



# ALLEGHENY INSTITUTE

FOR PUBLIC POLICY

PRIVATE FINANCING FOR A NEW PENGUINS  
ARENA

*Frank Gamrat, Ph.D., Senior Research Associate  
Allegheny Institute for Public Policy*

*Allegheny Institute Report #02-08  
July 2002*

© by Allegheny Institute for Public Policy. All rights reserved. Note: Nothing written here is to be construed as an attempt to aid or to hinder the passage of any bill before the Pennsylvania General Assembly.

## Table of Contents

Key Findings	2
Introduction	3
Pittsburgh Penguins	3
Mellon Arena	4
Economic Benefits of a New Facility	5
Quality of Life Issues	8
Willingness to Pay	9
Private Financing Options	10
Revenue Bonds	10
Other Private Sources of Revenue	12
Proposed Financing Plan for the Pittsburgh Penguin's New Facility	13
Attendance Revenues	14
Prices	14
Playoffs	16
Non-Hockey Events	16
Concession Revenues	17
Other Annual Revenues	18
One-Time Revenues	19
Annual Arena Operating Costs	21
Conclusions	22
Appendix A—Forbes 2002 Ranking of NHL Franchise Values	23
Appendix B—NHL Arenas Constructed in the United States Since 1992	24
Appendix C—Revenue Estimates	25
References	27

## Key Findings

The Pittsburgh Penguins have asked the Sports and Exhibition Authority (SEA) to craft a financing plan for a new hockey arena that relies heavily on taxpayer funding. However, public money is in short supply as the SEA is already financing two stadiums and a convention center at a cost of \$700 million in taxpayer funding. This report finds:

- The City of Pittsburgh and Allegheny County do not have any available funds to build another sports arena. The team may receive some infrastructure help from the state. Elected officials at all levels—the city, county, and state have been non-committal in offering financial help.
- The future of the team's current home—Mellon Arena—is in doubt. A new facility cannot compete against the old facility as an event-hosting venue. If a new arena is to be built, the Mellon Arena would need to be removed.
- The most likely scenario for a new arena assumes that it would be built and owned by the SEA. The team will be the principal tenant and assume control of all scheduling and revenues generated at the facility.
- The Penguins' proposed arena would seat 18,188 persons and contain 76 luxury suites and 8 loge suites. The cost of the arena is estimated at \$225 million. Infrastructure and site preparations are estimated to cost another \$15 million.
- The SEA will need to collect enough money—about \$16 million per year—to pay for the facility. This can be accomplished by letting the arena pay for itself. The Sports and Exhibition Authority can issue revenue bonds against revenue streams from the new arena. It is a strategy that has been successful with Denver's Arena, the Miami Heat's Arena, and the New England Patriots' new stadium.
- In a conservative/likely scenario, the team would realize annual arena based revenues of approximately \$82.3 million stemming from attendance, luxury and loge box rentals, concession, and sponsorships. They would also receive one-time revenues from the sale of permanent seat licenses (PSLs) of about \$10.5 million.
- The SEA would realize annual revenue streams of about \$17 million from a \$2.50 ticket surcharge, luxury and loge box rentals, concessions, sponsorships, naming rights, and RAD contributions. They would also receive up-front revenues from the sale of PSLs and state aid for infrastructure and site preparations.

The new arena can be built with mostly private funds by issuing revenue bonds that will be paid back with facility driven revenues. The revenues in the conservative/likely scenario are derived by assuming that the new arena will host 100 events (44 hockey). The Mellon Arena average is 130. If the team reaches that average, they will earn an additional \$8 million that can be used for operating costs. This plan minimizes taxpayer risk and allows the team to increase revenues over those earned at the Mellon Arena.

## Introduction

In 1999 the Pittsburgh Penguins emerged from bankruptcy to embark on a new era of ownership. Its former (and current) star—Mario Lemieux—converted \$30 million in deferred compensation into \$20 million of ownership equity and combined this with \$65 million in cash from minor partners to effectively purchase the team for \$85 million. He promised that the team would carefully adhere to the reorganization plan crafted in bankruptcy court but suggested that the long term viability of the franchise rests on the ability to obtain a new facility. This ownership group, Lemieux Group LP, contends that when they purchased the team, the Sports and Exhibition Authority (SEA) promised to have a financing plan for a new facility in place by June 30, 2002. However, the SEA requested, and the team granted, an extension to July 31<sup>st</sup>.

Pittsburgh already has significant public investment in three new structures—Heinz Field, PNC Park, and the new David L. Lawrence Convention Center. The three projects combined have cost \$873 million, with 80 percent of the financing coming from the public.<sup>1</sup> The Penguins would like not only to be the fourth, but would like a deal similar to the one received by the Pirates, who only contributed about 18 percent (\$47.7 million) to the \$260 million cost of PNC Park. The Pens have already contracted with an architect, Hellmuth, Obata, & Kassabaum (HOK), to design an arena that is estimated to cost about \$225 million. At 18 percent, the Pens' contribution would amount to approximately \$40.5 million, while the public would contribute the remaining \$184.5 million.

However, there is a serious problem looming for the Lemieux Group LP. Public money is in very short supply. The City of Pittsburgh, Allegheny County, and the Commonwealth of Pennsylvania are facing budget problems in 2002, and civic leaders from all levels have been non-committal in offering the team financial help. The remainder of this paper will be devoted to exploring private funding options for the team by examining the creative ways other cities and teams have been able to use private financing to accomplish the same goal.

### *The Pittsburgh Penguins*

As mentioned above, the Lemieux Group LP bought the team in 1999 for a reported \$85 million. They represent the team's seventh ownership group since its inception in 1967 and the third group to rescue the team from bankruptcy.<sup>2</sup> When Lemieux and his investors bought the team, they matched an offer from a consortium of buyers, led by Microsoft's Paul Allen in Portland, Oregon, who wished to move the team to the Pacific

---

<sup>1</sup> The Convention Center's final cost is \$332 million (all public). Heinz Field cost \$281 million (\$123 million private--44 percent) and PNC Park cost \$260 million (\$47.7 million private—18 percent).

<sup>2</sup> Peter Block and Jack McGregor first owned the team from 1967 until 1968. The team was then owned by Don Parsons, who filed bankruptcy in 1971. The NHL takes over the team and sells it to a group led by Thayer Potter. The team goes bankrupt again in 1975 and is again owned by the NHL. They sell the team to a group headed by Al Savill. The team is sold to Edward J. DeBartolo, Sr. in 1978. The team was then sold to a consortium headed by Howard Baldwin in 1991 that took the team into its third bankruptcy in 1998, at which time Lemieux Group LP assumed control.

Northwest. U.S. Bankruptcy Judge Bernard Markovitz declared that the Penguins were essential to the fabric of the Pittsburgh area and dismissed the group's offer. At the time, the team was \$120 million in debt, \$30 million owed to Mr. Lemieux. Based on the two purchase offers from 1999, the team's value three years ago was \$85 million. What is that value in 2002? According to *Forbes* magazine, the market value of the Pittsburgh Penguins is \$149 million—an increase of 75 percent over three years. Appendix A lists all of the NHL teams and their *Forbes*' 2002 values. With a franchise valued at \$149 million, the Penguins have the fourteenth (out of 30) most valuable franchise. The team has already used this increase to its advantage by borrowing \$40 million against the team's value to restructure \$23 million in debts and use the remaining \$17 million to pay for operating expenditures.<sup>3</sup> The *Forbes*' value indicates that the franchise is at least financially viable in the immediate future, which should aid them in securing private financing for a new facility.

### *Mellon Arena*

Mellon Arena is currently the oldest NHL facility in operation. It was publicly built in 1961 at a cost of \$22 million. Its intended use was to house Pittsburgh's Civic Light Opera as a part of an urban renewal project on the City's Lower Hill District. The City built the world's largest clear-span retractable dome to house the Civic Light Opera and be the centerpiece to a new cultural district. The arena was called the Civic Arena and opened to the public in 1962. However, the Civic Light Opera claimed that the acoustics were less than optimal, and the roof could only be open in the most perfect of weather conditions. As a result they moved to other quarters, and the promised cultural district never emerged in the Lower Hill. The Civic Arena was retrofitted for hockey in 1967 when the Penguins entered the NHL. Naming rights for the building were sold in 1999 to Mellon Bank and the arena became known as the Mellon Arena.

As the debate over a new facility arises, questions as to the future of Mellon Arena have also risen. Because of the 40 year-old facility's unique appearance, earning it the nickname "The Igloo" (which also spawned the name Penguins), and its retractable dome, it has been suggested that the building be given Historic Landmark status. This designation becomes very important to the viability of a new facility. "If (the) building is rated historic, it can't be demolished or have exterior changes made without approval from the Historic Review Commission."<sup>4</sup>

The purpose of a new facility is not only so that the team can play in a larger or more aesthetically pleasing venue; also so the team can extract more revenues from the local market. Typically teams control the revenue streams from not only their own events, but also *other events* that may be held at the facility. Arenas generally hold 150 to 200 events annually. The Mellon Arena averages 130 events per year (44 hockey and 86 non-hockey events). This number could be substantially reduced in a competitive

---

<sup>3</sup> "Penguins to Borrow Millions to Refigure Team Debt". Pittsburgh Post-Gazette. April 6, 2002. <http://www.post-gazette.com/localnews/20020406penguinloan4.asp>.

<sup>4</sup> "Mellon Arena Labeled Historic". Pittsburgh Post-Gazette. May 7, 2002. <http://www.post-gazette.com/localnews/20020507arena0507.asp>.

environment. The Mellon Arena would offer competition for hosting concerts, theater, civic events, etc. Currently, the Mellon Arena faces its own competition for such events from a variety of sources, such as the new Pederson Center at the University of Pittsburgh, the Palumbo Center at Duquesne University, as well as two amphitheaters, Heinz Field and the new David L. Lawrence Convention Center. To further illustrate, in 2001 the Mellon Arena only hosted 10 concerts, the lowest total in its history.<sup>5</sup>

Therefore, if a new facility were to be built to provide the team with maximum revenue capabilities, the Mellon Arena would have to be demolished. Even if it were decommissioned as an event-hosting facility and converted to retail and restaurants, this still runs counter to the intended use of any new facility. New arenas are typically built to include restaurants and retail shops in addition to team merchandise shops—they resemble malls more than they do sporting facilities. The goal of the team is to maximize revenues, and this can only be accomplished if patrons spend their money *inside* the new facility, not around it. A reconfigured Mellon Arena would subvert this effort.

### **Economic Benefits of a New Facility**

There seem to be two types of economic impact studies for a sports facility: those done by facility proponents and those done by independent researchers. The former is usually paid for by the team and includes all the bells and whistles touting multiplier-induced gains to the local economy through increased spending, tax receipts and job gains. Since even proponents agree that there will be no gains from the facility itself (the owners and players reap that benefit), the proverbial carrot in front of the taxpayer is found in the promised surrounding development.

The Penguins' case is no different. With the help of their consultants, HOK, they unveiled a proposed urban redevelopment plan that would include a mix of housing, office, and retail development that could cost more than \$500 million. All of this new development would take place on the site of the Mellon Arena (approximately 28 acres) across the street from a new \$225 million hockey facility. According to the accompanying newspaper report, the “development would provide 5,000 new jobs, housing for 2,500, \$20 million in additional tax revenue and take at least 15 to 20 years to complete.”<sup>6</sup>

Between 1990 and 2004 public spending nationwide on stadiums and arenas will reach \$10 billion. By 2004, approximately two-thirds of the nation's 111 professional sports teams will be playing in venues that either opened or were heavily renovated within the

---

<sup>5</sup> “Penguins Look To Future As They Assess the Financial Fallout of a Tough Season”. Pittsburgh Post-Gazette. April 21, 2002. <http://www.post-gazette.com/penguins/20020421rooney0421p3.asp>.

<sup>6</sup> “Penguins' Arena Plan Includes an Uptown Renewal Worth \$500 Million”. Pittsburgh Post-Gazette. May 12, 2002. <http://www.post-gazette.com/localnews/20020312arena0312p2.asp>.

last 10 years.<sup>7</sup> Enough time has passed to assess accurately the economic promises that were made and the reality that ensued for some of these stadiums and arenas.

The benchmark development is the Central Market Gateway Project in Cleveland, Ohio. This project is responsible for Jacobs' Field, the Gund Arena (NBA) and the development in between the two at a cost of \$425 million--\$300 million in public money. The development supporters claim that it has created 2,000 jobs. Critics claim the high cost of the public subsidy means that the taxpayers paid \$150,000 per job. Furthermore, critics claim that spending has been redirected to the area at the expense of suburban establishments, which leaves the actual net new job figure uncertain. In fact sports facilities may be responsible for destroying more jobs than they create because sports teams lure spending away from other regions in the economy.

Other examples of exaggerated claims of benefits abound. Before Jacksonville, Florida was awarded its NFL franchise, supporters claimed that bringing the franchise to the city would result in 3,000 new jobs. After the Jaguars moved in, the actual figure stood at about 300.<sup>8</sup> Consultants for the owners of the Arizona Diamondbacks claimed that a new facility, Bank One Ballpark, would bring in millions of dollars per year in economic activity and bring thousands of jobs. Economist Daniel Sutter credits the ballpark with bringing only 340 jobs as a result of \$240 million in public subsidies.<sup>9</sup>

Why is it that the economic promises almost never materialize? The first explanation is that consultants often ignore the substitution effect on other regional establishments. People have a relatively fixed number of entertainment dollars in their budget; if they do not spend them at a sporting event, they will spend them elsewhere in the economy. As noted by Federal Reserve Economist Ronald Wirtz, "(f)acilities rarely repay their construction costs, still many others are fortunate to simply cash-flow in a given year. Rather, these facilities are designed to be spending magnets for the city—community loss leaders".<sup>10</sup> Therefore proponents stress the economic activity that will be created outside the facility rather than inside. They use multipliers, sometimes as high as 6, to emphasize economic impacts. He further states, "...advocates often mistake economic activity (all spending related to a sporting event or convention) with economic impact (new spending that otherwise would not have taken place)".<sup>11</sup> Even though economic activity may be increased in the area around a new facility, it represents a substitution of spending from one part of the region to another. Stadiums and arenas do not increase regional spending; they just use public dollars to shift it around. Wirtz notes that when the facility and its

---

<sup>7</sup> Rappaport, Jordan and Chad Wilkerson. "What Are the Benefits of Hosting a Major League Sports Franchise?" *Economic Review*. Federal Reserve Bank of Kansas City. First Quarter 2001. PP 55-86.

<sup>8</sup> Sutter, Daniel. "Public Subsidies for Sports Stadiums Don't Spur Economic Growth". Oklahoma Council of Public Affairs. April 2000.

<http://www.ocpathink.org/economics/PublicSubsidiesforSports.html>.

<sup>9</sup> Ibid. and <http://www.sportsvueinc.com/News01/03March01/0326Bob.htm>

<sup>10</sup> Wirtz, Ronald A. "Stadiums and Convention Centers as Community Loss Leaders". *Fedgazette*. Federal Reserve Bank of Minneapolis. March 2001. <http://minneapolisfed.org/pubs/fedgaz/01-03/stadiums.html>.

<sup>11</sup> Ibid.

accompanying development are publicly funded, “scarce public resources have been used to redirect private spending.”<sup>12</sup>

What if the city is merely replacing an older arena with a new one—such as the Mellon Arena? How do you calculate the net increase of a new arena? Fans are already attending the old arena and buying food, souvenirs and tickets. These items are already part of the economy. Team consultants are convinced that patrons would be willing to spend even more money before and after the game at the new arena and in the surrounding development. This takes away from local establishments and provides no new positive effect. The goal of the team is to get patrons to spend as much as possible inside the stadium, so that they can capture as large a share of these dollars as possible. This puts the goal of the team at odds with the goal of the city. The city wants people to come downtown and spend money at the local establishments while the team wants all spending to be done inside the facility. The new facility has the ability to sweep the retail market in its immediate area. In fact, noted sports economist Mark Rosentraub notes that in Cleveland, some of the establishments located near the sports complex have already gone out of business.<sup>13</sup>

Promises of increased tax revenues often sway voters. While proponents admit that large sums of public monies are being used for their facilities, they promise that the resulting increases to the area’s tax base will more than make up for the short-term inconvenience. When it was placed before voters in a 1990 referendum, the Central Market Gateway Project promised to generate enough tax revenues to provide Cleveland schools \$15 million per year. By 1998, the Cleveland Teachers’ Union estimated that the project drains, through tax abatements, \$3.5 million per year from the school system.<sup>14</sup> Property values around a new venue do tend to rise, which greatly benefits the property owners. These increased values do translate to higher property tax payments, but often the development areas are located in tax-exempt zones or are owned by authorities that pay no taxes, so local governments rarely realize dramatic increases in property tax revenues.

Proponents often claim that income tax collections will rise as a result of the new facility. The second largest spending component, after construction of the facility, is team spending. Team payrolls typically increase in the first year in the new stadium. However players rarely live year-round in the city in which they play, so their wages and the accompanying income taxes leave the region. This is especially true in the NHL, where a majority of the players are born in Europe and Canada and rarely live in the city in which they play. Therefore, any incomes paid to the athletes will most likely leak out of the area.

---

<sup>12</sup> Ibid.

<sup>13</sup> Paul, Mark. “Blowing Whistle on Publicly Funded Arenas”. *Sacramento Bee*. April 14, 2002. [http://www.sacbee.com/content/business/commercial\\_realestate/story/2184538p-2576319c.html](http://www.sacbee.com/content/business/commercial_realestate/story/2184538p-2576319c.html)

<sup>14</sup> “Top 10 Dumbest Reasons to Build a New Stadium”. *Field of Schemes*. <http://www.fieldofschemes.com/top10/>. 1998-9.



Economists have found that the presence of sports teams does not positively contribute to the economic well being of a city. Some even conclude that the team actually presents a drain on the local economy. Are there any benefits to having a sports franchise? Authors Jordan Rappaport and Chad Wilkerson note that there are some economic benefits to having a team; they just do not outweigh the public costs associated with building new arenas. They studied the NFL franchise in Baltimore and found that the Ravens contribute \$1 million annually to the Maryland economy, while residents pay \$14 million per year in public subsidies. In Seattle, Major League Baseball's Mariners return to state residents approximately \$5.1 million annually, while the public contributes \$28 million per year for Safeco Field.<sup>15</sup>

The only economic benefits that accrue to the region arise from non-local visitors to the facility. When non-local residents visit the area, the local market captures their spending and sales taxes. Theoretically, the increase in sales taxes from tourists should lower the local tax burden. The authors estimate that 20 percent of the fans attending an NHL game are non-local and that each fan in attendance spends \$97 per visit. At a 5 percent sales tax, it results in almost \$700,000 in "imported" sales taxes per year.<sup>16</sup> (With Allegheny County's sales tax of 7 percent, that figure increases to approximately \$975,000.) With approximations for sales taxes, job creation, and income taxes, Rappaport and Wilkerson place the average value from hosting an NHL team at roughly \$1.9 million per year. The net present value of that benefit stream (at 6 percent interest over 30 years) is roughly \$27 million, while the average public expenditure on a new NHL arena (through the 2000 season) was \$84 million.<sup>17</sup>

### *Quality of Life Issues*

Even though stadiums/arenas do not perform well economically and are of little benefit to a city's economic landscape, they are still being built at a substantial pace. Some economists theorize that arenas may have consumption benefits, like civic pride, which are difficult to value. This could be the reason that voters in some circumstances have approved stadium referenda. Voters must enjoy having a major sports franchise in their city. According to Coates and Humphreys: "If the expected economic costs of a project are similar for most voters in a jurisdiction, then it may be possible that consumption benefits are large enough to induce some voters to support a proposed sports subsidy that makes no economic sense when viewed solely as a local investment decision."<sup>18</sup> They further observe that the greater the threat of the team's departure, the more likely the referendum's success and the larger the subsidy.<sup>19</sup> However, this theory did not hold true in Pittsburgh, Charlotte, Columbus, San Francisco, and Cleveland (twice).

---

<sup>15</sup> Rappaport, Jordan and Chad Wilkerson.

<sup>16</sup> Based on average attendance of 16,300 persons for the 2000 season for 44 games. If 20 percent of the fans are non-local, then there will be 143,440 non-local fans per season.

<sup>17</sup> The authors caution that this may be an overstatement.

<sup>18</sup> Coates, Dennis and Brad R. Humphreys. "Voting on Stadium and Arena Subsidies". Working Paper. University of Maryland, Baltimore County. March 7, 2002. PP 1-21.

<sup>19</sup> Ibid. Page 12.

It may be a point of pride with local elected officials as well. No mayor wants to be known as the one who lost the team, so they have an even stronger incentive to arrange public financing. Politicians claim a major league team builds community visibility and accomplishment that will be a future benefit as a marketing tool in the global economy. However, even though they may be building political capital with the corporate community and the team's owners, they also run the risk of alienating voters and using up political capital with state level officials. Which could be detrimental in the long run.

Proponents, aware that the economic benefits of a new facility are minimal, often appeal to the civic pride of voters. They claim that having a professional sports team in the city enhances the residents' quality of life. This argument has proven to be very successful, as 19 of 24 stadium referenda were approved between 1990 and 2000.<sup>20</sup> NHL teams have had more arenas built without the benefit of a referendum (only 2 of these 24 referenda were for NHL arenas). Of the 30 NHL franchises, 26 are located in the United States. Of these teams, 19 (73 percent) have new facilities. Overall 23 of 30 NHL teams have new arenas—77 percent. Appendix B lists all of the new NHL arenas built in the United States over the last 10 years.

### *Willingness To Pay*

Economic evidence suggests that sports venues do not enhance a city's performance and the reason facilities are being built must be consumption benefits. Unfortunately, it is very difficult to place a dollar value on non-pecuniary benefits. Authors Bruce Johnson, Peter Groothuis, and John Whitehead conducted a survey in the Pittsburgh area to ask residents how much would they be willing to pay in additional taxes to keep the Penguins from leaving town.<sup>21</sup> The average response was \$5.57 per household or \$5.3 million annually.<sup>22</sup> Calculating the present value of \$5.3 million per year using an interest rate of 6 percent over 30 years, Pittsburgh taxpayers would be willing to pay up to \$77.3 million to keep the team in town. To add a little perspective, it is estimated that people value an extra sunny day at \$7 - \$12 per year. Estimating the present value (at 6 percent for 30 years) for an area with 2 million persons gives a value of \$193 million to \$330 million for an extra sunny day. The authors conclude by noting:

Even if the WTP (willingness to pay) ... equaled or exceeded the cost of building a new arena, the decision to subsidize the arena would reduce the welfare of some if those willing to pay zero were taxed, a likely event since about half of the respondents indicated their maximum WTP was zero. Unless some mechanism for identifying and taxing only those with positive WTP could be found, it is unlikely that any partial or total subsidy of an arena would be a(n)...improvement.<sup>23</sup>

---

<sup>20</sup> "Major League Sports Stadium/Arena Referendums (since 1990)". Appendix 2 to Sports Facility Reports, Volume 2, Number 2. National Sports Law Institute of Marquette University Law School. 2001.

<sup>21</sup> Johnson, Bruce K., Peter A. Groothuis, and John C. Whitehead. "The Value of Public Goods Generated by a Major League Sports Team: The CVM Approach." *Journal of Sports Economics*. February 2001.

<sup>22</sup> Ibid. Assuming an average household size of 2.25 persons and 947,500 households in the MSA.

<sup>23</sup> Ibid. Page 21.

For taxpayers in the Pittsburgh area, such a mechanism does exist—private financing. Let those who use and enjoy the facility fund its construction.

### **Private Financing Options**

Not every new stadium is being built with 100 percent public money. There are plenty of examples of cities and teams using creative means to secure private funds. These range from issuing stock options (Green Bay Packers) to receiving revenues from local Native American casinos (Detroit Tigers). This section will explore some of the private options available to the Pittsburgh Penguins to privately build a new arena.

There are two main forms of funding that have been used to build sports facilities: tax or venue driven revenue bonds. Tax increases have manifested themselves in the form of an increase in the local sales tax or through what is commonly referred to as “tourist” taxes—increases to the local hotel and rental car tax. Cities that want to increase either tax often put the issue up for a vote in a referendum. As mentioned above, between 1990 and 2001 there were 24 stadium referenda held to determine if public financing would be used for a new stadium—4 were defeated (17 percent).<sup>24</sup> Of the 24, 18 (75 percent) proposed an increase to either the sales, hotel, or rental car tax rates.

One important referendum defeat occurred in Southwestern Pennsylvania as voters in 11 counties defeated a 0.5 percent increase to the local sales tax to fund two stadiums and a new convention center. “City, local, and state officials persisted to develop a variety of public funding sources, including a hotel tax increase, to help fund \$772.2M of the estimated \$943M project”.<sup>25</sup> This becomes very important when regarding the funding of a new hockey arena. Even though the team may desire taxpayer money to pay for it, taxpayers have already shown an unwillingness to fund sports venues. Local politicians have already exhausted other taxpayer avenues, such as the hotel tax, to build the other stadiums and the convention center.<sup>26</sup> Simply put, the taxpayer well is dry.

### *Revenue Bonds*

Borrowing funds to build a stadium is another possibility. There are many types of bonds that can be issued for this purpose, such as a municipal bond. Within the category of municipal bonds there are general obligation and non-guaranteed bonds. A tax base that promises a certain level of annual revenues usually backs general obligation bonds. For example, if a county government wishes to increase the rental car tax by 3 percent and believes that the result will be a \$3.5 million annual increase to that tax base, they could

---

<sup>24</sup> Marquette University Law School. “Major League Sport Stadium/Arena Referendums (since 1990)”. <http://www.marquette.edu/law/sports/sfr/ref.chart.htm>. 2001.

<sup>25</sup> Ibid. Page 1.

<sup>26</sup> Pittsburgh Tribune-Review. “County Rental Car Tax Proposed”. There is a measure in Harrisburg to raise the car rental tax 3 percent (from 2 percent to 5 percent) to fund the debt on the convention center. June 25, 2002. [http://www.pittsburghlive.com/x/tribune-review/news/s\\_78126.html](http://www.pittsburghlive.com/x/tribune-review/news/s_78126.html).

issue a general obligation bond for the discounted present value of this stream. At 6 percent over 30 years, they could borrow about \$42.5 million. General obligation bonds are assumed to be “full faith and credit” bonds, that is, the reputation of the government body is ensuring the repayment of the debt. Sometimes the governing body needs to hold a referendum to increase the debt ceiling and/or raise taxes to cover the repayment of the general obligation bonds. (In Pennsylvania, the County and the City need to petition the state legislature in order to raise the hotel or rental car tax rate.)

How likely is it that either the City or County will issue a general obligation bond to build the Penguins a new arena? It may be too soon to tell, but the probability is small. They have already dedicated the available hotel tax (on top of the 7 percent sales tax) to the new convention center and asked the legislature to raise the rental car tax, not only to cover the debt on the convention center, but also to cover projected maintenance shortfalls and to subsidize a new hotel.<sup>27</sup> The City is reportedly \$1.68 billion in debt,<sup>28</sup> and the County has outstanding debt of over \$635 million.<sup>29</sup> There may not be enough room under either debt ceiling to absorb the debt necessary to build a new facility.

One other possibility to be explored is that of non-guaranteed bonds. One type of non-guaranteed bond is a revenue bond. A government authority, such as the Sports and Exhibition Authority, which lacks the ability to levy taxes, can issue revenue bonds. These bonds can be issued for revenue streams such as ticket sales, luxury boxes, merchandise sales, etc. Since revenue bonds carry greater risk than general obligation bonds, they do tend to pay higher interest rates.

Revenue bonds have enjoyed recent popularity in the construction of sports facilities. Yolo and Sacramento Counties used them to finance a new stadium for the AAA affiliate of the Oakland Athletics—the West Sacramento River Cats. The two counties combined to issue \$20 million in revenue bonds to build an 11,500-seat facility. The bonds have been issued against team attendance revenues. A repayment plan was set up so that the team only needs to have an average attendance of 3,500 fans for each game. The actual average is over 12,000 fans per game.<sup>30</sup>

Other examples of arenas built with revenue bonds are the Pepsi Center in Denver and the American Airlines Arena in Miami. In Denver, the home of the NHL’s Avalanche and the NBA’s Nuggets, nearly \$140 million (82 percent) of the \$170 million cost of the arena was raised by selling revenue bonds backed by projected income streams from sponsorships, luxury suite sales, and food concessions.<sup>31</sup> Ascent Entertainment Group, which owns both teams and built the arena, used corporate sponsorships for amenities

---

<sup>27</sup> The measure was defeated in the legislature.

<sup>28</sup> Pittsburgh Tribune-Review. “Pittsburgh in Crisis.” <http://www.pittsburghlive.com/x/tribune-review/specialreports/pghincrisis/index.html>.

<sup>29</sup> Allegheny County. 2000 Comprehensive Annual Financial Report. 2001. <http://www.county.allegheny.pa.us/controll/tran2000.pdf>.

<sup>30</sup> “Financing Options and Facility Development”. *The Sport Journal*. United States Sports Academy. Spring 2001. <http://www.thesportjournal.org/2001Journal/spring/facility-development.htm>. Page 3.

<sup>31</sup> Ibid. Page 7.

such as the Coors Meadow Amphitheater, US West Inc. Business Center, and Conoco service stations on arena property.

In Miami, the NBA's Heat sold \$180 million worth of revenue bonds that were backed by luxury suite sales—approximately \$13 million annually.<sup>32</sup> This was also the first sports facility to receive bond insurance to protect against shortfalls in this revenue stream. The NFL's New England Patriots will dedicate a portion of the revenues from the sale of club seats to pay off a \$150 million loan from the NFL.

### *Other Private Sources of Revenue*

In addition to floating bonds against the revenue streams of consumers (luxury boxes, concessions, and seat licenses), teams can tap into revenue streams that arise from the corporate community as well. These take the form of naming rights and advertising. The average naming rights value for all American professional sports was \$2.52 million in 2001.<sup>33</sup> The Pirates are receiving \$2 million annually from PNC Bank while the Steelers are receiving \$2.9 million from the Heinz Corporation to name their respective stadiums. The Penguins currently receive \$1.9 million from Mellon Financial for the naming rights to Mellon Arena. The average naming rights deal for American NHL teams is over \$3.2 million annually. Two of the three newest NHL arenas, Dallas Stars' American Airlines Center and the Minnesota Wild's Xcel Energy Center, received annual deals of \$6.5 million and \$3 million respectively.<sup>34</sup>

However, lavish deals received by teams such as the Dallas Stars and the Atlanta Thrashers (\$9.3 million annually from Philips Electronics) may be difficult for the Penguins to obtain for their new facility. Naming rights values have fallen as the supply of new arenas increases and poor economic times have corporations being more careful with advertising money. Companies such as Enron (Houston), Fruit of the Loom (Miami), Savvis Communications (St. Louis), and Adelphia (Tennessee) have recently declared bankruptcy, leaving teams to search for new sponsors.<sup>35</sup> A team's best chance for a good naming rights deal usually comes from the local corporate community. The Penguins' deal with Mellon Financial ends in 2009. It can be assumed that Mellon would have first right of refusal for the naming rights of the new facility should it be built before 2009. Or the team may void that contract and begin negotiations with other suitors, such as PPG, USX, Alcoa, or Citizens Bank. It is not unreasonable to assume that the Penguins' new arena could receive a naming rights deal of about \$2.5 million per year.

Other sponsorship opportunities lie within the arena. As mentioned above, the Pepsi Center in Denver was constructed with built-in amenities such as an amphitheater, which is sponsored by Coors Brewing, and a US West sponsored conference facility. The new

---

<sup>32</sup> Ibid. page 7. There are 4 courtside luxury boxes that annually rent for \$500,000 each.

<sup>33</sup> <http://espn.go.com/sportsbusiness/s/stadiumnames.html>.

<sup>34</sup> The third team, Columbus Blue Jackets, had the arena built for them by Nationwide Insurance, who retained the naming rights.

<sup>35</sup> <http://espn.go.com/sportsbusiness/s/stadiumnames.html>. Minute Maid Co. has replaced Enron as the Astro's stadium sponsor.

arena in Pittsburgh may or may not have any of these amenities, but sponsorships inside the arena can be a valuable asset. Advertising space is available in the concourse, along the boards and even on the ice. According to team officials, they sold about \$12 million in Arena sponsorships.<sup>36</sup> With the new facility, and expanded space, the team should be able to increase its sponsorship levels by 25 percent to \$15 million. The extra revenues could aid the team in financing the new arena.

New sports facilities are being built with more emphasis on capturing as much consumer spending as possible. That includes restaurants, bars and retail establishments that are housed inside the facility. PNC Park contains the Outback Steakhouse chain, a branch of PNC Bank, and a pizza shop that are open year-round. The MCI Center in Washington DC not only contains three restaurants but also houses a Modell's Sporting Goods store. All are open on non-game days. Assuming that the new hockey arena will follow suit, the team will be able to collect rental fees from retail space. Currently the Mellon Arena lacks any restaurant or retail space. These features would enhance the team's revenue producing ability over their current situation at Mellon Arena—and would provide extra funding to build and maintain the facility.

### Proposed Financing Plan for the Pittsburgh Penguins New Facility

	Team Revenues	SEA Revenues
Stream	Likely	Likely
Attendance Revenue		
Regular Season Tickets	\$38,796,592	\$1,800,700
Luxury Box Rentals	\$3,800,000	\$380,000
Loge Box Rentals	\$560,000	\$56,000
Playoff Tickets	\$4,083,056	\$124,388
Non-Hockey Events Attendance Revenue	\$10,400,600	\$1,999,200
Concession Revenues	\$12,253,256	\$4,445,147
Annual Arena Sponsorships	\$12,500,000	\$2,500,000
Naming Rights (\$2.5M per Year)	\$0	\$2,500,000
RAD Contributions	\$0	\$3,200,000
<b>Total Annual Revenues</b>	<b>\$82,393,504</b>	<b>\$17,005,435</b>
Service on the Debt over 30 years at 6%		\$248,000,000
One Time Revenues		
Permanent Seat Licenses	\$10,500,000	\$10,500,000
State Aid for Infrastructure	\$0	\$30,000,000
<b>Total One Time Revenues</b>	<b>\$10,500,000</b>	<b>\$40,500,000</b>

The proposal for the new arena will center on the use of revenue bonds to be issued against predicted revenue streams from the facility itself. The first assumption is that the Sports and Exhibition Authority (SEA) will build and own the arena. There are two main

<sup>36</sup> Molinari, Dave. "Penguins Look to Future as They Assess the Financial Fallout of a Tough Season." *Pittsburgh Post-Gazette*. April 21, 2002.

advantages to having the SEA build the arena. First, because they are a government agency, their borrowing power would be greater than that of the team, which would result in a better interest rate. Secondly, if the state government follows through with a promise to make funds available for the arena, it cannot give those funds directly to a private entity, only to another government agency.

The basic premise behind the structure of the funding plan is to maximize arena revenues so that the team can be better off than in their current home while also providing the SEA with enough revenue to pay off the bonds. The first source of revenue to be examined will be attendance.

### *Attendance Revenues*

Since an indoor facility is capable of hosting numerous events in addition to the sporting events for which it was designed, attendance revenues will be divided among hockey and non-hockey events. According to the model created by HOK, the new facility will seat a total of 18,188 persons. Table 2 provides a breakdown. There are four categories of seating: general, club, luxury suite, and loge suite. The general seating area will accommodate 13,850 persons, provide the least amount of amenities, and sell for the lowest prices.

Table 2

Seat Type	Number of Persons
General	13,850
Club	2,950
Luxury Suites	1,292
Loge Suites	96
<i>Total</i>	<i>18,188</i>

Next is the club seat level that will be similar to the current “igloo” seats in the Mellon Arena. They sell for a premium and offer a certain level of amenities. The new arena will have 2,950 club level seats. Luxury suites are the main reason that new arenas and stadiums are built. Since teams have already maximized revenues from the general fan base, they have set their sights on the corporate community. Luxury boxes generally rent for one year and entitle the occupant to tickets to all events held at the facility—sporting or otherwise—and enjoy the highest level of amenities. The Penguins proposed arena would have 76 luxury boxes (holding 17 persons each) and 8 loge boxes (holding 12 persons each).

### *Prices*

Since prices for the seats and luxury boxes have not yet been finalized, the prices used for this plan will be based on the average prices from the 2001-2002 season.<sup>37</sup> The average price of a game day ticket is approximately \$52.14. The average price of a full season

<sup>37</sup> [http://letsgopens.com/pens\\_info.php](http://letsgopens.com/pens_info.php). Average based on the weekend rate.

ticket is \$1,628, or \$37.00 per game. Igloo (club) seats sold on game day for \$135 each or \$4,840 for the season (which averages to \$110 per ticket over 44 games). Luxury box rentals in 2001-02 were \$40,000 and included 12 tickets for each event. The Mellon Arena does not have loge boxes.

During the 2000-2001 season, the team's average attendance rate was 96.7 percent. From 1992-93 to the 2000-2001 season, the team's average attendance rate was 93.3 percent.<sup>38</sup> In 2001-2002, there were 10,500 general season ticket equivalents. Assuming the same level of season tickets, there would be 3,350 general game day tickets available. If the team sells 90 percent of the general game day tickets (3,015 at an average price of \$52.14), the projected game day revenue from general game day tickets would be \$157,202. Over the course of 44 games, the total would be almost \$7 million. Adding in the \$17 million in season ticket sales of general tickets, the team should have attendance revenues of over \$24 million per season. Appendix C provides the details of the hockey attendance revenues.

The revenues from club seats will depend on how many season tickets can be sold at this level. Since these are premium seats with some amenities, the assumption is that most of these seats will be sold as season tickets—approximately 2,000 seats at \$110 each (about a 20 percent discount). That gives the team annual revenues from the sale of club season tickets at \$9.6 million. If the team can sell 90 percent of the 855 remaining club seats for \$135 each per game, the annual revenues would be an additional \$5 million. Total annual revenue from the sale of club seats would exceed \$14.7 million.

The price of luxury boxes at the new arena will likely sell for a premium over boxes in the old arena, which rented for \$40,000 in 2001-2002. The assumption is that boxes in the new arena will be \$50,000 per year and include 17 tickets to all events. The team should easily be able to sell all 76 boxes for \$3.8 million in annual luxury box revenues. Loge boxes will be even more elaborate than the luxury boxes. Therefore, they will command a premium over luxury boxes; the assumption is that they will rent for \$70,000 per year. All 8 should sell and the team will realize an additional \$560,000 in annual revenues.

Therefore, it is likely that the team could expect to receive over \$43 million per year from persons attending hockey games. This is great for the Penguins; they only had \$62 million in *total* revenues in 2001-2002. But how much would the SEA collect? How much could the new arena generate from hockey attendance to begin paying off its debt? If the SEA were to levy a surcharge of \$2.50 per ticket sold, the amount levied onto Pirate baseball tickets; they could realize over \$1.8 million annually. If they received 10 percent from luxury and loge box rentals, then the total amount the SEA should receive from hockey attendance is would be over \$2.2 million annually.<sup>39</sup>

As mentioned above this represents a likely scenario, based on 2001-2002 ticket and box prices and an attendance rate based on the average from the last nine seasons. But what if

---

<sup>38</sup> Ballparks by Munsey and Suppes. <http://www.sfo.com/~csuppes/NHL/misc/index.htm>.

<sup>39</sup> The 10% from the luxury box rentals that the SEA would collect would be an expense for the team.



ticket sales and attendance figures fall short of expectations? In a conservative scenario, we will examine those possibilities.

In the conservative scenario, the only changes are that of the attendance levels. If the team is having a sub-par year and is out of the playoff race, then attendance will suffer. However, the only variable that would change would be individual ticket sales; season ticket packages will have already been purchased. Therefore, the assumption is that attendance levels would drop to 80 percent. In the last ten years, the team's lowest attendance level was 85 percent. As long as the product on the ice is strong, the intended purpose of a new arena, the attendance levels should remain above 90 percent. With the lower levels of attendance, general ticket revenues for the team would fall to \$23.2 million and the SEA's revenues from the surcharge would fall to \$1.44 million. From club seats, the team's revenues would fall to \$14.1 million and the SEA's surcharge revenue would fall to \$303,000.

In the conservative estimate, the prices of the luxury and loge boxes are reduced by \$10,000 each to \$40,000 and \$60,000 respectively. As mentioned above, luxury boxes in Mellon Arena rent for \$40,000, so the conservative scenario assumes no price change in the new facility. This price reduction reduces team revenues by about \$900,000 and the SEA's revenues by \$80,000. The total revenue from regular season fan attendance in the conservative scenario falls to \$40.9 million for the team (a reduction of about \$2.1 million) and for the SEA about \$2.1 million (a reduction of about \$130,000).

### *Playoffs*

Since the purpose of a new arena is to improve the product on the ice, it should translate into annual playoff appearances.<sup>40</sup> Therefore, the likely scenario includes three home playoff games—one round. If the team does make the playoffs, there will be additional sales of general and club level tickets. Season ticket holders have to buy playoff tickets separately. Only those renting luxury and loge boxes will be exempt from purchasing tickets. Assuming that the attendance rate for each playoff game is over 95 percent, the team should realize attendance revenues of over \$4 million from a one round appearance in the playoffs. The SEA will still receive a \$2.50 surcharge from each playoff ticket sold for estimated revenue of \$124,000 for the three games. Obviously if the team misses the playoffs, this revenue stream falls to zero for both entities. Appendix C has the details of these revenues.

### *Non-Hockey Events*

Indoor arenas have an advantage over outdoor stadiums in that they can host events on a year-round basis. Reports indicate that a facility can host anywhere from 150 to 250 events per year.<sup>41</sup> It has been reported that the Mellon Arena hosts on average 130 events

---

<sup>40</sup> Since 1990, the team has only missed the playoffs once.

<sup>41</sup> Heinz Field could host 16-20 (10 pre and regular season Steeler games and at least 6 University of Pittsburgh games) events per year and PNC Park will host about 85 events per year (81 regular season baseball games, pre-season games, and high school playoffs).

per year, including the 44 regular and pre-season hockey games.<sup>42</sup> However, given the competition for events such as concerts from the area's two amphitheaters, college campuses, Heinz Field and even the convention center, the assumption made in the likely scenario is that the new arena should easily be able to book 100 events per year; 56 non-hockey and 44 hockey. Since the team will be the landlord of the new facility, they will have a strong incentive to book events and will receive a share of this revenue stream. That being said, the caveat placed here is that the more aggressive the Penguins are about booking non-hockey events, the greater their revenues.

For any non-hockey event, there will be approximately 16,800 general and club seats available. Luxury and loge box rentals include tickets to non-hockey events. The price of a non-hockey event is assumed to be \$45 for a general ticket and \$85 for a club seat.<sup>43</sup> The attendance rate is assumed to be 85 percent, or about 14,280 tickets per event. The total attendance revenues for non-hockey events are approximately \$41.6 million per year. Since these revenues need to be divided between performers, promoters, and the team, we will designate 25 percent or \$10.4 million to the Penguins. The SEA would still collect a \$2.50 surcharge per ticket and receive approximately \$2 million annually.

In a conservative assumption, attendance levels are reduced to 80 percent and ticket prices are reduced \$10 to \$35 and \$75 for general and club seats respectively. The number of non-hockey events is also reduced from 56 to 36 (80 total), well below the current Mellon Arena annual average. The total revenues fall to \$20.3 million per year, subsequently reducing the team's share to \$5.1 million. The SEA's share also falls from about \$2 million to just over \$1.2 million.

### *Concession Revenues*

If the attendance figures for a hockey game are about 95 percent of the 18,188 seats, then there will be approximately 17,279 fans cheering on the home team. If the new arena offers these fans a wide assortment of refreshments over the course of a 3-hour game, fans should spend plenty at the concession stand. Assuming each fan spends on average \$30 on concessions per game, that aggregates to \$22.8 million per season. The team will receive 30 percent (\$6.8 million) and the SEA 10 percent (\$2.3 million).<sup>44</sup> During non-hockey games that amount will be reduced to \$25 per person. In a likely case, non-hockey events are 85 percent attended (15,460 persons). If each fan spends \$25, annual concession revenues will be \$21.6 million. If the team takes 25 percent, they receive \$5.4 million and the SEA keeps 10 percent (\$2.1 million). Total concession revenues realized by the team will be \$12.2 million, while the SEA realizes \$4.4 million to be used for the repayment of the arena.

---

<sup>42</sup> Finder, Chuck. "Put Down the Tin Cup Lemieux, and Pony Up For a New Arena." Pittsburgh Post-Gazette. July 2, 2002. <http://www.post-gazette.com/Sports/columnists/20020702webfinder0702p1.asp>

<sup>43</sup> Ticket prices were calculated based on ticket prices from remaining events to be held at Mellon Arena in 2002. The Rolling Stones are charging \$50-\$300 for a ticket. <http://www.mellonarena.com>

<sup>44</sup> At PNC Park, the Pirates receive 40 percent of all concession sales.

In the conservative case, attendance is reduced to 90 percent for hockey games and 80 percent for all other events. If each fan spends an average of \$25 at a hockey game, the overall concession revenues will fall to \$18 million, and the team and the SEA share fall to \$5.4 million and \$1.8 million respectively. Total non-hockey concession revenues would fall to \$8.7 million. The team's share (20 percent) falls to \$1.7 million, and the SEA's share falls to \$873,000. Overall the team would receive a share of annual concession revenues of about \$7.1 million (a loss of \$5.1 million over the likely scenario), and the SEA's share would fall to \$2.6 million (a loss of \$1.7 million over the likely scenario). Details of concession sales are outlined in Appendix C.

### *Other Annual Revenues*

Other annual revenues that are not tied to attendance levels of the arena are naming rights, indoor sponsorships, and Regional Asset District (RAD) contributions. As mentioned above, Heinz Field receives \$2.9 million annually for naming rights and the Pirates earn \$2.0 million per year. The Penguins currently receive \$1.9 million annually from Mellon Financial for the naming rights to the Mellon Arena. The average naming rights deal for American NHL arenas is about \$3.2 million per year. Therefore it is reasonable to assume that the team can secure \$2.5 million per year for the naming rights to the new facility. This money can then be turned over to the SEA for repayment of the venue.<sup>45</sup>

In addition to selling the naming rights to the arena, there is also a great opportunity to sell advertising space inside the facility. Advertisers buy space along the boards, on the ice and in the concourses. There is also competition for the "pouring rights". Beverage companies will be asked to submit bids to be the official beer/soda/water of the Pittsburgh Penguins. The same holds true for food companies. As noted above, the team received \$12 million in sponsorships for the Mellon Arena in 2001-2002. The new facility will have more space for advertisements and more amenities that will command more money than in Mellon Arena. Therefore the team should be able to realize at least \$15 million in annual sponsorship revenues (a 25 percent increase). Of this amount, the SEA could collect a flat rate of \$2.5 million per year to help pay off the loans for the building. If the team raises more sponsorship money then they will have more money for player salaries.

Currently the Mellon Arena receives \$3.2 million per year from the Allegheny Regional Asset District tax (1 percent sales tax above the 6 percent state sales tax). That amount is dedicated to paying off debt on the facility. It is assumed that the Penguins would receive at least as much for the new facility (while rolling the remaining debt on the Mellon Arena into the price of the new facility). It is unlikely that the team will receive any more than this amount. In the economic downturn, sales tax revenues have decreased while "demand from cultural and recreational groups continue to grow. If money were allocated for a new arena, a number of arts, recreation, and library groups would almost

---

<sup>45</sup> If the team could secure an annual deal in excess of \$2.5 million, then they can keep the overage and add it to their total.

certainly suffer through decreased funding”.<sup>46</sup> As stated by Daniel Griffin, chair of the RAD board, “The Penguins are a victim of bad timing.”<sup>47</sup> Therefore annual RAD contributions of \$3.2 million can be allotted to financing the new arena. This amount, once promised, should be a steady stream and not changed in the conservative scenario.

The team will have other revenue streams available that are not were not included in the analysis. These consist of retail space rental and TV and radio broadcast rights. As mentioned above, new arenas and stadiums are being constructed with retail space that is open all year. The team should receive an annual revenue stream from a still to be determined amount of retail rental space. Also the team will receive revenues from the broadcast rights of its games (currently to Fox Sports Television and Clear Channel Communications radio network). These amounts are independent of the arena and only enhance the team’s revenue stream.

### *One-Time Revenues*

Permanent Seat Licenses or PSLs have gained increasing popularity among professional sports teams as a way to fund new stadiums. A fan that purchases a PSL has the right to purchase season tickets indefinitely or to transfer that right to anyone. A fan must purchase a PSL in order to purchase a season ticket. The NFL’s Carolina Panthers, St. Louis Rams, Baltimore Ravens, Cleveland Browns, Tennessee Titans, Houston Texans, and Steelers have relied on PSLs as a funding source. In Major League Baseball, the Seattle Mariners, San Francisco Giants, and Houston Astros have also sold PSLs to help fund their stadiums.

In the NHL, only the Columbus Blue Jackets use PSLs as a source of funding. In Columbus the price of a PSL ranges from \$500 to \$4,000 per seat. At an average of just under \$2,000, they have sold over 14,000 PSLs.<sup>48</sup> The estimate to be used for the Penguins will be \$1,750 per seat. At this price it is anticipated that they will sell 12,000 PSLs receiving one-time revenues of \$21 million. The team and the SEA will split that money in half—each receiving \$10.5 million in up-front money. The SEA’s share of the money could be put into a reserve account to help fund unexpected shortfalls in annual arena revenues or to make future improvements to the facility.

In a conservative case, the team should be able to sell 11,000 PSLs at an average price of \$1,500 each. The revenues would be \$16.5 million in up-front money to be split evenly between the team and the SEA—each receiving \$8.25 million. The more PSLs the team sells, the higher their share of the take, which can be used for player salaries, and the higher the SEA share to be put into the reserve account.

---

<sup>46</sup> Barnes, Tom. “Newsmaker: Daniel J. Griffin”. Pittsburgh Post-Gazette. July 1, 2002. <http://www.post-gazette.com/localnews/20020701newsmaker0701p5.asp>.

<sup>47</sup> Ibid. Page 2.

<sup>48</sup> Crawford, Dan. “Blue Jackets Surpass Ticket Sales”. Columbus Business First. June 1, 2001. <http://columbus.bizjournals.com/columbus/stories/2001/06/04/story5.html>.

In 2001, Governor Tom Ridge met with team officials and announced that the state would contribute to the construction of a new facility.<sup>49</sup> The amount mentioned was \$60 million. However, Gov. Ridge's successor, Governor Mark Schweiker, has stated that the amount of state funding is still to be determined. The only way to allot \$60 million is to raise the current debt ceiling, and that seems unlikely to happen immediately. In a likely scenario, the state's contribution will be limited to half the proposed amount--\$30 million. This money will be dedicated to razing the Mellon Arena and providing infrastructure and site preparations for the new venue. Any money remaining could be used for up-front construction costs, reducing the amount that needs to be borrowed. In the conservative scenario, the state allocated \$15 million to the new facility, which should still be enough to cover most of the cost of demolition and site preparation.<sup>50</sup>

Table 3

Stream	Team Revenues		SEA Revenues	
	Likely	Conservative	Likely	Conservative
Attendance Revenue				
Regular Season Tickets	\$38,796,592	\$37,436,749	\$1,800,700	\$1,753,400
Luxury Box Rentals	\$3,800,000	\$3,040,000	\$380,000	\$304,000
Loge Box Rentals	\$560,000	\$480,000	\$56,000	\$48,000
Playoff Tickets	\$4,083,056	\$0	\$124,388	\$0
Non-Hockey Events Attendance Revenue	\$10,400,600	\$5,083,200	\$1,999,200	\$1,209,600
Concession Revenues				
Game	\$6,842,326	\$4,321,469	\$2,280,775	\$1,440,490
Non-Hockey Events	\$5,410,930	\$1,746,048	\$2,164,372	\$873,024
Annual Arena Sponsorships	\$12,500,000	\$9,500,000	\$2,500,000	\$2,500,000
Naming Rights (\$2.5M per Year)	\$0	\$0	\$2,500,000	\$2,500,000
RAD Contributions	\$0	\$0	\$3,200,000	\$3,200,000
<b>Total Annual Revenues</b>	<b>\$82,393,504</b>	<b>\$61,607,466</b>	<b>\$17,005,435</b>	<b>\$13,828,514</b>
Service on the Debt over 30 years at 6%			\$248,000,000	\$201,000,000
One Time Revenues				
Permanent Seat Licenses	\$10,500,000	\$8,250,000	\$10,500,000	\$8,250,000
State Aid for Infrastructure	\$0	\$0	\$30,000,000	\$15,000,000
<b>Total One Time Revenues</b>	<b>\$10,500,000</b>	<b>\$8,250,000</b>	<b>\$40,500,000</b>	<b>\$23,250,000</b>

Table 3 summarizes the anticipated revenue streams from the new arena in both a likely and conservative scenario. In the likely scenario, the team should realize an annual revenue stream of about \$82.4 million, which is about a \$20 million increase over their 2001-2002 revenues of \$62 million. In addition, they will receive another \$10.5 million upfront from the sale of PSLs. Even in a conservative scenario, the team will still earn about \$61.6 million with another \$8.25 million in upfront monies. Either way the new arena will provide them with ample opportunities to earn sufficient revenue to field a playoff-caliber team.

<sup>49</sup> "Ridge: New Arena Money Will be Less than Stadium Allotments". April 26, 2001. <http://www.thepittsburghchannel.com/News/740750/detail.html>.

<sup>50</sup> The demolition costs of Three Rivers Stadium was approximately \$7 million.

The Sports and Exhibition Authority should receive annual revenues of about \$17 million. At 6 percent over 30 years, they could borrow about \$248 million—more than the \$225 million asking price by the team. In order to be able to borrow \$225 million, the SEA would have to realize annual revenues of \$15.45 million. In the likely case, that will be easily accomplished. Any amount in excess of \$15.45 million could be used to pay the arena's debt down sooner.

In the conservative situation the SEA would not realize enough in annual revenues to borrow \$225 million for a new arena. The annual revenue stream is predicted to be about \$13.8 million—about \$1.65 million short. If this were to be the case, the team could then be responsible for the shortfall. However, if the new arena can not generate enough money to pay for itself, then maybe a new arena should not be built.

### *Annual Arena Operating Costs*

The above analysis provides a reasonable approximation of expected revenues to be generated from a new multi-purpose arena. In a likely scenario, the team would realize more than \$82 million in annual revenues. This amount does not include media revenues such as radio and TV broadcast rights, which are assumed to be constant since these contracts are set a few years in advance and are not arena specific. The one area that has been neglected thus far has been operating expenditures for the new arena. Since the Penguins are going to be the tenants and custodians of the new facility, they will be responsible for the day-to-day operations. Operating costs can vary depending upon the usage.<sup>51</sup> They can range from \$2 million (University of Maryland's new 17,000 seat basketball facility) to \$9.5 million per year (Southwest Texas Entertainment Complex in Beaumont, Texas).<sup>52</sup> Detroit's Civic Center Department appropriates \$25.2 million to operate the City's five facilities, which includes the Red Wing's Joe Louis Arena.<sup>53</sup>

Our calculations are based on the new facility hosting only 100 events per year—well below the Mellon Arena average of 130. Attendance revenue from an extra 30 events is approximately \$22.2 million.<sup>54</sup> If the team keeps 25 percent, then they will receive an extra \$5.5 million. In concession revenues 30 extra events would gross another \$11.5 million of which the Penguins would keep 25 percent or \$2.8 million.<sup>55</sup> In total the team would collect an additional \$8.3 million that could be dedicated to arena operations. Therefore, the Penguins should net at least the \$82 million in annual revenues as outlined in the likely scenario.

---

<sup>51</sup> Attempts to contact SEA or Spectacor Management Group (Mellon Arena managers) were unsuccessful.

<sup>52</sup> [http://mlis.state.md.us/2001rs/budget\\_docs/All/Capital/RB22A - UMCP - New\\_Arena.pdf](http://mlis.state.md.us/2001rs/budget_docs/All/Capital/RB22A_-_UMCP_-_New_Arena.pdf), and <http://www.co.Jefferson.tx.us/setec/impact.htm>.

<sup>53</sup> The other facilities are: Tiger Stadium, Ford Auditorium, Cobo Arena, and Veterans Memorial Building. City of Detroit. Civic Center Department. *Agency Plan Mission, Goals and Budget Summary*. 2002. [http://www.ci.detroit.mi.us/budget/2002-03\\_Budget/Agencies/02-03EBCIVIC percent20CENTER.pdf](http://www.ci.detroit.mi.us/budget/2002-03_Budget/Agencies/02-03EBCIVIC_percent20CENTER.pdf).

<sup>54</sup> Appendix C—Attendance revenues of \$742,900 per event \* 30 events = \$22.28 million.

<sup>55</sup> Appendix C—Non-Hockey concession revenues of \$386,495 per event \* 30 events = \$11.59 million.

## Conclusions

The Pittsburgh Penguins wish to move out of the Mellon Arena and into a new facility. They believe that only by obtaining a new arena could they be competitive in the free agency era of the NHL. They would like the arena to be publicly funded, with little contribution from the team. The team has unveiled plans for a \$225 million arena that will seat 18,188 in addition to a \$500 million mixed-development project for the site of the Mellon Arena. However, Pittsburgh area residents are already financing two sports stadiums and a convention center. Any tax stream that could be used for a sports facility has already been exhausted.

Not only is there a shortage of public funds available for such a scheme, evidence from around the country suggests that these projects almost never deliver the benefits promised. Property tax projections for Cleveland's Gateway Project have fallen well short of their predictions, as have job predictions in Jacksonville and Phoenix. Independent research from Baltimore and Seattle concludes that any benefits to be gained from hosting a professional sports team are overwhelmingly negated by the public subsidies to the new stadiums. Sports stadiums are not good investment decisions for the public. Owners and players at the expense of the taxpayer derive all of the benefits of a new facility. Therefore, if the team derives all of the benefits from the new facility, it should be privately funded.

A recent trend in stadium financing is to issue revenue bonds against projected income streams from attendance, sponsorships, and concessions. This method has been successful in Denver, California, New England and Miami and can be successful in Pittsburgh as well. To fund a \$225 million facility, revenue streams of approximately \$15.45 million per year must be realized. This could be accomplished if the Sports and Exhibition Authority annually collects: a \$2.50 surcharge on every ticket purchased for all events held at the arena (\$4 million); 10 percent of all concession sales (\$4.4 million); \$2.5 million from sponsorships; \$2.5 million from naming rights; \$3.2 million in RAD money; and 10 percent of luxury box sales (\$436,000).

In a likely scenario the team would realize revenues of at least \$82.3 million, which represents an increase of over \$20 million above stated team revenues for the 2001-2002 season. Even when including annual operating costs of about \$8 million, the team would be much better off in the new facility and should be able to assemble a playoff-caliber team every year. The more aggressively the team books non-hockey events, the more money they can earn, which will offset the operating costs. Most importantly, the taxpayer would not be responsible for building yet another sports arena.

## Appendix A—Forbes 2002 Ranking of NHL Franchise Values<sup>56</sup>

Team	Owner/Principal	Value (Millions)
New York Rangers	C. Dolan/J. Dolan	\$ 277
Philadelphia Flyers	Comcast Corp.	\$ 250
Colorado Avalanche	Stanley Kroenke	\$ 243
Boston Bruins	Jeremy Jacobs	\$ 230
Detroit Red Wings	Michael Ilitch	\$ 225
Toronto Maple Leafs	Maple Leaf Sports	\$ 216
Dallas Stars	Tom Hicks	\$ 207
Chicago Blackhawks	Bill Wirtz	\$ 200
Los Angeles Kings	P. Anschutz/ E. Roski	\$ 189
Montreal Canadiens	George Gillett Jr.	\$ 182
New Jersey Devils	YankeeNets	\$ 175
New York Islanders	C. Wang/S. Kumar	\$ 156
St. Louis Blues	Bill Laurie	\$ 153
<i>Pittsburgh Penguins</i>	<i>M. Lemieux</i>	\$ 149
San Jose Sharks	G. Gund/G. Gund	\$ 148
Columbus Blue Jackets	John McConnell	\$ 145
Washington Capitals	Ted Leonsis	\$ 138
Minnesota Wild	Robert Naeye Jr.	\$ 135
Atlanta Thrashers	AOL/Time Warner	\$ 134
Nashville Predators	Craig Leipold	\$ 131
Tampa Bay Lightning	William Davidson	\$ 120
Anaheim Mighty Ducks	Walt Disney Co.	\$ 118
Buffalo Sabres	John Rigas	\$ 117
Florida Panthers	A. Cohen/B. Kosar	\$ 115
Vancouver Canucks	John McGraw Jr.	\$ 106
Carolina Hurricanes	Peter Karmanos	\$ 103
Ottawa Senators	Ottawa Senators Hocke	\$ 96
Calgary Flames	Limited Partnership	\$ 92
Phoenix Coyotes	S. Ellman/W. Gretzky	\$ 79
Edmonton Oilers	NA	NA

<sup>56</sup> <http://espn.go.com/sportsbusiness/s/forbes.html>



## Appendix B—NHL Arenas Constructed in the United States Since 1992<sup>57</sup>

City	Arena	Year Opened	Cost (Millions)	% Public Financing
Dallas Stars	American Airlines Center*	2001	\$400	31
Columbus Blue Jackets	Nationwide Arena	2000	\$150	0**
Minnesota Wild	Xcel Energy Center	2000	\$130	100
Atlanta Thrashers	Philips Arena*	1999	\$214	0**
Carolina Hurricanes	Raleigh Entertainment and Sports Arena	1999	\$158	73
Colorado Avalanche	Pepsi Center*	1999	\$160	0**
Los Angeles Kings	Staples Center*	1999	\$330	18
Florida Panthers	National Car Rental Center	1998	\$212	100
Nashville Predators	Gaylord Entertainment Center	1997	\$144	100
Washington Capitals	MCI Center*	1997	\$260	0**
Buffalo Sabres	HSBC Arena	1996	\$128	44
Philadelphia Flyers	First Union Center*	1996	\$206	0**
Tampa Bay Lightning	Ice Palace	1996	\$139	50
Boston Bruins	Fleet Center*	1995	\$160	10
Chicago Blackhawks	United Center*	1994	\$175	0**
St. Louis Blues	Savvis Center	1994	\$170	0**
Anaheim Mighty Ducks	Arrowhead Pond	1993	\$120	100
San Jose Sharks	Compaq Center	1993	\$163	100
Phoenix Coyotes	America West Arena^	1992	\$90	100
Notes: * Share with an NBA club.				
** Received infrastructure assistance from city/county.				
^ Shared with NBA's Suns and are now in the process of building a new facility.				

<sup>57</sup> Source: Ballparks by Munsey and Suppes. [www.sfo.com](http://www.sfo.com).

## Appendix C—Revenue Estimates

### Price Assumptions

#### Hockey Games—Likely Scenario

Seat	Price*	Number of Seats	Percent Sold/Game	Number Sold	Projected Revenues/Game	Projected Revenues/Season	Surcharge per Ticket	Surcharge Revenue/Game	Surcharge Revenue/Season
General Seats: Number of Seats in New Arena = 13,850									
Season Tickets**	\$37.00	10,500	1	10,500	\$388,500	\$17,094,000	\$2.50	\$26,250.00	\$1,155,000
Game Day Tickets	\$52.14	3,350	0.9	3,015	\$157,202	\$6,916,892	\$2.50	\$7,537.50	\$331,650
<b>General Seat Totals</b>		<b>13,850</b>		<b>13,515</b>	<b>\$545,702</b>	<b>\$24,010,892</b>		<b>\$33,787.50</b>	<b>\$1,486,650</b>
Club Seats: Number of Club Seats in New Arena = 2,950									
Season Tickets	\$110	2000	1	2,000	\$220,000	\$9,680,000	\$2.50	\$5,000.00	\$220,000
Game Day Tickets	\$135	950	0.9	855	\$115,425	\$5,078,700	\$2.50	\$2,137.50	\$94,050
<b>Club Seat Totals</b>		<b>2,950</b>		<b>2,855</b>	<b>\$335,425</b>	<b>\$14,758,700</b>		<b>\$7,137.50</b>	<b>\$314,050</b>
Luxury Suites = 76 with an average of 17 persons each									
Suite Sales	\$50,000	76	1	76	\$3,800,000	\$3,800,000	0.1		\$380,000
Loge Boxes = 8 with an average of 12 persons each									
Loge Sales	\$70,000	8	1	8	\$560,000	\$560,000	0.1		\$56,000
<b>Total Revenue from Regular Season Fan Attendance</b>						<b>\$43,129,592</b>		<b>\$40,925</b>	<b>\$2,236,700</b>

#### Hockey Games—Conservative Scenario

Seat	Price*	Number of Seats	Percent Sold/Game	Number Sold	Projected Revenues/Game	Projected Revenues/Season	Surcharge per Ticket	Surcharge Revenue	Surcharge Revenue/Season
General Seats: Number of Seats in New Arena = 13,850									
Season Tickets	\$37.00	10,500	1	10,500	\$388,500	\$17,094,000	\$2.50	\$26,250.00	\$1,155,000
Game Day Tickets	\$52.14	3,350	0.8	2,680	\$139,735	\$6,148,349	\$2.50	\$6,700.00	\$294,800
<b>General Seat Totals</b>		<b>13,850</b>		<b>13,180</b>	<b>\$528,235</b>	<b>\$23,242,349</b>		<b>\$32,950.00</b>	<b>\$1,449,800</b>
Club Seats: Number of Club Seats in New Arena = 2,950									
Season Tickets	\$110	2000	1	2,000	\$220,000	\$9,680,000	\$2.50	\$5,000.00	\$220,000
Game Day Tickets	\$135	950	0.8	760	\$102,600	\$4,514,400	\$2.50	\$1,900.00	\$83,600
<b>Club Seat Totals</b>		<b>2,950</b>		<b>2,760</b>	<b>\$322,600</b>	<b>\$14,194,400</b>		<b>\$6,900.00</b>	<b>\$303,600</b>
Luxury Suites = 76 with an average of 17 persons each									
Suite Sales	\$40,000	76	1	76	\$3,040,000	\$3,040,000	0.1	\$304,000.00	\$304,000.00
Loge Boxes = 8 with an average of 12 persons each									
Loge Sales	\$60,000	8	1	8	\$480,000	\$480,000	0.1	\$48,000.00	\$48,000.00
<b>Total Revenue from Regular Season Fan Attendance</b>						<b>\$40,956,749</b>		<b>\$391,850</b>	<b>\$2,105,400</b>
Notes: *Based on average price for 2001-2002. Season ticket prices are reduced by 20% **Season ticket equivalents									

#### Playoff Scenario- Most Likely

Assume minimum of 3 home playoff games per year

Seat	Price	Number of Seats	Percent Sold/Game	Number Sold	Projected Revenues/Game	Projected Revenues/Season	Surcharge per Ticket	Surcharge Revenue	Surcharge Revenue/Season
General Seats: Number of Seats in New Arena = 13,850									
Season Tickets	\$65.00	10,500	1	10,500	\$682,500	\$2,047,500	\$2.50	\$26,250.00	\$78,750
Game Day Tickets	\$65.00	3,350	0.95	3,183	\$206,863	\$620,588	\$2.50	\$7,956.25	\$23,869
<b>General Seat Totals</b>		<b>13,850</b>		<b>13,683</b>	<b>\$889,363</b>	<b>\$2,668,088</b>		<b>\$34,206.25</b>	<b>\$102,618.75</b>
Club Seats: Number of Club Seats in New Arena = 2,950									
Season Tickets	\$163	2000	1	2,000	\$325,000	\$975,000	\$2.50	\$5,000.00	\$15,000
Game Day Tickets	\$163	950	0.95	903	\$146,656	\$439,969	\$2.50	\$2,256.25	\$6,769
<b>Club Seat Totals</b>		<b>2,950</b>		<b>2,903</b>	<b>\$471,656</b>	<b>\$1,414,969</b>		<b>\$7,256.25</b>	<b>\$21,768.75</b>
<b>Total Revenue from Playoff Attendance</b>						<b>\$4,083,056</b>		<b>\$41,463</b>	<b>\$124,388</b>

## Appendix C (cont.)

### Revenues from Non-Hockey Events—Likely Scenario

Assume 56 non-hockey events per year (total of 100 events)\*

Seat	Price**	Number of Seats	Percent Sold/Game	Number Sold	Projected Revenues/Event	Projected Revenues/Year	Surcharge per Ticket	Surcharge Revenue	Team Share = 25%
General Seats: Number of Seats in New Arena = 13,850									
Event Tickets	\$45	13,850	0.85	11,773	\$529,763	\$29,666,700	\$2.50	\$1,648,150.00	\$7,416,675
Club Seats: Number of Club Seats in New Arena = 2,950									
Event Tickets	\$85	2,950	0.85	2,508	\$213,138	\$11,935,700	\$2.50	\$351,050.00	\$2,983,925
<b>Total Revenue From Non-Hockey Events</b>		<b>16,800</b>		<b>14,280</b>	<b>742,900</b>	<b>41,602,400</b>		<b>\$1,999,200</b>	<b>\$10,400,600</b>
Notes: *Non-Hockey events are included in price of Luxury and Loge Boxes.									
**Price based on remaining events held in 2002 at Mellon Arena									

### Revenues from Non-Hockey Events—Conservative Scenario

Assume 36 non-hockey events per year (total of 80 events)\*

Seat	Price**	Number of Seats	Percent Sold/Game	Number Sold	Projected Revenues/Event	Projected Revenues/Year	Surcharge per Ticket	Surcharge Revenue	Team Share = 25%
General Seats: Number of Seats in New Arena = 13,850									
Event Tickets	\$35	13,850	0.8	11,080	\$387,800	\$13,960,800	\$2.50	\$997,200.00	\$3,490,200
Club Seats: Number of Club Seats in New Arena = 2,950									
Event Tickets	\$75	2,950	0.8	2,360	\$177,000	\$6,372,000	\$2.50	\$212,400.00	\$1,593,000
<b>Total Revenue From Non-Hockey Events</b>		<b>16,800</b>		<b>13,440</b>	<b>564,800</b>	<b>20,332,800</b>		<b>\$1,209,600</b>	<b>\$5,083,200</b>
Notes: *Non-Hockey events are included in price of Luxury and Loge Boxes.									
**Price based on remaining events held in 2002 at Mellon Arena									

### Concession Revenues—Likely Scenario

Assume average fan spends \$30 per game on concessions and merchandise (not including parking)

Arena Capacity	Percent Attendance	Average Attendance	Average Spent on Concessions	Total Concession Revenues/Game	Total Concession Revenues/Season	Team Percentage	Team Concession Revenues/Season	SEA Percentage	SEA Concession Revenues/Season
Hockey Games—44									
18,188	0.95	17,279	\$30	\$518,358	\$22,807,752	0.3	\$6,842,326	0.1	\$2,280,775
Non-Hockey Events—56									
18,188	0.85	15,460	\$25	\$386,495	\$21,643,720	0.25	\$5,410,930	0.1	\$2,164,372
<b>Total Concession Revenues</b>				<b>\$904,853</b>	<b>\$44,451,472</b>		<b>\$12,253,256</b>		<b>\$4,445,147</b>

### Concession Revenues—Conservative Scenario

Assume average fan spends \$25 per game on concessions and merchandise (not including parking)

Arena Capacity	Percent Attendance	Average Attendance	Average Spent on Concessions	Total Concession Revenues/Game	Total Concession Revenues/Season	Team Percentage	Team Concession Revenues/Season	SEA Percentage	SEA Concession Revenues/Season
Hockey Games—44									
18,188	0.9	16,369	\$25	\$409,230	\$18,006,120	0.3	\$5,401,836	0.1	\$1,800,612
Non-Hockey Events—30									
18,188	0.8	14,550	\$20	\$291,008	\$8,730,240	0.2	\$1,746,048	0.1	\$873,024
<b>Total Concession Revenues</b>				<b>\$700,238</b>	<b>\$26,736,360</b>		<b>\$7,147,884</b>		<b>\$2,673,636</b>

## References

- Allegheny County. 2000 Comprehensive Annual Financial Report. 2001.  
<http://www.county.allegheny.pa.us/control/tran2000.pdf>.
- “A New Den: Voters Approve Public Funding for New Rink.” November 2, 1999.  
[www.cnn.com](http://www.cnn.com).
- Ballparks by Munsey and Suppes. <http://www.sfo.com/~csuppes/NHL/misc/index.htm>.
- Barnes, Tom. “Newsmaker: Daniel J. Griffin”. Pittsburgh Post-Gazette. July 1, 2002.  
<http://www.post-gazette.com/localnews/20020701newsmaker0701p5.asp>.
- Coates, Dennis and Brad R. Humphreys. “Voting on Stadium and Arena Subsidies”. Working Paper. University of Maryland, Baltimore County. March 7, 2002. PP 1-21.
- Crawford, Dan. “Blue Jackets Surpass Ticket Sales”. Columbus Business First. June 1, 2001. <http://columbus.bizjournals.com/columbus/stories/2001/06/04/story5.html>.
- Civic Center Department. *Agency Plan Mission, Goals and Budget Summary*. 2002.  
[http://www.ci.detroit.mi.us/budget/2002-03\\_Budget/Agencies/02-03EBCIVICpercent20CENTER.pdf](http://www.ci.detroit.mi.us/budget/2002-03_Budget/Agencies/02-03EBCIVICpercent20CENTER.pdf).
- ESPN.com. Sports Naming Rights Deals.  
<http://espn.go.com/sportsbusiness/s/stadiumnames.html>.
- “Financing Options and Facility Development”. *The Sport Journal*. United States Sports Academy. Spring 2001. <http://www.thesportjournal.org/2001Journal/spring/facility-development.htm>.
- Finder, Chuck. “Put Down the Tin Cup Lemieux, and Pony Up For a New Arena.” Pittsburgh Post-Gazette. July 2, 2002.  
<http://www.post-gazette.com/Sports/columnists/20020702webfinder0702p1.asp>.
- Ingrassia, Robert. “Arena’s Cost Rising Above \$300 Million”. *The Dallas Morning News*. April 28, 1999.
- Johnson, Bruce K., Peter A. Groothuis, and John C. Whitehead. “The Value of Public Goods Generated by a Major League Sports Team: The CVM Approach.” *Journal of Sports Economics*. February 2001.
- Khoo, Michael. “What Does Cleveland Know?” MPR Online. April 30, 1999.  
[http://news.mpr.org/features/199908/30\\_khoom\\_jake/](http://news.mpr.org/features/199908/30_khoom_jake/).
- LetsGoPens.com. [http://letsgopens.com/pens\\_info.php](http://letsgopens.com/pens_info.php).

“Major League Sports Stadium/Arena Referendums (since 1990)”. Appendix 2 to Sports Facility Reports, Volume 2, Number 2. National Sports Law Institute of Marquette University Law School. 2001.

Matheson, Victor A. “Upon Further Review: An Examination of Sporting Event Economic Impact Studies”. *The Sport Journal*. United States Sports Academy. Volume 5 No.1. 2002. <http://www.thesportjournal.org/2002Journal/Vol5-No1/studies.htm>.

Mellon Arena. <http://www.mellonarena.com>.

“Mellon Arena Labeled Historic”. Pittsburgh Post-Gazette. May 7, 2002. <http://www.post-gazette.com/localnews/20020507arena0507.asp>.

Molinari, Dave. “Penguins Look to Future as They Assess the Financial Fallout of a Tough Season.” *Pittsburgh Post-Gazette*. April 21, 2002.

Nilsen, Kim. “ESA Not Alone as Values Drop”. *The Business Journal*. January 21, 2002. <http://triangle.bizjournals.com/triangle/stories/2002/01/21/story2.html>.

Owsiany, David. “Private Funding of Arena Deserves Its Own Cheers”. *Columbus Business First*. September 15, 2000.

Paul, Mark. “Blowing Whistle on Publicly Funded Arenas”. *Sacramento Bee*. April 14, 2002. [http://www.sacbee.com/content/business/commercial\\_realestate/story/2184538p-2576319c.html](http://www.sacbee.com/content/business/commercial_realestate/story/2184538p-2576319c.html).

“Penguins to Borrow Millions to Refigure Team Debt”. Pittsburgh Post-Gazette. April 6, 2002. <http://www.post-gazette.com/localnews/20020406penguinloan4.asp>.

“Penguins’ Arena Plan Includes an Uptown Renewal Worth \$500 Million”. Pittsburgh Post-Gazette. May 12, 2002. <http://www.post-gazette.com/localnews/20020312arena0312p2.asp>.

Pittsburgh Tribune-Review. “County Rental Car Tax Proposed”. June 25, 2002. [http://www.pittsburghlive.com/x/tribune-review/news/s\\_78126.html](http://www.pittsburghlive.com/x/tribune-review/news/s_78126.html).

Pittsburgh Tribune-Review. “Pittsburgh in Crisis.” <http://www.pittsburghlive.com/x/tribune-review/specialreports/pghincrisis/index.html>.

Rappaport, Jordan and Chad Wilkerson. “What Are the Benefits of Hosting a Major League Sports Franchise?”. *Economic Review*. Federal Reserve Bank of Kansas City. First Quarter 2001. PP 55-86.

“Ridge: New Arena Money Will be Less than Stadium Allotments”. April 26, 2001. <http://www.thepittsburghchannel.com/News/740750/detail.html>.

Rosentraub, Mark. Testimony from the United States Senate, Committee on the Judiciary. June 15, 1999. <http://judiciary.senate.gov/oldsite/61599msr.htm>.

Staley, Samuel and David Swindell. "Financing Professional Sports: Lessons From Columbus". *Perspective on Current Issues*. The Buckeye Institute. March 1998.

Sutter, Daniel. "Public Subsidies for Sports Stadiums Don't Spur Economic Growth". Oklahoma Council of Public Affairs. April 2000.  
<http://www.ocpathink.org/economics/PublicSubsidiesforSports.html>.

"Top 10 Dumbest Reasons to Build a New Stadium". Field of Schemes.  
<http://www.fieldofschemes.com/top10/>. 1998-9.

Wirtz, Ronald A. "Stadiums and Convention Centers as Community Loss Leaders". *Fedgazette*. Federal Reserve Bank of Minneapolis. March 2001.  
<http://minneapolisfed.org/pubs/fedgaz/01-03/stadiums.html>.