspects of the Civic Center's market area in Section One and the Pirates market area in Section Two. In this section we discuss two other issues that influence the Civic Center's market area: media coverage in the region surrounding Portland, and competing facilities. Finally we present forecasts of population, age groups, and income for the Civic Center market area.

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### Media Coverage

Media coverage is important in determining a facility's market area. If people don't know about an event they can't come to it. Although some Civic Center events employ direct mail advertising, newspaper, radio, and television advertising are the principal ways promoters inform the public about upcoming events.

#### Newspaper

The principal newspapers advertising Civic Center events are the Portland Press Herald and the Maine Sunday Telegram. The newspapers' advertising manager reports that these newspapers also carry a limited amount of advertising for Boston events, including Red Sox games and some ice shows that are not also playing in Portland. Ticket scalpers for Boston events also advertise in the Portland newspapers. The following map and table show the geographic coverage of these newspapers.

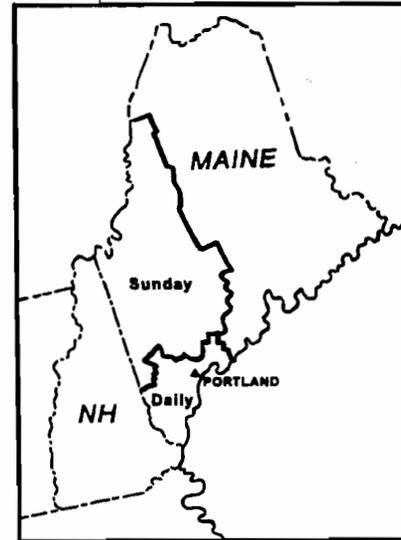
## Geographic Coverage of the Portland Press Herald and the Maine Sunday Telegram

**Daily**

- Cumberland County
- York County
- Sagadahoc County
- Knox County
- Lincoln County

**Sunday**

- Daily Counties (listed above)
- Androscoggin County
- Franklin County
- Kennebec County
- Oxford County
- Somerset County



*Source: Audit Bureau of Circulations Report, May 1995*

### Television

Fox 51 Television is a youth oriented station that carries advertising for most Civic Center events, including high school basketball tournaments. The station's broadcast area covers about a 35 mile radius around Portland. Cable television companies covering a larger portion of Maine and part of New Hampshire also carry Fox 51. The following map shows the station's geographic coverage.

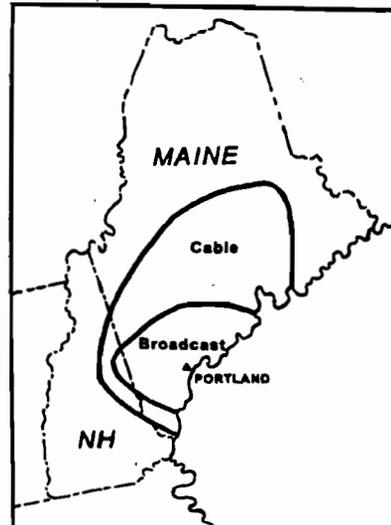
### Geographic Coverage of Fox 51 Television

**Broadcast**

Maine north to Augusta and south to Biddeford and a small portion of Carroll County, NH

**Cable**

Most of the remainder of the southern Maine and a small area of eastern New Hampshire



*Source: Fox 51 Coverage Map*

## Radio

WPOR Radio is an adult country music station that advertises a wide range of Civic Center events including consumer shows, college basketball, wrestling, ice shows, and Sesame Street. They also advertise country music concerts in Augusta. The following map shows WPOR's market area.

### Geographic Coverage of WPOR Radio

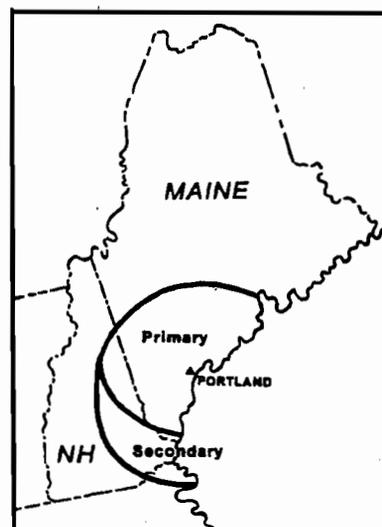
#### Primary Market Area

Southeastern Maine south of Waterville and Carroll County, NH

#### Secondary Market Area

Southeastern New Hampshire

Source: WPOR Coverage Map



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## Civic Center Market Area

In order to determine the appropriate market area for the Cumberland County Civic Center, we compared and consolidated the eight market areas we described previously:

- ♦ Civic Center ice skating show patronage
- ♦ Civic Center manager's perception
- ♦ Pirates' season ticket sales
- ♦ Pirates' Ticketmaster sales
- ♦ Pirates' managers perception
- ♦ Newspaper distribution
- ♦ Television coverage
- ♦ Radio coverage

The resulting market area is very similar to the Civic Center manager's map that he drew for the consultant at the beginning of the study. The following list of counties and map describe this market area. *We estimate that at least 80*

*percent of the Civic Center's patronage comes from the four county primary market area immediately surrounding Portland.*

### **Cumberland County Civic Center Market Area**

#### **Primary Market Area**

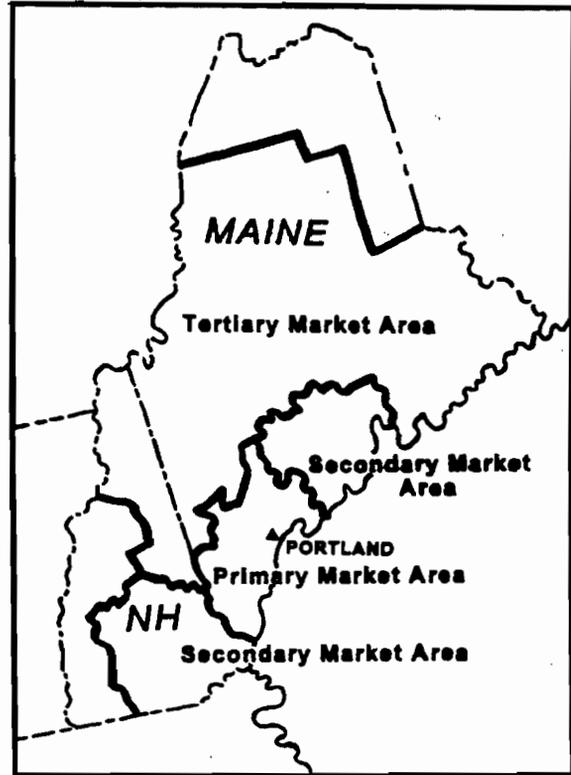
Androscoggin County, ME  
Cumberland County, ME  
Sagadahoc County, ME  
York County, ME

#### **Secondary Market Area**

Kennebec County, ME  
Knox County, ME  
Lincoln County, ME  
Waldo County, ME  
Belknap County, NH  
Hillsborough County, NH  
Merrimack County, NH  
Rockingham County, NH  
Strafford County, NH

#### **Tertiary Market Area**

Franklin County, ME  
Hancock County, ME  
Oxford County, ME  
Penobscot County, ME  
Piscataquis County, ME  
Somerset County, ME  
Washington County, ME  
Carroll County, NH  
Coos County, NH



*Source: Finne & Associates*

Market areas are not entirely stable over time and are not the same for all events. There are a number of existing and proposed arenas in the region surrounding Portland whose impact on the Civic Center's market area we must evaluate.



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## Augusta Civic Center

The Augusta Civic Center is located about an hour north of Portland just outside of the Cumberland County Civic Center's primary market area. Its arena component has a permanent basketball floor and no ice making capabilities and is not usable for dirt events. The arena has 5,512 permanent seats (2,895 of these are bleacher seats) and can set up an additional 1,774 portable seats for a concert. The Civic Center has 22 meeting rooms for use by conventions and trade shows. About two-thirds of the Augusta Civic Center's use is for conventions, meetings, trade shows, and consumer shows.

In their arena the Augusta Civic Center hosts about five to eight concerts a year, mostly country music. These country music concerts are the only Augusta Civic Center events that regularly draw some audience from Portland. Most of the family shows held in the Augusta Civic Center are shows that also play the Cumberland County Civic Center: the Shrine Circus, Sesame Street, etc. Family shows that play to young children generally have smaller market areas than other concerts and shows because people are not willing to drive as far with young children. The Augusta Civic Center also hosts a number of levels of the Maine state high school basketball tournaments and some University of Maine-Augusta basketball games.

The Augusta Civic Center mostly serves different events than the Cumberland County Civic Center. It cannot compete for any kind of ice or dirt event. Its arena is booked so heavily with exhibit events that it has few available dates for shows and concerts. *Although the Augusta Civic Center draws a few country music fans from Portland, we feel that its overall impact on the Cumberland County Civic Center is negligible.*

---

## University of New Hampshire Arena at Durham

The new University of New Hampshire arena at Durham opened in November 1995. Durham is about an hour's drive south of Portland and is in the Civic Center's secondary market area. The new UNH arena has 6,000 permanent seats and seats 6,100 for hockey, 6,000 for ice show or circus, and up to 7,200 for a concert. Many of their operational policies have not yet been set. This building is very much a part of the University, and it shares a common lobby with the Recreation Department. It has concession stands but does not sell beer at events. The building will hold the regular games and practices of the University's

hockey and basketball teams, intramural sports and other athletic department functions

At this point, the building manager does not anticipate holding many non-University events because of unavailability of dates and because of the building's primary commitment to University events. He had no outside events booked for November and has none booked for January. He will host one Boston Pops concert in December and one single performance ice skating show in February. He hopes to book the Globetrotters sometime in the spring.

We asked a number of the Cumberland County Civic Center's current users if they were considering using this building. All but one thought the building was too small for their events. *We think that this building has little potential to impact the market area for the Civic Center with one minor exception, single performance figure skating shows.* The Civic Center draws a significant audience for these shows from New Hampshire. A few of those patrons may choose not to attend a show in Portland if they just saw one in Durham.

---

## Central Maine Civic Center in Lewiston

The Central Maine Civic Center in Lewiston is an older and somewhat run down building with 3,000 permanent seats and an ice floor. It can seat up to 6,000 for a concert. The Shrine Circus plays several dates there and the Shriner's circus administrator evaluates the building as substandard in all respects. This building is privately owned and, at this time, primarily used for youth hockey.

However, the building is planned to soon be partially renovated to become the home of an expansion team of the Quebec Major Junior hockey League. Both the team and the City of Lewiston are participating in the renovation, which will include additional parking and new locker rooms and training rooms. The renovation will not expand the building's seating or add significant patron amenities.

The owner of the Pirates classifies the Quebec Major Junior Hockey League as "the top of the amateur level of play" rather than truly professional. Many of its players still attend high school during the day and play part-time at night and on weekends. The league currently has 14 teams, 12 in Quebec and the other two in Moncton and Halifax. The league tried to establish a U.S. based team in Plattsburg (NY) some years ago, but it was not successful. This is the league's first attempt since that time to establish a U.S. based team, and they are unsure of its potential for success.

In Section Two we reported that 37 percent of all Pirates Ticketmaster sales are made in Auburn in a store that serves the Lewiston market. We also reported that 7 percent of all season ticket sales are made to residents of Oxford and Androscoggin Counties. Lewiston is in Androscoggin County about a 30 minute drive north of Portland and is also in the Cumberland County Civic Center's primary market area. Our regression analysis of the American Hockey League suggested that the competitive and synergistic impacts of a near-by hockey team balance one another and do not affect attendance.

We feel that this hockey team has some potential to impact Pirates attendance. The Pirates' owner concedes that it might impact total game attendance by as much as five or six percent. From the point of view of the Cumberland County Civic Center, one way to minimize this impact would be to capture some of the new QMJHL team's activity by hosting playoff games, special exhibition games (perhaps against the Pirates), or participating in special promotions that would draw the fans of this new team to the Cumberland County Civic Center. *We think that if creatively handled, the potential negative impact of this new Quebec Major Junior Hockey League team could be minimized or even reversed.*

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## **New Arena in Lowell**

The new arena planned by the City of Lowell, Massachusetts, will be open in October 1997, about a year behind schedule. This arena is planned to have 6,200 permanent seats and seat about 7,500 for an end stage concert. Lowell is about an hour and a half drive from Portland and outside of the Cumberland County Civic Center market area. This building will be home to a new AHL expansion franchise and to the University of Massachusetts-Lowell hockey team. Based on its distance from the Cumberland County Civic Center and on our analysis of the impact of distance between AHL teams, we do not think that this building will impact the Cumberland County Civic Center in any negative way. It is far enough from Portland that some shows might find new Lowell arena a good pair with the Cumberland County Civic Center in scheduling a tour.

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## **CenterPlex Arena in Manchester**

Although a design has not been finalized for this new arena in Manchester, New Hampshire, it is said that it will have seating for 10,000 for a concert. Manchester is in Hillsborough County which has a population larger and denser than

Cumberland County and is about 90 miles south of Cumberland County. Manchester is just inside the Cumberland County Civic Center's secondary market area in New Hampshire. A trade publication characterizes the building as having a multi-purpose configuration and being suitable for trade shows as well as concerts and hockey. Interests in Manchester are discussing the possibility of a new franchise with the American Hockey League.

*We think that this planned building, if it is built and if it is primarily a sports and entertainment facility rather than an exhibit and convention facility, represents potential competition for the Cumberland County Civic Center. At least one promoter we interviewed does not think a tour would book in both Manchester and Portland. The Pirates sell 6 percent of their Ticketmaster tickets and 2 percent of their season tickets in New Hampshire. The Civic Center identifies up to 15 percent of its figure skating show market as coming from New Hampshire. Considering transportation costs and, possibly, a greater number of seats in a new Manchester arena, some tours might just stop at Manchester and not come any further north.*

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## **Portsmouth Amphitheater in Portsmouth**

The Pease Development Authority has charge of the redevelopment of the Pease Air Force Base in Portsmouth, New Hampshire. Portsmouth is about an hour's drive south of Portland and in the Cumberland County Civic Center's secondary market area. Although the Pease development project is still in its conceptual stages and the land is still in the process of transfer, the Authority has had definite discussions with the Don Law Company concerning development of a major outdoor concert facility on the property.

This new amphitheater is planned to have 10,000 permanent seats and seating for up to 25,000 on the grass. It would not have any enclosed areas for winter use. It would be able to host the largest summer touring shows. The Don Law Company thinks that the amphitheater could open as soon as summer of 1997. In New Hampshire an outdoor facility can operate from Memorial Day to Labor Day.

The last five to ten years have seen a boom in amphitheater construction in the U.S. that has changed the structure of the concert business. Amphitheaters are very popular with patrons, who like the casual atmosphere, and with tours who like concentrating a tour in the summer months. In most markets people will drive a long way to amphitheater concerts.

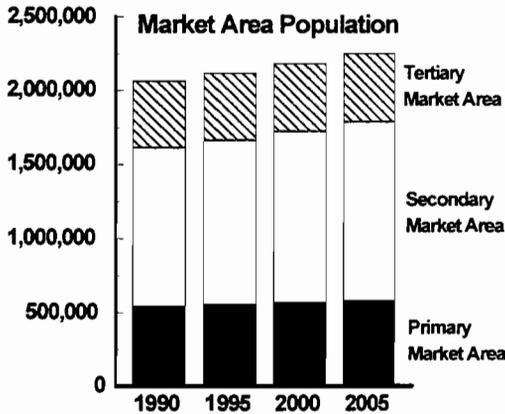
*There is no doubt that an amphitheater in Portsmouth would advertise heavily in the Portland market and attract many Maine residents to concerts during the summer months. Many performers now do most of their touring in the summer. This trend has probably already affected the Cumberland County Civic Center by making fewer touring shows available to book. A Portsmouth amphitheater could impact the Civic Center additionally by siphoning off a significant part of the concert going public's ticket dollar during the summer months possibly depressing concert ticket sales in the winter.*

## Market Area Population

At this time we do not feel that the Civic Center market area needs to be redefined. The table that follows shows the current and projected population of the Civic Center's primary, secondary, and tertiary market areas. With just over a half million people, the primary market area will grow by about 26,000 people or about five percent over the next decade. The secondary market area will add about 100,000 people and the tertiary market less than 10,000. The most robust growth is in the secondary market area.

### Population Trends and Projections for the Cumberland County Civic Center Market Area, 1995-2005

	Primary Market Area	Secondary Market Area	Tertiary Market Area	Total Market Area
<b>Trends</b>				
1980	483,800	890,400	416,000	1,790,200
1990	546,500	1,070,900	449,400	2,066,800
<b>Estimate</b>				
1995	556,900	1,108,000	455,500	2,120,400
<b>Projections</b>				
2000	570,000	1,155,400	459,000	2,184,400
2005	583,400	1,207,600	462,700	2,253,700
<b>Growth</b>				
1980-1990				
Number	62,700	180,500	33,400	276,600
Percent	13.0%	20.3%	8.0%	15.5%
1990-2000				
Number	23,500	84,500	9,600	117,600
Percent	4.3%	7.9%	2.1%	5.7%
2000-2005				
Number	13,400	52,200	3,700	69,300
Percent	2.4%	4.5%	0.8%	3.2%



Source: See notes in Appendix B

What happens to this market area if Manchester builds a new arena and it is successful? We do not think that it could penetrate the Civic Center's primary market at all. We estimate that about 15 percent of Civic Center audiences come from the secondary market area. About 80 percent of the population of the secondary market area is in New Hampshire. We think that these people contribute about 12 percent of Civic Center audiences for certain events and that they would be entirely captured by a new facility in Manchester. An exception would be AHL hockey, where any loss in attendance would be offset by the synergistic effect of nearby teams.

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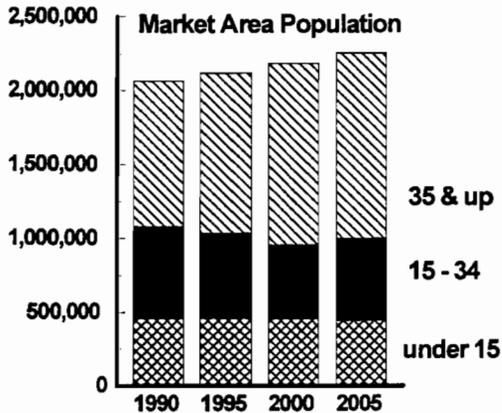
## Age Groups

Several sources of market information that we interviewed were of the opinion that the population of Portland and the surrounding area were aging rapidly. Very limited surveys carried out by the Maine Mall and the Maine Sunday Telegram seemed to suggest this.

A rapidly aging population is of concern to sports and entertainment promoters. The young adult market has traditionally been the strongest market for live events. These people usually have the money, energy, and general freedom from responsibilities to be able to enjoy going to many sports and entertainment events.

Of course, the population of the entire country is aging as well, and sports and entertainment promoters have shifted their marketing strategies. The ice shows market to the grandmothers, sports teams install luxury seating for businessmen, and the popular bands of the sixties are touring to ever increasing audiences.

## Population Estimates and Projections by Major Age Group, Cumberland County Civic Center Market Area, 1990 - 2005



	Under 15	15 to 34	35 and older	Total
<b>1990</b>				
Primary Market Area	120,200	168,900	257,400	546,500
Secondary Market Area	241,000	322,300	507,600	1,070,900
Tertiary Market Area	<u>98,500</u>	<u>130,800</u>	<u>220,200</u>	<u>449,500</u>
Total Market Area	459,700	622,000	985,200	2,066,900
<b>1995</b>				
Primary Market Area	116,700	154,500	285,700	556,900
Secondary Market Area	250,500	299,800	557,800	1,108,100
Tertiary Market Area	<u>96,000</u>	<u>119,900</u>	<u>239,700</u>	<u>455,600</u>
Total Market Area	463,200	574,200	1,083,200	2,120,600
<b>2000</b>				
Primary Market Area	109,200	141,400	319,400	570,000
Secondary Market Area	255,600	245,500	654,300	1,155,400
Tertiary Market Area	<u>91,100</u>	<u>111,200</u>	<u>256,800</u>	<u>459,100</u>
Total Market Area	455,900	498,100	1,230,500	2,184,500
<b>2005</b>				
Primary Market Area	108,500	142,400	332,500	583,400
Secondary Market Area	246,800	297,100	663,700	1,207,600
Tertiary Market Area	<u>90,400</u>	<u>113,200</u>	<u>259,100</u>	<u>462,700</u>
Total Market Area	445,700	552,700	1,255,300	2,253,700

Source: See notes in Appendix B

The perception of local marketing executives that the number of "young people" is declining is perfectly true. *The number of people in the Civic Center market area between the ages of 15 and 35 dropped by about 48,000 between 1990 and 1995 and is expected to drop another 74,000 in the next five years. However, about the year 2000 this trend will reverse and the number of people in the prime concert and sports attending age group will begin to grow again.* In planning for future seating needs we need to focus on this longer term time frame.

### Income

Of course in order for patrons to support sports and entertainment events they must have the income to do so. The tables below show per capita incomes in *constant 1995 dollars*. In 1980 and 1990 per capita incomes in the total Civic Center market area were almost exactly the same (within \$11) of U.S. per capita incomes. Almost all of the promoters we interviewed stated that they were able to obtain

ticket prices in Portland comparable to the other markets in which they promoted.

The table also shows the income that patrons have available to spend on tickets to live events. We calculate these figures based on national data on spending in these categories, and they are *rough estimates*. We have no doubt that, to a certain extent, the willingness of consumers to spend on tickets is related to the availability of events they want to see.

**Income Available for Tickets to Live Events, Cumberland County Market Area, 1990 to 2005**  
(all figures in 1995 constant dollars)

	Primary Market Area	Secondary Market Area	Tertiary Market Area	Total Market Area
<b>Per Capita Income</b>				
1990	\$18,968	\$19,553	\$15,993	\$18,624
1995	\$29,407	\$29,763	\$24,636	\$28,568
2000	\$37,286	\$37,114	\$31,203	\$35,917
2005	\$47,320	\$46,359	\$39,747	\$45,251
<b>Total Income Available For Tickets to Live Sports Events (millions)</b>				
1990	\$11.1	\$22.4	\$7.7	\$41.2
1995	\$17.5	\$35.3	\$12.0	\$64.8
2000	\$22.7	\$45.8	\$15.3	\$83.9
2005	\$29.5	\$59.8	\$19.7	\$109.0
<b>Total Income Available For Tickets to Live Entertainment Events (millions)</b>				
1990	\$10.3	\$20.8	\$7.1	\$38.2
1995	\$16.2	\$32.7	\$11.1	\$60.0
2000	\$21.1	\$42.5	\$14.2	\$77.8
2005	\$27.4	\$55.5	\$18.2	\$101.1

*Source: See notes in Appendix B*

Audiences in the four county primary market area now have about \$34 million to spend on tickets to live events; in the entire market area they have about \$125 million. The total income available for tickets will increase by about two-thirds over the next ten years.

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## Key Findings

- ◆ The Augusta Civic Center, the UNH arena in Durham, and the new Lowell arena have little potential to compete directly with the Cumberland County Civic Center.
- ◆ With a little creative handling, we think that the new Quebec Major Junior Hockey League expansion team in Lewiston could become a positive factor for the Civic Center and hockey in the region.
- ◆ The two buildings that could impact the Civic Center the most, the Manchester arena and the Portsmouth amphitheater, each have a somewhat uncertain status at this time.
- ◆ It is possible (although perhaps remotely) that the announcement of a significant expansion and renovation of the Civic Center might defuse one or both of these potential competitive facilities.
- ◆ Expansion and renovation of the Civic Center would make it possible to compete more directly with these new facilities in Manchester and Portsmouth.
- ◆ The Civic Center has a little more than a half a million people in its primary market area and about 1.2 million in its total market area to draw from. Growth over the next ten years will be moderate and concentrated in the secondary market area.
- ◆ The Civic Center market area has been losing and will continue to lose population in the young adult sector of the population that most heavily supports sports and entertainment events. However, this trend is expected to reverse at about the turn of the century and the market area will be adding people in this age range.
- ◆ Per capita incomes in the Civic Center market area are strong and we expect them to increase over the next decade. Civic Center ticket sales are supported by about \$125 million in income available for expenditures on tickets to live events.

## Section Five

# Conclusions

In this section we use the regression model developed in Section Four to predict the Pirates average attendance under different assumptions as to their rank in the league, and we evaluate what levels of seating they will need in the future. Additionally, we evaluate the impact of extra seating on other Civic Center events.

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### Pirates Future Attendance

The Portland Pirates have had two winning seasons with average attendance in the 6,000 range in their first two seasons. More than half of their games filled more than 95 percent of the Civic Center's seats. They were also ranked third in the league in each of their first two seasons.

What kind of attendance will they have if they don't continue this winning record? The table that follows shows the Pirates' *predicted* attendance at various ranks in the league, assuming that seating capacity does not constrain attendance.

#### Projected Average Attendance at Pirates Games, 1995-2005

Team Rank	1995	2000	2005
1	6,499	8,264	10,028
2	6,207	7,973	9,736
3	5,915	7,681	9,444
4	5,623	7,389	9,152
5	5,331	7,097	8,861
6	5,040	6,805	8,569
7	4,748	6,513	8,277
8	4,456	6,221	7,985
9	4,164	5,929	7,693
10	3,872	5,638	7,401
11	3,580	5,346	7,109
12	3,288	5,054	6,817
13	2,996	4,762	6,526
14	2,704	4,470	6,234
15	2,413	4,178	5,942
16	2,121	3,886	5,650

Source: Finne & Associates

3800

How many seats will the Civic Center need to accommodate Pirates fans? Games vary in their attendance, especially between weekday and weekend games. We estimate, based on the Pirates experience with sell out and near sell out games in the past two years, that 85 percent is a reasonable ratio between average attendance and total hockey seating capacity. Based on this assumption the following table shows the number of additional seats the Civic Center needs in the future under different assumptions as to the Pirates' rank in the league.

**Number of Additional Seats Needed in the Cumberland County Civic Center to Accommodate Pirates Games, 1995-2005**

Team Rank	1995	2000	2005
1	758	2,523	4,287
2	466	2,232	3,995
3	174	1,940	3,703
4	none	1,648	3,411
5	none	1,356	3,120
6	none	1,064	2,828
7	none	772	2,536
8	none	480	2,244
9	none	188	1,952
10	none	none	1,660
11	none	none	1,368
12	none	none	1,076
13	none	none	785
14	none	none	493
15	none	none	201
16	none	none	none

Source: Finne & Associates

*If the Civic Center adds 2,500 seats it will be able to accommodate a first place team until the year 2000. A seating expansion of 2,500 seats can support an average team through 2005.*

We encourage the Civic Center to address at least a ten year time frame in planning for the future. The Civic Center's market area population is growing slowly and it will be some years before the young adult population begins to increase. There is also the possibility that new buildings in New Hampshire could reduce the size of the Civic Center's secondary market area. We think that it will be at least

ten years, if then, before Cumberland County needs to consider a new arena. *Our advice is to make the most of the current building and expand with at least a ten year time frame in mind.*

Having said that, we are mindful that the Civic Center and the Pirates have both benefited from the consumers' perception of a scarcity of seats at the Civic Center. Advance and season ticket sales are high and ticket prices are equivalent to larger markets. One possible way to address this issue might be to add the space and support facilities (restrooms, concession stands, etc.) for more seats and add the actual seats in several phases.

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## Impact of Additional Seats on Other Events

A number of events now held at the Civic Center, other than Pirates games, sell out on a regular enough basis that we can anticipate that they would sell significantly more seats if the Civic Center had additional seats. Based on the data on high attendance events that we presented in Section One, we project that the following events would sell 2,500 more seats on an annual basis:

- ♦ one hockey game other than Pirates games
- ♦ one high school basketball tournament game
- ♦ two concerts
- ♦ one show performance

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## New Events

If the Civic Center adds 2,500 seats its seating capacities for events would be approximately as follows:

Hockey/Circus/Dirt Event	9,200
Basketball	10,500
Ice Show (no stage)	9,800
Ice Show (Disney type)	7,800
Concert	11,300

The Civic Center has very limited potential for new events because it simply does not have good weekend dates available. Nevertheless we found promoters excited about the possibility of greater seating capacity in Portland. They felt that additional seating would place the building well for consideration by bigger acts and shows (by which they mean performers and shows that charge higher fees than the acts playing the Civic Center now). They indicate that

*additional seating would bring at least two additional high attendance concerts and one high attendance figure skating show on an annual basis.*

We see one other important opportunity for a new high revenue event on an annual basis. Disney on Ice is passing the Civic Center over for the current year and the Ringling Brothers Circus has not played the building since 1989 because of a conflict with Shrine Circus dates. Additional seating would greatly increase the interest of the Ringling Organization in booking the Civic Center. *We think that it is very possible that the addition of 2,500 seats would bring the Ringling Circus and Disney on Ice in alternating years (that is one one year and one the next).* If necessary, the Civic Center should consider not booking the Shrine Circus and booking Ringling instead.

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## Projected Event Schedule

The following table shows our projected event schedule for the Civic Center in 2000 and 2005 under the following assumptions:

- ♦ the Pirates continue in third place in the league and have four playoff games each year
- ♦ promoters book two more sellout concerts and one more sellout figure skating show each year
- ♦ that the Ringling Brothers Circus and Disney on Ice play in alternate years and that the Shrine Circus is not held in the Civic Center
- ♦ that one non-Pirates ice hockey game, one high school basketball game, one concert, and one show (other than Ringling or Disney) sell out the additional 2,500 seats annually
- ♦ that all existing events are stable in the number of days they book and do not increase in attendance based on their average in the last three years

**Projected Event Schedule with 2,500 Additional Seats,  
Cumberland County Civic Center, 2000 and 2005**

	<u>2000</u>			<u>2005</u>		
	Event Days	Total Attendance	Average Attendance	Event Days	Total Attendance	Average Attendance
<b>Sports</b>						
Pirates	48	368,700	7,680	48	406,300	8,460
Other Ice Hockey	3	15,300	5,110	3	15,300	5,110
Basketball	4	13,600	3,400	4	13,600	3,400
High School Basketball	6	22,700	3,780	6	22,700	3,780
Wrestling	2	8,100	4,050	2	8,100	4,050
Other Sports	<u>1</u>	<u>7,500</u>	7,490	<u>1</u>	<u>7,500</u>	7,490
Subtotal (Sub-Average)	64	435,900	6,810	64	473,500	7,400
<b>Entertainment Events</b>						
Concerts	16	104,100	6,510	16	104,100	6,510
Ringling/Disney	7	38,100	5,440	7	38,100	5,440
Other Shows	15	49,700	3,310	15	49,700	3,310
Dirt Events	<u>2</u>	<u>5,100</u>	2,550	<u>2</u>	<u>5,100</u>	2,550
Subtotal (Sub-Average)	40	197,000	4,930	40	197,000	4,930
<b>Exhibit Events</b>						
Trade Shows	7	13,200	1,880	7	13,200	1,880
Consumer Shows	<u>11</u>	<u>18,800</u>	1,710	<u>11</u>	<u>18,800</u>	1,710
Subtotal (Sub-Average)	18	32,000	1,780	18	32,000	1,780
<b>Other Events</b>						
Conventions	9	32,400	3,600	9	32,400	3,600
Graduations	3	11,400	3,790	3	11,400	3,790
Public Skating	4	1,500	370	4	1,500	370
Miscellaneous	<u>1</u>	<u>1,500</u>	1,530	<u>1</u>	<u>1,500</u>	1,530
Subtotal (Sub-Average)	17	46,800	2,750	17	46,800	2,750
<b>Total (Average)</b>	<b>139</b>	<b>711,700</b>	<b>5,120</b>	<b>139</b>	<b>749,300</b>	<b>5,390</b>

*Source: Finne & Associates*

With expanded seating the Civic Center can expect to book about 139 event days annually with a total attendance a little over 700,000 in 2000 and near 750,000 in 2005. This is slightly fewer events than in the past two years but higher attendance events that will bring in more revenue. In the

future, an expanded building will be ever more dependent on the hockey team and its record.

The table following shows projected events as compared to the past three years. The annual number of event days goes down slightly because roller hockey left the building, because we do not address rental days for filming or rehearsals, and because we assumed that the Civic Center will not book the Shrine Circus.

**Comparison of Projected and Past Event Schedules, Cumberland County Civic Center, 1992-1995, 2000, and 2005**

	<b>Event Days</b>	<b>Total Attendance</b>	<b>Average Attendance</b>	<b>Pirates Percent of Total Attendance</b>
1992-93	107	360,700	3,370	0%
1993-94	147	580,700	3,950	47%
1994-95	145	588,300	4,100	45%
2000	139	711,700	5,120	52%
2005	139	749,300	5,390	54%

*Source: Finne & Associates*

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## **Conclusions**

We recommend that the Cumberland County Civic Center add 2,500 seats. This seating expansion will accommodate a winning Pirates team through the year 2000 and an average team through the year 2005. Additionally, the seating expansion would encourage the annual booking of dates by the Ringling organization (Circus, Disney on Ice) as well as a few other high attendance entertainment events. Although the number of event days would go down slightly, total attendance would increase by more than a third over the next ten years. The Civic Center might consider adding the seating in two or more phases in order to maintain the public's perception of scarcity of seats for events.

**Appendix A**  
**Persons Interviewed**

# Appendix A

## Persons Interviewed

We would like to express our thanks to all the persons who took the time to share their insights and experience with us during the course of our data gathering for this study.

Byron Allen	Promoter	Stars on Ice
Steve Crane	Executive Director	Cumberland County Civic Center
Gilles Courteau	President	Quebec Major Junior Hockey League
Patrick S. Dooley	General Manager	Maine Mall
Tom Ebright	Owner	Portland Pirates
Doug Finck	Executive Vice President/General Manager	Fox 51 Television Station
Mike Flanagin	Promoter	New England Country Festivals
Gary Gagne	Advertising Director	The Portland Newspapers
Bonnie Grant	General Sales Manager	WPOR Radio Station
Jay Humphrey	Booking Coordinator	VEE Corporation
David Jowdry	Director	Augusta Civic Center
Larry LaBrie	Assistant Executive Director	Maine Principal's Association
Glen A. Lalumiere	Organizer	Shrine Circus
Jim Lysen	Planning Director	City of Lewiston
Susan MacDonald	Director	Pease Development Authority
Dave Marsden	Promoter	The Don Law Company
Karen D. Martin	Senior Planner	Greater Portland Council of Governments
Lisa Morgan	Vice-President	Ringling Brothers, Barnum & Bailey Combined Shows
Bryan Ohl	Manager	University of New Hampshire Arena
Diane Prideaux-Brune	Chief Planner	City of Lowell
Roger Theriault	Owner	Central Maine Civic Center, Lewiston
Don Watson	Promoter	Tom Collins Enterprises
Godfrey Wood	President/General Manager	Portland Pirates

## **Appendix B**

### **Notes on Methodology and Data Sources**

# Appendix B

## Notes on Methodology and Data Sources

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### Section One -- Cumberland County Civic Center

- ◆ We assembled all event data for the September 1992 to August 1995 period from the Civic Center's monthly event and attendance analysis with refinements contributed by Civic Center staff in interviews and from their operating records.
- ◆ We took data for Pirates games from two spreadsheets of Pirates game by game attendance and revenue that the Civic Center compiled.
- ◆ Calculations for Pirates games presented in this section are based on *box office* attendance figures rather than *turnstile* attendance figures.
- ◆ We took data for the 1977 to 1992 period from the lists in the Cumberland County Civic Center 16 Year Report and from a spreadsheet that accompanied this report. We also took *calendar year* 1992 attendance data from this spreadsheet for calculation of per capita concession sales.
- ◆ We cumulated financial data found in the Monthly Income Statements for December 1992, 1993 and 1994. We took concession sales data from the pages labeled "Exhibit B" that accompany those income statements.
- ◆ For the comparison with the Providence Civic Center we used data found in the schedule of events, a spreadsheet showing income from Bruins home games, Summary Statement of Operations, and the Tenant Information Manual that they furnished for use in this study.
- ◆ We took market area data from the Direct Mail Analysis of figure skating credit card orders prepared by the Civic Center.

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### Section Two -- Portland Pirates

- ◆ All data for Pirates' games is taken from the two spreadsheets of Pirates' game by game attendance

and revenue that the Civic Center compiled unless otherwise noted.

- ◆ We took the Pirates' 1995-96 game schedule from their current brochure.
- ◆ We took data on Pirates' season tickets from their internal ticket reports dated October 9, 1995, and October 19, 1994.
- ◆ We took the Mariners' annual attendance from the Yearly Attendance Summary, 1962-1995 that was provided by the American Hockey League. We also took the Portland Pirates attendance for comparison with the Mariners attendance from this same document.
- ◆ We took Ticketmaster sales of Pirates tickets from a letter dated July 14, 1995, from Ticketmaster to the Pirates, summarizing sales of tickets by outlet for the 1994-95 season.

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### Section Three -- American Hockey League

- ◆ We took inspiration in formulating our regression analysis from a similar analysis of NHL attendance carried out by Roger Noll, presented in his article "Attendance and Price Setting" in Studies of the Regulation of Economic Activity: Government and the Sports Business published by the Brookings Institution, Washington, D.C., 1974
- ◆ We took all attendance and team rank statistics for AHL teams from the Yearly Attendance Summary, 1962-1995 that the American Hockey League provided. We also calculated the team's age and "honeymoon" period from the lists in this document.
- ◆ We have found in other research that sports and entertainment market areas tend to correlate well with the ADI television market areas as defined by the Arbitron Company. We used those market definitions for all of the AHL U.S. markets with the following adjustments:
  - ◆ We divided the Albany-Schenectady-Troy ADI into two market areas, one for Albany and Troy and the other for Glens Falls.
  - ◆ We cut off the Boston ADI south of Boston and removed Nantucket to define a market area for Worcester.

- ◆ In Canada, similarly defined television market areas did not form logical sports and entertainment market areas, mostly because television signals can cross bodies of water but hockey fans probably do not regularly get in boats to attend hockey games. In Canada we used the Economic Regions defined by Statistics Canada with the following adjustments:
  - ◆ We cut off the Eastern Ontario Economic Region east of Ottawa to form a market area for Cornwall.
  - ◆ We cut off the Central Ontario Economic Region south of Toronto to form a market area for Hamilton.
  - ◆ We divided Nova Scotia into Cape Breton Island and the remainder of Nova Scotia to form market areas for Sydney and Halifax.
- ◆ We developed the population data for the U.S. market areas based on 1990 and 1992 population figures and land area figures published in the U.S. Bureau of the Census, City and County Data Book 1994.
- ◆ We developed the population data for the Canadian market areas based on 1986 and 1991 population data published in The Financial Post, Canadian Markets 1991.
- ◆ We calculated miles to the nearest AHL team and the number of teams within 100 miles based on straight line distances measured on various maps. We also took latitude figures from these maps.

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## Section Four -- Market Area

- ◆ We obtained most of the information on competitive facilities from the interviews listed in Appendix A. We also cite information that was contained in articles in Amusement Business issues of July 17, 24, and 31 of 1995.
- ◆ We took all population and age group projections for New Hampshire counties from the New Hampshire Office of State Planning and Budget New Hampshire Population Projections for Counties by Age and Sex, September 1994.
- ◆ Unfortunately, no similar single source was available for Maine counties. We projected Maine county populations based on the 1994 population estimates

for counties prepared by the U.S. Bureau of the Census and distributed electronically.

- ◆ We used the state age group projection found in the U.S. Bureau of the Census Report P-25-1111, Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1993 to 2020. We adjusted these numbers to the slightly higher forecast for the State of Maine that we had prepared.
- ◆ We also distributed the age groups to counties based on past distributions. Since our primary, secondary, and tertiary market areas contain all the Maine counties except one, any error in distribution to counties disappears or becomes very small in cumulating the counties to market areas.
- ◆ We obtained all past income data and data relating to proportion of income spent on live ticketed events from the U.S. Bureau of Economic Analysis Survey of Current Business, various issues, and prepared all income projections ourselves based on past real (inflation free) growth. All income figures are presented in terms of 1995 dollars.

## **Appendix C**

### **Supporting Tables American Hockey League Regression Analysis**

# American Hockey League Attendance Statistics and Related Data Subjected to Regression Analysis

Team	Average Attendance	Season	Rank	Population	Age of Team	Honey-moon Period	Population Per Square Mile	Latitude	Miles to Nearest AHL Team	Number of AHL Teams Within 100 Miles	Canadian Team	% of Building Seating Capacity Sold
Adirondack Red Wings	3,945	1	6	739,460	14	0	132	43.4	40	2	0	86%
Adirondack Red Wings	3,961	2	7	743,431	15	0	133	43.4	40	2	0	86%
Adirondack Red Wings	3,974	3	7	747,402	16	0	134	43.4	45	1	0	86%
Adirondack Red Wings	4,105	4	11	751,373	17	0	134	43.4	45	1	0	89%
Albany River Rats	3,526	3	9	592,914	1	1	134	42.6	45	1	0	54%
Albany River Rats	5,484	4	7	594,708	2	1	134	42.6	45	1	0	84%
Baltimore Skipjacks	3,866	1	7	2,584,938	9	0	590	42.1	60	1	0	35%
Baltimore Skipjacks	3,066	2	11	2,616,442	10	0	597	42.1	60	1	0	28%
Binghamton Rangers	3,977	1	5	426,861	14	0	90	42.1	75	1	0	86%
Binghamton Rangers	4,291	2	6	427,289	15	0	91	42.1	75	1	0	92%
Binghamton Rangers	3,915	3	8	427,717	16	0	91	42.1	100	0	0	84%
Binghamton Rangers	4,190	4	10	428,145	17	0	91	42.1	140	0	0	90%
Cape Breton Oilers	4,775	1	3	167,389	3	0	42	46.1	195	0	1	100%
Cape Breton Oilers	4,703	2	5	167,119	4	0	42	46.1	195	0	1	99%
Cape Breton Oilers	4,604	3	6	166,849	5	0	42	46.1	150	0	1	97%
Cape Breton Oilers	4,235	4	9	166,579	6	0	42	46.1	150	0	1	89%
Capital District Islanders	2,062	1	15	589,324	2	1	134	42.7	40	2	0	40%
Capital District Islanders	2,073	2	15	591,119	3	0	134	42.7	40	2	0	40%
Cornwall Aces	2,187	2	16	262,955	1	1	71	45	200	0	1	54%
Cornwall Aces	2,502	3	15	265,514	2	1	71	45	200	0	1	62%
Fredricton Canadiens	3,210	1	11	115,000	2	1	22	46	100	1	1	86%
Fredricton Canadiens	3,217	2	10	115,708	3	0	22	46	100	1	1	87%
Fredricton Canadiens	3,478	3	11	116,416	4	0	22	46	65	2	1	94%
Fredricton Canadiens	3,382	4	14	117,124	5	0	22	46	65	1	1	91%
Halifax Citadels	3,144	1	12	732,552	2	1	42	44.5	195	0	1	33%
Halifax Citadels	2,957	2	13	738,072	3	0	42	44.5	195	0	1	31%
Hamilton Steelhawks	4,773	2	4	2,340,856	1	1	272	43.3	150	0	1	27%
Hamilton Steelhawks	3,349	3	12	2,388,579	2	1	272	43.3	150	0	1	19%
Hershey Bears	5,815	1	2	1,518,399	29	0	294	40.3	60	1	0	80%

Team	Average Attendance	Season	Rank	Population	Age of Team	Honey-moon Period	Population Per Square Mile	Latitude	Miles to Nearest AHL Team	Number of AHL Teams Within 100 Miles	Canadian Team	% of Building Seating Capacity Sold
Hershey Bears	6,214	2	2	1,534,653	30	0	297	40.3	60	1	0	86%
Hershey Bears	6,233	3	2	1,550,907	31	0	300	40.3	125	0	0	86%
Hershey Bears	6,558	4	2	1,567,162	32	0	303	40.3	125	0	0	90%
Maine Mariners	3,828	1	8	876,892	14	0	82	43.5	165	0	0	57%
Moncton Hawks	3,301	1	10	172,200	5	0	31	46	100	1	1	49%
Moncton Hawks	3,021	2	12	173,215	6	0	31	46	100	1	1	44%
Moncton Hawks	2,798	3	14	174,229	7	0	31	46	50	2	1	41%
New Haven Nighthawks	2,683	1	13	2,436,892	19	0	577	41.2	50	1	0	45%
New Haven Nighthawks	1,926	2	16	2,450,403	20	0	581	41.2	50	2	0	32%
Portland Pirates	5,872	3	3	895,016	1	1	83	43.5	165	0	0	87%
Portland Pirates	6,472	4	3	904,077	2	1	84	43.5	125	0	0	96%
Providence Bruins	9,279	2	1	1,459,082	1	1	926	41.9	60	2	0	78%
Providence Bruins	9,203	3	1	1,466,745	2	1	931	41.9	60	1	0	77%
Providence Bruins	9,015	4	1	1,474,408	3	0	936	41.9	40	2	0	76%
Rochester Americans	6,070	1	1	1,015,986	29	0	347	43.2	100	0	0	87%
Rochester Americans	5,573	2	3	1,020,405	30	0	348	43.2	100	0	0	80%
Rochester Americans	5,646	3	4	1,024,824	31	0	350	43.2	100	0	0	81%
Rochester Americans	6,103	4	4	1,029,243	32	0	351	43.2	75	1	0	87%
Saint John Flames	5,205	3	5	171,402	1	1	47	45.4	50	2	1	85%
Saint John Flames	5,824	4	6	172,053	2	1	47	45.4	50	1	1	95%
Springfield Falcons	4,003	1	4	667,723	29	0	361	42	60	3	0	54%
Springfield Falcons	3,337	2	8	669,808	30	0	362	42	60	4	0	45%
Springfield Falcons	3,189	3	13	671,893	31	0	363	42	75	3	0	43%
Springfield Falcons	3,976	4	12	673,979	32	0	364	42	45	4	0	53%
St. John's Maple Leaf	3,687	1	9	568,474	1	1	13	48	400	0	1	98%
St. John's Maple Leaf	3,332	2	9	568,553	2	1	13	48	400	0	1	88%
St. John's Maple Leaf	3,506	3	10	568,633	3	0	13	48	400	0	1	93%
St. John's Maple Leaf	3,421	4	13	568,712	4	0	13	48	400	0	1	91%
Syracuse Crunch	5,888	4	5	1,106,174	1	1	196	43.1	45	1	0	95%
Utica Devils	2,584	1	14	253,178	4	0	84	43.1	75	4	0	65%

Team	Average Attendance	Season	Rank	Population	Age of Team	Honey-moon Period	Population Per Square Mile	Latitude	Miles to Nearest AHL Team	Number of AHL Teams Within 100 Miles	Canadian Team	% of Building Seating Capacity Sold
Utica Devils	2,728	2	14	253,244	5	0	84	43.1	75	4	0	69%
Worcester Ice Cats	5,473	4	8	4,699,299	1	1	1080	42.2	45	4	0	44%

**Key**

**Season:**

- 1 = 1991-92
- 2 = 1992-93
- 3 = 1993-94
- 4 = 1994-95

**Honey-moon Period**

- 1 = First or second season in this market

**Canadian Team**

- 1 = Team located in Canada

## Regression Equation For Predicting American Hockey League Team's Average Attendance

Intercept	5,766
Std Err of Y Est	452
<b>Index of Determination or R Squared</b>	<b>0.93</b>
No. of Observations	61
Degrees of Freedom	55

	Season	Team Rank	Population	Team Age	Population Per Square Mile
X Coefficient(s)	379.41	-291.88	-0.000481674	-21.42	3.04
Std Err of Coef.	53.18	14.24	0.000108895	5.52	0.38
t Statistic	7.134	-20.493	-4.423	-3.881	8.090
p Value	0.000000114%	0.000000000%	0.002318162%	0.014039654%	0.000000003%

Note: The p value represents the probability of obtaining the calculated coefficient in a situation in which the variable actually has no relationship to attendance. Small p values like these suggest very significant relationships.

**Predicted Versus Actual Attendance, American Hockey League,  
1991-1995**

<b>Team</b>	<b>Season</b>	<b>Predicted Attendance</b>	<b>Actual Attendance</b>	<b>Difference</b>
Adirondack Red Wings	1991-92	4,060	3,945	(115)
Adirondack Red Wings	1992-93	4,127	3,961	(166)
Adirondack Red Wings	1993-94	4,483	3,974	(509)
Adirondack Red Wings	1994-95	3,675	4,105	430
Albany River Rats	1993-94	4,554	3,526	(1,028)
Albany River Rats	1994-95	5,498	5,484	(14)
Baltimore Skipjacks	1991-92	4,457	3,866	(591)
Baltimore Skipjacks	1992-93	3,654	3,066	(588)
Binghamton Rangers	1991-92	4,455	3,977	(478)
Binghamton Rangers	1992-93	4,522	4,291	(231)
Binghamton Rangers	1993-94	4,296	3,915	(381)
Binghamton Rangers	1994-95	4,070	4,190	120
Cape Breton Oilers	1991-92	5,252	4,775	(477)
Cape Breton Oilers	1992-93	5,027	4,703	(324)
Cape Breton Oilers	1993-94	5,093	4,604	(489)
Cape Breton Oilers	1994-95	4,575	4,235	(340)
Capital District Islanders	1991-92	2,021	2,062	41
Capital District Islanders	1992-93	2,381	2,073	(308)
Cornwall Aces	1992-93	1,922	2,187	265
Cornwall Aces	1993-94	2,571	2,502	(69)
Fredricton Canadiens	1991-92	2,903	3,210	307
Fredricton Canadiens	1992-93	3,553	3,217	(336)
Fredricton Canadiens	1993-94	3,618	3,478	(140)
Fredricton Canadiens	1994-95	3,100	3,382	282
Halifax Citadels	1991-92	2,375	3,144	769
Halifax Citadels	1992-93	2,438	2,957	519
Hamilton Steelhawks	1992-93	5,035	4,773	(262)
Hamilton Steelhawks	1993-94	3,035	3,349	314
Hershey Bears	1991-92	5,102	5,815	713
Hershey Bears	1992-93	5,462	6,214	752
Hershey Bears	1993-94	5,821	6,233	412
Hershey Bears	1994-95	6,181	6,558	377
Maine Mariners	1991-92	3,336	3,828	492
Moncton Hawks	1991-92	3,131	3,301	170
Moncton Hawks	1992-93	2,904	3,021	117
Moncton Hawks	1993-94	2,678	2,798	120
New Haven Nighthawks	1991-92	2,525	2,683	158
New Haven Nighthawks	1992-93	2,011	1,926	(85)
Portland Pirates	1993-94	5,829	5,872	43

<b>Team</b>	<b>Season</b>	<b>Predicted Attendance</b>	<b>Actual Attendance</b>	<b>Difference</b>
Portland Pirates	1994-95	6,185	6,472	287
Providence Bruins	1992-93	8,322	9,279	957
Providence Bruins	1993-94	8,691	9,203	512
Providence Bruins	1994-95	9,061	9,015	(46)
Rochester Americans	1991-92	5,797	6,070	273
Rochester Americans	1992-93	5,573	5,573	(0)
Rochester Americans	1993-94	5,642	5,646	4
Rochester Americans	1994-95	6,002	6,103	101
Saint John Flames	1993-94	5,484	5,205	(279)
Saint John Flames	1994-95	5,549	5,824	275
Springfield Falcons	1991-92	5,132	4,003	(1,129)
Springfield Falcons	1992-93	4,325	3,337	(988)
Springfield Falcons	1993-94	3,226	3,189	(37)
Springfield Falcons	1994-95	3,878	3,976	98
St. John's Maple Leaf	1991-92	3,263	3,687	424
St. John's Maple Leaf	1992-93	3,621	3,332	(289)
St. John's Maple Leaf	1993-94	3,687	3,506	(181)
St. John's Maple Leaf	1994-95	3,169	3,421	252
Syracuse Crunch	1994-95	5,864	5,888	24
Utica Devils	1991-92	2,106	2,584	478
Utica Devils	1992-93	2,464	2,728	264
Worcester Ice Cats	1994-95	5,946	5,473	<u>(473)</u>
			Sum of the Differences	0

Source: Finne & Associates