



# THE SCHOOL OF PUBLIC POLICY

---

## MASTER OF PUBLIC POLICY CAPSTONE PROJECT

The Price of the Puck: Recommendations for Public Financing  
National Hockey League Arenas in North America

**Submitted by:**

Isabelle Puppa

**Approved by Supervisor:**

Trevor Tombe

Submitted in fulfillment of the requirements of PPOL 623 and completion of the requirements for the Master of Public Policy degree



## Capstone Approval Page

The undersigned, being the Capstone Project Supervisor, declares that

Student Name:

has successfully completed the Capstone Project within the

Capstone Course PPOL 623 A&B

(Name of supervisor)

*Signature*

(Supervisor's signature)

(Date)



# THE SCHOOL OF PUBLIC POLICY

---

## Acknowledgements

First and foremost, I would like to thank my supervisor, Dr. Trevor Tombe, for his support throughout the capstone process and enthusiasm throughout the academic year. Dr. Tombe, the time you spent providing feedback and guidance has been invaluable. You've allowed me to express creativity in approach. You've been a constant guide for how to tackle policy issues. Even from over 2000 miles away—or rather, 3218 km, you were always there to help me.

To my MPP classmates, your friendship is something I will always cherish. From showing me how to hike up a mountain to never passing up a moment to celebrate—your ability to want to change the world and have fun doing it made me feel at home. Thanks for accepting me, even when I wore a snowsuit to class and brought out my southern accent.

To the School of Public Policy, thank you for taking a chance on this American-Canadian with big dreams. I am grateful for the opportunity to meet amazing speakers, attend eye-opening conferences, and pursue topics of my interest.

To the NHL, thank you for your support of my academic career with the NHL Alumni Scholarship program during my undergrad program. Back in Tampa, I never passed up a chance to attend a Lightning game.

Last but certainly not least, thank you to my family. I could not have moved as far away as I did if it weren't for your continual video chats and flying me home for holidays. Mom, thanks for always answering the phone even when I would forget about our time zone differences. Dad, thank you for instilling in me a love of hockey and education, and being a constant source of encouragement while exploring this topic.

*"You miss 100% of the shots you don't take -Wayne Gretzky"*

*- Michael Scott*



# THE SCHOOL OF PUBLIC POLICY

## Table of Contents

### Table of Contents

|   |    |
|---|----|
| Introduction.....   | 9  |
| The NHL Background.....                                       | 12 |
| League Growth over Time .....                                 | 13 |
| History of the NHL Arena .....                                | 14 |
| Public Funding.....   | 16 |
| Overview.....   | 16 |
| Funding for NHL Arenas.....                                   | 17 |
| Direct Funding .....  | 18 |
| Indirect Funding.....   | 20 |
| Legislation Changes.....                                      | 21 |
| Economic Theory.....  | 23 |
| Public Subsidization and Market Failure .....                 | 23 |
| Subsidization for Public Goods.....                           | 25 |
| Future Value of Money .....                                   | 27 |
| Demand for Arena: Sports Consumption.....                     | 28 |
| Demand for Arena: Voter Referendum.....                       | 29 |
| Game Theory: To Fund or Not to Fund .....                     | 32 |
| Literature Review.....  | 34 |
| NHL USA Teams.....  | 34 |
| Public Contribution by Direct and Indirect Funding Types..... | 36 |
| Public Contribution by Purpose of Arena Construction .....    | 42 |
| New Team, New Arena.....                                      | 43 |
| Relocation Threats: Go Big or Go Home to another City.....    | 45 |

|   |     |
|---|-----|
| Out with the Old, In with the New.....                          | 47  |
| Public Funding: All or Nothing .....                            | 48  |
| Public Funding by Metro Population Size .....                   | 49  |
| Canadian NHL Teams.....   | 51  |
| Public Contribution by Direct and Indirect Funding Types.....   | 52  |
| Public Contribution by Purpose of Arena Construction .....      | 55  |
| New Team, New Arena.....  | 56  |
| Out with the Old, In with the New.....                          | 58  |
| Relocation Threats: from Suburb to City.....                    | 60  |
| Public Funding: All or Nothing .....                            | 61  |
| Public Funding by Metro Population Size .....                   | 61  |
| On the Bench: Teams that no Longer Exist.....                   | 62  |
| Public Financing and Team “Success” .....                       | 65  |
| Discussion.....   | 67  |
| Public versus Private Ownership .....                           | 67  |
| Popular Funding Tools.....                                      | 69  |
| Location Matters .....  | 70  |
| Arena Purpose Considerations .....                              | 71  |
| Conclusion .....  | 72  |
| Policy Recommendations.....                                     | 72  |
| Bibliography .....  | 76  |
| Appendix A: USA Teams Fact Summary.....                         | 97  |
| Appendix B: Canadian Teams Fact Summary .....                   | 98  |
| Appendix C: Team Average Game Attendance from 1970 to 2019..... | 98  |
| Appendix D: Team Overall Rank from 1970 to 2019.....            | 101 |
| Appendix E: Teams Fact Sheets by Division.....                  | 104 |
| Sources used for all teams:.....                                | 104 |
| Eastern Atlantic Division.....                                  | 105 |
| Boston Bruins.....  | 105 |
| Buffalo Sabres.....   | 107 |
| Detroit Red Wings .....   | 109 |
| Florida Panthers .....  | 112 |
| Montreal Canadiens .....  | 113 |

|                                     |     |
|-------------------------------------|-----|
| Ottawa Senators .....               | 115 |
| Tampa Bay Lightning .....           | 116 |
| Toronto Maple Leafs.....            | 118 |
| Eastern Metropolitan Division ..... | 120 |
| Carolina Hurricanes .....           | 120 |
| Columbus Blue Jackets.....          | 121 |
| New Jersey Devils.....              | 123 |
| New York Islanders .....            | 125 |
| New York Rangers.....               | 127 |
| Philadelphia Flyers.....            | 128 |
| Pittsburgh Penguins .....           | 130 |
| Washington Capitals .....           | 132 |
| Western Central Division.....       | 134 |
| Chicago Blackhawks.....             | 134 |
| Colorado Avalanche.....             | 136 |
| Dallas Stars .....                  | 137 |
| Minnesota Wild.....                 | 139 |
| Nashville Predators .....           | 141 |
| St. Louis Blues .....               | 143 |
| Winnipeg Jets.....                  | 145 |
| Western Pacific Division .....      | 147 |
| Anaheim Ducks.....                  | 147 |
| Arizona Coyotes*.....               | 148 |
| Calgary Flames .....                | 151 |
| Edmonton Oilers .....               | 153 |
| Los Angeles Kings.....              | 156 |
| San Jose Sharks.....                | 157 |
| Seattle.....                        | 159 |
| Vancouver Canucks .....             | 160 |
| Vegas Golden Knights .....          | 161 |

## Capstone Executive Summary

Public subsidization of private infrastructure has been a controversial policy. This topic becomes even more contentious in the area of professional sports stadiums and arenas.

Governments use subsidies to stimulate production and increase employment. Yet, some argue that a \$71 billion industry should not need assistance.<sup>1</sup> Others argue that these subsidies fulfill their purpose, ensuring the existence of sports arenas.

Every few years, a National Hockey League (NHL) team considers plans for a new arena. The median age of current arenas is 21.5 years, with most tenancy leases lasting 30 years. Recently, governments have split the cost of arenas with team owners. Historically, most arenas had been publicly owned and funded.

Much literature exists about economic benefits of professional sport investments. From an economic perspective, funding a professional sports arena does not yield a positive return on investment. Economic benefits are inconsequential when compared to the initial investment capital. Also, funding an arena provides an opportunity cost. The opportunity cost becomes clear when cities lack other infrastructure or public supports. Controversy arises when a city chooses to invest in a sports arena rather than the best alternative use of funds.<sup>2</sup> Nonetheless, sports arenas and teams provide non-economic benefits. The value of city pride and prestige from hosting a professional sports team is subjective but important to consider.

---

1. "Government Subsidies to Private Industry," *CQ Researcher* by CQ Press, April 26, 1933, <https://library.cqpress.com/cqresearcher/document.php?id=cqresrre1933042600>; Mark McCaffrey et al., *At the Gate and Beyond: Outlook for the Sports Market in North America through 2022*, report, PwC Sports Outlook, 2018, <https://www.pwc.com/us/en/industry/entertainment-media/assets/2018-sports-outlook.pdf>.

2. Scott A. Wolla, "The Economics of Subsidizing Sports Stadiums," *Economic Research - Federal Reserve Bank of St. Louis*, May 2017, <https://research.stlouisfed.org/publications/page1-econ/2017-05-01/the-economics-of-subsidizing-sports-stadiums/>.

Governments have tried to decrease public funding towards sports arenas. A key attempt occurred in the United States in 1986. In 1986, the federal government limited how much a private entity could contribute to pay off tax-exempt municipal bonds. The government assumed that cities would stop providing bonds if teams could not help pay off the debt. This assumption proved false. Cities continued to provide bonds even though it meant paying off a larger amount.

Canadian governments also limit sports financing. Traditionally, the federal government only supports NHL arenas if they also serve a community event like the Olympics. For other arenas, funding must come from the provincial and municipal levels. More recently, Canadian governments have provided some NHL teams with operating subsidies. In addition, some cities and provinces provide infrastructure improvements and community revitalization levies.

Assessing these financing trends involved researching every team in the NHL. No literature exists that examines the funding structure and features of all teams. This paper adds to the discussion by analyzing the purpose and value of public financing NHL arenas. This project also discusses fiscal policy and its impact on a team's existence.

Public subsidization of sports arenas is an important topic for many localities. Therefore, it is critical to have one source of comparable information. I first examined leases between governments and teams and construction records. This research helped me identify the most popular types of funding used in each country. I separated the countries because they differ in population size, currency rates, and legislation. Another comparison I made is privately-owned arenas versus publicly owned arenas. Most arenas are publicly owned. Generally, smaller cities received the highest percentage of public contribution towards capital costs. I discuss the reason behind this and pros and cons of publicly owning an arena. Examples in the United States and Canada are present throughout the paper.



Analyzing the purpose of arena construction revealed a few trends. In the United States, the highest public contribution went to arenas to prevent team relocation. In Canada, most public funding went to arenas that replaced older facilities. In addition, I found that public financing arenas is more common in the United States than in Canada. Canada makes up a large number of total hockey fans and league revenues. However, lower tax rates, stronger currency value, and greater public support make the United States a more competitive environment for NHL teams. Still, the United States has had its fair share of unsuccessful NHL franchise teams. Later in this paper, I examine nine NHL teams that no longer exist today. After a city has a team and arena, it must ensure proper team management and high team performance. Otherwise, revenues will fall and the NHL can move the team out of the city.

I conclude this paper with four options for policy makers in the United States and Canada. First, policy makers should consider city market size when deciding how to structure fiscal arrangements with the NHL. Although city size does not perfectly correlate with contribution, smaller cities generally need more public assistance. Second, policy makers should use present value when discussing public finances. Many cities in the United States grant arenas property tax exemptions. The value of a property tax exemption is not stated in construction costs. However, its value culminates to millions of dollars per year. Economic impact assessments must account for all forms of public contribution. Third, policy makers must track and systematically report its financing data. Research in this paper involved many sources of information. To learn from best practices, cities should track its contributions and outcomes. Finally, policy makers must consider if existing policies have unintended consequences. As I discuss in this paper, some federal policies have had unintended consequences on city decisions and are ineffective at achieving their goals.

## Introduction

With every new season comes a change in the weather and in the professional sports team dominating the talk of the town. Since the 1960s, professional sports have been a staple in North American culture. Thanks to television and media, revenues for the sports industry have been on the rise ever since.<sup>3</sup> Also since this time, North American cities have increasingly subsidized sports arenas and stadiums. Cities often compete to provide a funding package for these facilities to acquire or keep a team. Economic analysis on this topic has been controversial. Many economists find that sports arena and stadium projects have limited direct economic impact on a city. Yet, cities will use sports arenas and stadiums to anchor entertainment districts or revitalize an area. Professional sports teams can create a sense of community solidarity and reputation. However, even if a city wants a team, it must apply to the professional sports league. These sports leagues have monopoly power over franchise team expansion and decide which cities receive a team. Thus, city competition has heightened demands to publicly subsidize arenas.

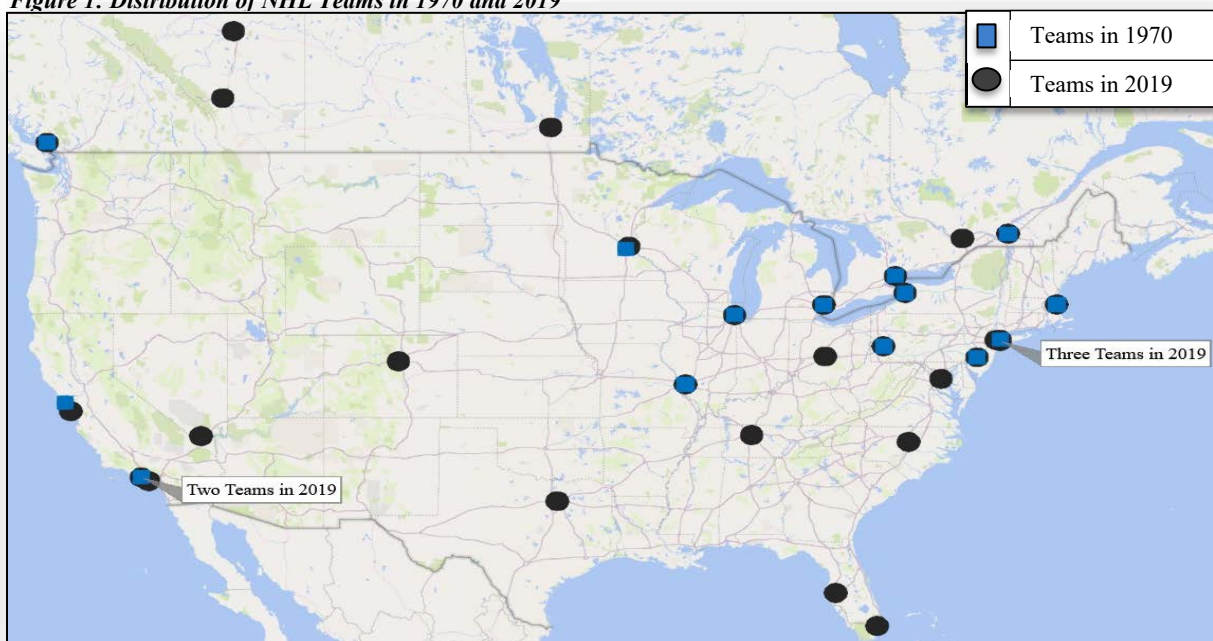
This project compares historical NHL arena funding in the United States and Canada. Given the popularity of this topic for localities and the differences in financing structures between the United States and Canada, it is important to have one source of comprehensive and comparable information. To assess public financing trends, I researched each team's construction costs and fiscal agreements. After compiling this data, I examined if trends exist between arena funding and the city's population size or median household income. I also compared funding to team success, as defined by team performance, game attendance, and game ticket prices.

---

3. Soonhwan Lee and Hyosung Chun, "Economic Values of Professional Sport Franchises in the United States," *The Sport Journal*, November 8, 2015, <http://thesportjournal.org/article/economic-values-of-professional-sport-franchises-in-the-united-states/>.

The timeframe for this paper is from 1970 to 2019. Figure 1 displays the distribution of teams at these two time periods.<sup>4</sup> Although the NHL began in 1917, the league founded most of its current teams after 1970. The league especially began to take structure in 1979 after merging with the World Hockey Association (WHA). The WHA was a major professional ice hockey league in North America from 1972 to 1979 that competed with the NHL. When WHA existed, it helped create a competitive market for hockey where franchise teams and players could join either league.<sup>5</sup> After the merger, the NHL became the sole provider of NHL franchise teams.

**Figure 1: Distribution of NHL Teams in 1970 and 2019**



Source: Own map created using team information from *NHL.com*

In this paper, I later discuss nine NHL teams that no longer exist: Atlanta Flames, Atlanta Thrashers, California Golden Seals, Cleveland Barons, Colorado Rockies, Hartford Whalers, Quebec Nordiques, Minnesota North Stars, and Kansas City Scouts. These teams were active

4. Data markers for 1970 and 2019 that overlap are teams that existed in both time periods. In southern California, two teams exist less than 30 miles apart in 2019 (Anaheim Ducks and LA Kings), In the New York City/Newark area, three teams exist less than 30 miles apart in 2019 (New York Rangers, New York Rangers, and New Jersey Devils).

5. "WHA vs NHL," *WHAhockey.com*, Accessed December 3, 2018, <http://www.whahockey.com/whavsnhl.html>.

within the specified time frame. As we will see, these teams provide insight on factors that lead to team relocation.

This project compares arena capital construction costs and city agreements among teams. These agreements detail revenue-sharing arrangements and city supports, such as updating transportation routes or granting property tax abatement. The goal of this project is not to examine the economic impact of a sports team or arena on a city. Extensive literature already exists on that topic. Economists demonstrate that sports teams and facilities do not have a significant economic impact.<sup>6</sup> Still, politicians will note that funding an arena is important for community benefits. Public financing sports arenas is a complex trend that no longer seems to fall into the extremes of a “yes” or “no” vote. This project will identify if there are any patterns to the types of cities that should be pursuing arena projects. My goal is to guide governments on appropriate public financing packages. In addition, I discuss how cities should structure their agreements with the NHL. Research involved examining the context of cities, including geographic makeup and demographics.

## **The NHL Background**

Before diving into specific financing tools, we must understand the league that we are analyzing. The National Hockey League (NHL) is the world-renowned professional ice hockey association.<sup>7</sup> The league formed in 1917 with four initial franchise teams all located in eastern Canada. The first United States franchise team joined in 1923 as the Boston Bruins.<sup>8</sup> As of 2019, the NHL is an unincorporated association of 31 franchise teams organized as a joint venture.

---

6. Charles A. Santo, "Beyond the Economic Catalyst Debate: Can Public Consumption Benefits Justify a Municipal Stadium Investment?" *Journal of Urban Affairs* 29, no. 5 (2007), doi:10.1111/j.1467-9906.2007.00360.x.

7. James H. Marsh, "National Hockey League (NHL)," *The Canadian Encyclopedia*, December 19, 2012, <https://www.thecanadianencyclopedia.ca/en/article/national-hockey-league>.

8. Michael W. Godfrey, "A Short History of the NHL Franchises," *Carnegie Mellon School of Computer Science*, Accessed November 9, 2018, <http://www.cs.cmu.edu/~./clamen/misc/Sports/NHL-history.html.gz>.

Seven teams are in Canada and 24 are in the United States.<sup>9</sup> The NHL's executive management staff authorizes franchise teams to have certain responsibilities. As a joint venture, the NHL franchise teams share responsibility for profits, losses, and costs of the entire league. At the same time, the teams remain distinct legal entities.<sup>10</sup> The teams elect Board of Governors to serve on the management staff of the league. The Board then elects a chief executive officer (CEO), who is currently Commissioner Gary Bettman.<sup>11</sup> According to the NHL Constitution, the Board of Governors review changes to the game rules and game schedule, the sale or relocation of teams, and salary caps.<sup>12</sup>

### League Growth over Time

The NHL's projected revenues for the 2018-2019 season are USD \$4.54 billion. Each NHL franchise team is worth an average of \$594 million. The highest valued team is the New York Rangers at \$1.5 billion.<sup>13</sup> National television deals contribute a large part of team revenues. In the 1990s, the NHL had 21 franchise teams and a \$155 million deal in the United States with Fox Corporation. Since 2013, the NHL has secured a United States deal with NBC/Comcast for \$2 billion and a Canadian deal with Rogers Communications Inc. for \$5.2 billion.<sup>14</sup> Through its

---

9. Cutler Klein, "From Six Teams to 31: History of NHL Expansion," *NHL.com*, June 22, 2016, <https://www.nhl.com/news/nhl-expansion-history/c-281005106>; *Madison Square Garden, L.P. v. National Hockey League*, 270 Fed. App'x. 56, 59 (2nd Cir. 2008).

10. "Joint Venture," *Investopedia*, October 19, 2018, <https://www.investopedia.com/terms/j/jointventure.asp>.

11. The Commissioner is selected by the Board of Governors and serves as the Chief Executive Officer of the League. "NHL Constitution," *SportsDocuments*, May 12, 2017, <http://sportsdocuments.com/2013/11/nhl-constitution/>.

12. The Constitution of the NHL and organization management was not disclosed to the public until 2009, when Bettman released the information as part of a franchise filing to a bankruptcy court judge. Kevin McGran, "NHL's Secret Constitution Revealed," *The Star*, June 6, 2009, [https://www.thestar.com/sports/2009/06/06/nhls\\_secret\\_constitution\\_revealed.html](https://www.thestar.com/sports/2009/06/06/nhls_secret_constitution_revealed.html).

13. "Forbes Releases 20th Annual List of NHL Team Valuations," *Forbes*, December 5, 2018, <https://www.forbes.com/sites/forbespr/2018/12/05/forbes-releases-20th-annual-list-of-nhl-team-valuations/#63b6fd9c7b76>.

14. Bill Beacon, "Revenue, Rules and Realignment: Gary Bettman Marks 25 Years as NHL Commissioner," *The Globe and Mail: Canadian Press*, February 1, 2018, <https://www.theglobeandmail.com/sports/hockey/revenue-rules-and-realignment-gary-bettman-marks-25-years-as->

national broadcasting contracts, NHL.TV services, and international and local contracts, viewers across the world can pay to watch NHL games. The first game of the 2018 Stanley Cup Playoffs received a viewership of 8.4 million Americans and over 8 million Canadians.<sup>15</sup>

Over the years, the NHL has exerted market control and barriers to entry. Specifically, the league restricts the ability to franchise, asserts broadcasting rights, and sets its own prices for expansion teams within the professional hockey industry.<sup>16</sup> 25 years ago, adding a new franchise to the league cost \$50 million in an application fee to the NHL (\$86 million in 2019 dollars). Today, a new expansion team to the league costs an application fee of \$650 million.<sup>17</sup>

### History of the NHL Arena

In addition to the league itself, the NHL arena model has evolved over time. In the early 1860s, Major League Baseball was the first sports league to build enclosed facilities. Initially, owners built facilities in suburbs that were single-use, hosting one sports team.<sup>18</sup> Team owners quickly saw a correlation between facility construction cost and incoming revenues. This correlation encouraged owners to build larger facilities. Also, starting in the 1960s, cities began to fund arenas as urban or suburban renewal projects.<sup>19</sup> During this time, United States and Canadian living standards increased and television sports consumption grew. Federal funding to cities decreased after World War II, so cities competed to differentiate themselves. This period

---

nhl-commissioner/article37813632/; Clarence Campbell, "Standings: 1990-1991," *NHL.com*, Accessed December 3, 2018, <https://www.nhl.com/standings/1990/division>.

15. "Ratings for Game 1 of Stanley Cup Final Set Market Records," *NHL.com*, May 29, 2018, <https://www.nhl.com/news/stanley-cup-final-game-1-set-market-records/c-298834348>.

16. Nathaniel Grow, *Regulating Professional Sports Leagues*, 72 Wash. & Lee L. Rev. 573 (2015), <https://scholarlycommons.law.wlu.edu/wlulr/vol72/iss2/4>.

17. When a city wants to add a new franchise team, the owners must apply to the NHL and pay an NHL the expansion fee. Dave Stubbs, "NHL Has Grown Stronger in Bettman's 25 Years as Commissioner," *NHL.com*, February 1, 2018, <https://www.nhl.com/news/nhl-growth-in-bettmans-25-years-as-commissioner/c-295493542>.

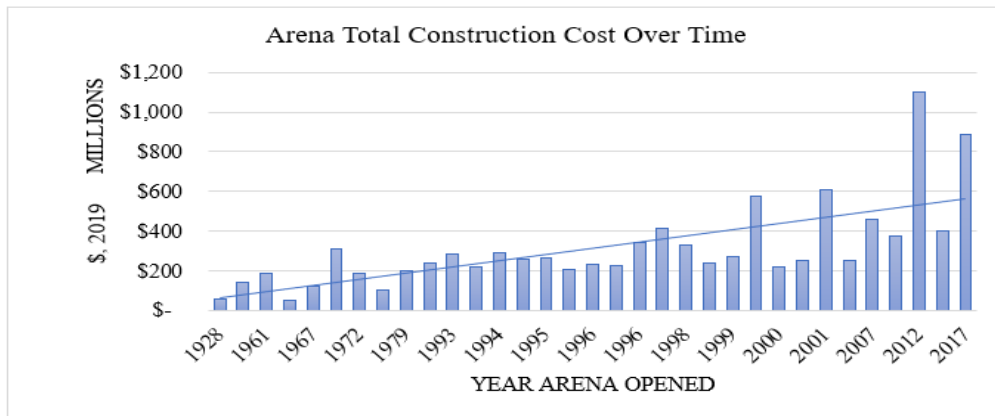
18. Bipin Dhillon, "Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations," *MPA Major Research Papers*, 178, July 1, 2018.

19. Gil Fried, 2015, *Managing Sport Facilities*, Champaign: Human Kinetics Books.

marked the NHL expansion, where new franchise teams formed as cities competed to receive a team.<sup>20</sup> Most arenas constructed before 1985 were only publicly funded.<sup>21</sup>

From the late 1980s to early 2000s, cities worried that teams would leave if a new playing facility was not built for them. As a result, most facilities built during this time were publicly owned and funded. Teams began moving downtown to take advantage of the business core. They offered premium seating to business executives who wanted tax-deductible entertainment.<sup>22</sup> Of the 31 current NHL arenas, 26 are downtown. In 1950, the median seating capacity of NHL arenas was 13,350.<sup>23</sup> Today, the median seating capacity is 18,387. Over time, real construction costs of arenas have increased (Figure 2). This increase in construction cost may correspond with an increase in luxury amenities. Therefore, the quality-adjusted cost of arenas may not increase over time.

**Figure 2: Arena Capital Costs over Time**



Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, arena management websites, and lease agreements between cities and teams. See Appendix E for specific data on each team’s arena construction costs.

20. Bipin Dhillon, “Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations,” *MPA Major Research Papers*, 178, July 1, 2018.

21. John Crompton, "Beyond Economic Impact: An Alternative Rationale for the Public Subsidy of Major League Sports Facilities," *Journal of Sport Management* 18, no. 1 (2004), doi:10.1123/jsm.18.1.40.

22. Gil Fried, 2015, *Managing Sport Facilities*, Champaign: Human Kinetics Books.

23. Mayya Komisarchik and Aju J. Fenn, “Trends in Stadium and Arena Construction, 1995-2016,” *SSRN Electronic Journal*, September 30, 2016, <https://doi.org/10.2139/ssrn.2844807>.

Government entities own over half of current NHL arenas (17 out of 31). All 31 arenas are privately operated. When a government builds or owns an arena for private operation, the two entities form a "public-private partnership".<sup>24</sup> A few key elements characterize public-private sports partnerships in North America. First, arenas are multi-use facilities, allowing for concerts and other sporting events. Hosting other events ensures revenue inflow even when the NHL team is not playing. Second, these partnerships include a long-term lease between the owner and the team as an anchor tenant. This lease typically lasts for as long as the funding obligation, which is usually linked to economic development in the area.<sup>25</sup> Canadian public-private partnerships form if the teams average above a certain threshold attendance. As a result, the average attendance for current Canadian NHL arenas is above 95 percent of capacity (Appendix C). Team investors value attendance and ticket pricing as indication of return on investment.<sup>26</sup> The average ticket price in the 2018-2019 season for Canadian teams was USD \$146. In comparison, the average United States team ticket price was USD \$109<sup>27</sup>.

## Public Funding

### Overview

The type and amount of funding results from conversations between sports leagues and cities. Major sports leagues exert monopoly power in negotiating with cities or prospective team owners. These leagues are the only provider of their respective professional sports franchise teams. By restricting team expansion, the NHL creates a shortage of teams, increasing the price

---

24. United States, Department of Transportation, *Report to Congress on Public-Private Partnerships*, 2004, Washington, D.C.: Department of Transportation.

25. Martin J. Greenberg, 1999, "Stadium Financing and Franchise Relocation Act of 1999," *Marquette Sports Law Review* 10, no. 2, <http://scholarship.law.marquette.edu/sportslaw/vol10/iss2/12>.

26. Joe Farag and Len Brittain, "Sports in the Public-Private Arena City of Toronto," *Government Finance Review*, June 2009, [https://gfoa.org/sites/default/files/GFR\\_JUN\\_09\\_73.pdf](https://gfoa.org/sites/default/files/GFR_JUN_09_73.pdf).

27. "NHL Ticket Prices 2018-2019," *Vivid Seats*, October 9, 2018, <https://www.vividseats.com/blog/nhl-ticket-prices>.



of establishing a franchise. This restriction lets the NHL benefit from rent-seeking and indicates a business stealing effect.<sup>28</sup> In a homogenous market like the product of professional hockey teams and events, entry restrictions can facilitate a socially desirable outcome. A desirable outcome is one in which market output does not decline.<sup>29</sup> Often times, cities will compete for franchise teams by offering incentives, such as public subsidies for arenas.

### Funding for NHL Arenas

Today, cities focus on using teams for entertainment districts and urbanization projects. Governments offer various financial supports to attract or keep a team.<sup>30</sup> Public financing for NHL arenas has been in the following forms:

- Direct sources of public financing
  - General obligation bonds and revenue bonds
  - Tax increment financing
  - Property taxes, sales taxes, and tourism taxes
  - Sale of government assets, government appropriations, or direct subsidies
  - Tax/surcharge on tickets or parking revenues
  - Lotteries and gaming revenues
- Indirect sources of public financing:
  - Land donations
  - Infrastructure improvements

---

28. Nathaniel Grow, *Regulating Professional Sports Leagues*, 604.

29. Gregory N. Mankiw and Michael D. Whimton, "Free Entry and Social Inefficiency," *Rand Journal of Economics* 17, no. 1 (1986): 48-58.

30. Bipin Dhillon, "Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations," *MPA Major Research Papers*, 178, July 1, 2018; John Siegfried and Andrew Zimbalist, "The Economics of Sports Facilities and Their Communities," *Journal of Economic Perspectives* 14, no. 3, (2000): 95-144.

- Tax abatement and payments in lieu of taxes (PILOTs)

## Direct Funding

This section will define the above tools identified as a form of direct financing. The first direct financing tool commonly used is a bond. A general obligation bond is debt backed by the city's credit and taxing power. These bonds have less risk and are usually tax-exempt, so the interest rate of borrowing is low. As a result, these bonds can decrease the total public cost of an arena. Still, issuing these bonds has an opportunity cost since the city cannot use the funds for other projects.<sup>31</sup> Another type of bond that cities will use is revenue bonds. Revenue bonds are debt backed by a specific revenue stream rather than from the city's general credit.<sup>32</sup> Typically, the term of a revenue bond is 15 to 30 years and these bonds do not need voter approval. A common revenue bond is a lease revenue bond. The revenue stream for lease revenue bonds comes from leases for arena tenancy or naming rights.

Cities also use taxes to benefit an arena. In tax increment financing (TIF), arenas receive incremental revenues from a specific taxing source. Most often, this taxing source is property taxes. Cities use TIF if they expect property values surrounding the arena to increase. Any increase in property tax revenues pays off the financial obligation.

Other popular forms of taxes are property taxes, sales taxes, and tourism taxes.<sup>33</sup> All states and provinces have property taxes. These taxes involve assessed value and taxable value of properties in the jurisdiction.<sup>34</sup> Similarly, most states and provinces have sales taxes. Sales taxes

---

31. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, Scottsdale, AZ: Holcomb Hathaway, Publishers.

32. Nick K. Lioudis, "The Basics of Municipal Bonds," *Investopedia*, May 17, 2019, <https://www.investopedia.com/investing/basics-of-municipal-bonds/>; Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 223.

33. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 222.

34. "Property Taxes," *Urban Institute*, May 6, 2019, <https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/projects/state-and-local-backgrounders/property-taxes>; Canada, *The Constitution Act, 1867* (UK), 30 & 31 Victoria, c 3, section 92.

are consumption taxes imposed on the sale of goods and services.<sup>35</sup> These taxes can fund initial construction or help pay off bonds; however, they may be unpopular with city residents. Therefore, cities may use tourism taxes to tax non-residents. Tourism taxes target hotel occupancy, rental cars, and food and beverages in specific areas. Tourists may or may not be the primary users of the arena (i.e. tourists may not attend NHL games). However, this option can appease residents.

Governments can also provide funds by direct appropriations or selling off assets. Some arenas get built on land that was originally owned by the city. When the city sells the land to a private owner, this money may go towards funding arena construction. Similarly, in direct appropriations, governments will provide money for specific project components.<sup>36</sup> Cities are more likely to contribute funds if money also comes from the state or province.<sup>37</sup>

Another common contribution is through taxes or surcharges on tickets and/or parking.<sup>38</sup> Many governments need voters to approve new taxes due to legislation restraints. Surcharges, on the other hand, do not require voter approval. Governments and businesses may add any surcharges to goods.<sup>39</sup> Both taxes and surcharges on tickets and parking add more fees onto the base price. These fees go towards paying off arena construction costs. Like taxes, surcharges can distort consumer behavior. Still, surcharges are easier to implement due to the lack of legislative restraint.

---

35. As of May 2019, the only states and provinces without sales taxes are Alaska, Delaware, Montana, New Hampshire, Oregon, and Alberta. Julia Kagan, "Sales Tax Definition," *Investopedia*, June 29, 2019, <https://www.investopedia.com/terms/s/salestax.asp>.

36. Will Kenton and Chris B. Murphy, "Appropriation Definition," *Investopedia*, April 18, 2019, <https://www.investopedia.com/terms/a/appropriation.asp>.

37. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 230.

38. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 230.

39. Alexandra Twin, "Surcharge," *Investopedia*, June 25, 2019, <https://www.investopedia.com/terms/s/surcharge.asp>.

Casino and lottery revenue are another form of public financing. This revenue acts like regressive taxation because lower-income individuals take part in these activities more often and spend a greater proportion of their income than higher income individuals.<sup>40</sup>

### Indirect Funding

Aside from direct financing, governments can also provide indirect support. Indirect sources of public financing include non-cash resources, infrastructure improvements, and payment exemptions. This type of support is not stated in the arena's construction cost or public contribution share. Therefore, residents may receive an understated estimate of real public cost. For example, some cities donate the land for arena construction. While this form of public support looks like no cost to the city, there is an opportunity cost for the land.<sup>41</sup> In addition, some governments pay for parking lots, transportation routes, or arena renovations. These infrastructure improvements require money, but the value is not included in the initial capital cost. Cities may also allow tax abatement, or exemptions from paying specific taxes. When a public entity owns the arena, the government may not assess the facility for property taxes.<sup>42</sup> When a private entity owns the arena, the government may exempt it from paying property taxes. Tax abatement often is the largest public contribution made to an arena project. For example, a \$350 million arena avoids property taxes of approximately \$5 million per year.<sup>43</sup> Before 2008, owners made payments in lieu of taxes (PILOTs) when the arena was not subject to property

---

40. Alicia Hansen, "Are Lottery Taxes Regressive? (And What Does "Regressive" Mean Anyway?)" *Tax Foundation*, June 16, 2006, <https://taxfoundation.org/are-lottery-taxes-regressive-and-what-does-regressive-mean-anyway/>.

41. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 233.

42. Judith Grant Long, *Public/Private Partnerships for Major League Sports Facilities*, New York: Routledge, Taylor & Francis Group, 2014.

43. John L. Crompton and Dennis R. Howard, 2013, "Costs: The Rest of the Economic Impact Story," *Journal of Sport Management* 27 (5): 379–92, <https://doi.org/10.1123/jsm.27.5.379>.

taxes. PILOTs equal a part of property taxes that owners would pay if the project was not tax-exempt. PILOTs stopped in 2008 after Internal Revenue Service regulation.<sup>44</sup>

### Legislation Changes

Legislation directs the tools that governments can use in public financing. From 1970 to 1984, city bonds and subsidies covered most initial construction costs. After this period, the United States Congress tried to stop federal tax subsidies for sports facilities by enacting the Tax Reform Act of 1986 and the Internal Revenue Code Section 141. However, these statutes unintentionally create an incentive for these subsidies.<sup>45</sup> The statutes require tax-exempt public funding to satisfy the Private Activity Test (PAT). Public funding passes the PAT if no more than 10 percent of arena revenues repay debt obligation.<sup>46</sup> Consequentially, cities will decrease arena rents below 10 percent of debt and raise other taxes.<sup>47</sup> Congress thought that city officials would not increase other taxes to benefit a sports facility.<sup>48</sup> This assumption proved false, as cities contributed more funding to satisfy the PAT. These statutes are examples of policy with unintended consequences.

---

44. Irwin P. Rajj and Alexander Chester, 2017, "Public Development for Professional Sports Stadiums," *Oxford Handbooks Online*, <https://doi.org/10.1093/oxfordhb/9780190465957.013.34>.

45. Ted Gayer, Austin J Drukker, and Alexander K Gold, 2016, "Tax-Exempt Municipal Bonds and the Financing of Professional Sports Stadiums," Report, *The Brookings Institution*, [https://www.brookings.edu/wp-content/uploads/2016/09/gayerdrukkergold\\_stadiumsubsidies\\_090816.pdf](https://www.brookings.edu/wp-content/uploads/2016/09/gayerdrukkergold_stadiumsubsidies_090816.pdf).

46. Scott A. Jensen, 2000, "Financing Professional Sports Facilities with Federal Tax Subsidies: Is It Sound Tax Policy?" *Marquette Sports Law Review* 10, no. 2, <http://scholarship.law.marquette.edu/sportslaw/vol10/iss2/15>

47. Andrew Zimbalist and Roger G. Noll, "Sports, Jobs, and Taxes: Are New Stadiums worth the Cost?" *Brookings*, July 28, 2016, <https://www.brookings.edu/articles/sports-jobs-taxes-are-new-stadiums-worth-the-cost/>; David Schein, James Phillips, and Caroline Rider, 2017, "American Cities Held Hostage: Public Stadiums and Pro Sports Franchises," *Richmond Public Interest Law Review* 20 (1), [scholarship.richmond.edu/pilr/vol20/iss1/6](http://scholarship.richmond.edu/pilr/vol20/iss1/6); Anoop K. Bhasin, 2000, "Tax-Exempt Bond Financing of Sports Stadiums: Is the Price Right," *Villanova Sports and Entertainment Law Journal* 7 (2): 181–208, <http://digitalcommons.law.villanova.edu/mslj/vol7/iss2/1>

48. Elaine S. Povich, "Why Should Public Money Be Used to Build Sports Stadiums?" *PBS*, July 13, 2016, <https://www.pbs.org/newshour/nation/public-money-used-build-sports-stadiums>.

In Canada, the Constitution Act, 1867, 30 & 31 Vict, c 3, Section 92 gives provinces authority over property and power of taxation.<sup>49</sup> NHL arena property falls into this broad category. Although the subsidization of an NHL arena begins with a city, there is no constitutional right for cities to create taxes. Provinces must authorize or give statutory powers to cities to levy direct taxes. Often, provinces delegate the power for cities to raise property taxes and take lead on arena projects.<sup>50</sup> In recent years, cities and provinces have used community revitalization levies (CRL) for arenas. A CRL allows a government to fund infrastructure by promising to pay off debt with future property tax revenues.<sup>51</sup> For example, the City of Edmonton contributed \$145 million to Rogers Place through a CRL. Also, the City funded \$86 million worth of infrastructure around the arena through the CRL. Relative to total construction cost, the CRL paid for 37 percent of Rogers Place (Appendix E, Edmonton Oilers). CRL can be controversial because it shifts tax revenue towards the arena rather than creates new revenue source.<sup>52</sup>

Aside from CRL, Canadian NHL arenas may receive funding from the federal government. Typically, federal funding is only provided if the arena ties to community or amateur sports.<sup>53</sup> For example, Calgary's Scotiabank Saddledome received \$29.7 million from the Government of Canada because of the Olympics. Between 2007 and 2014, some cities tried to receive funding from the Government of Canada's \$8.8 billion Building Canada Fund. This Fund provided money for infrastructure with public access or large community events. Some

---

49. András A Gurovits, *The Sports Law Review*, 3rd ed. London: Law Business Research, 2017; Canada, *The Constitution Act, 1867* (UK), 30 & 31 Victoria, c 3, section 92.

50. Erin Tolley and William Young, *Municipalities, the Constitution and the Canadian Federal System (BP-276E)*, February 2001, <http://publications.gc.ca/Collection-R/LoPBdP/BP/bp276-e.htm>.

51. "Community Revitalization Levy Program," *Alberta.ca*, Accessed July 10, 2019, <https://www.alberta.ca/community-revitalization-levy.aspx>.

52. Kyle Bakx, "Canadian Cities Increasingly Turning to Levies to Fix Blight," *CBC News*, May 22, 2015, <https://www.cbc.ca/news/business/risky-business-as-canadian-cities-turn-to-neighbourhood-levies-1.3079392>.

53. Andrew Mayeda, "Secret Memo: Federal Cash for Arena in Quebec City Would be 'rare' Exception," *IPolitics*, January 16, 2011, <https://ipolitics.ca/2011/01/15/secret-memo-federal-cash-for-quebec-city-arena-would-be-rare-exception/>.

cities, like Quebec City, were unsuccessful at meeting the community requirement. Generally, as was the case in Quebec, public funding comes from the city and provincial levels.<sup>54</sup>

## Economic Theory

Before analyzing public financing in the United States and Canada, it is important to understand the role of subsidies. The argument for subsidization exists when there is a market failure, especially in providing a public good.

### Public Subsidization and Market Failure

NHL team owners and some economists note that the private sector may underprovide sports arenas in absence of public funding. Most team owners are not willing to pay for an arena themselves due to high costs and low return. Without subsidies, there is no arena. Without an arena, there is no sports team.<sup>55</sup> If this argument is true, by subsidizing production, the government corrects the market failure.<sup>56</sup>

---

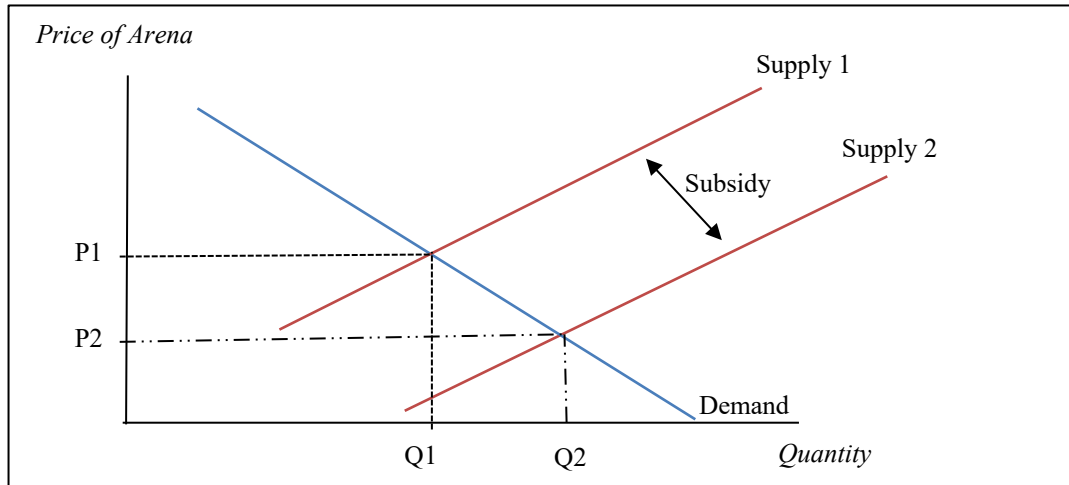
54. Canada, Government of Canada, Infrastructure Canada, "Building Canada Fund," Ottawa: Infrastructure Canada, 2011, <https://www.infrastructure.gc.ca/prog/bcf-fcc-eng.html>; Andrew Mayeda, "Quebec City Will Have to Play up Potential Olympic Bid to Get NHL Arena," *Global News*, February 9, 2011, <https://globalnews.ca/news/108845/quebec-city-will-have-to-play-up-potential-olympic-bid-to-get-nhl-arena/>.

55. Dennis Coates and Brad R. Humphreys, "Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?" *Econ Journal Watch*, 5, no. 3, September 2008, 294-315.

56. Will Kenton, "Subsidy," *Investopedia*, March 28, 2019, <https://www.investopedia.com/terms/s/subsidy.asp>.

Figure 3 shows an example of arena production with and without a subsidy. Without a subsidy, the quantity of arenas produced is  $Q_1$  and the price that producers pay is  $P_1$ . With a subsidy to arena producers, the quantity produced increases to  $Q_2$  and the price of construction decreases to  $P_2$ .<sup>57</sup>

*Figure 3: Market failure corrected by a subsidy.*



Source: Own figure based on information in Harvey S. Rosen, Jean-François Wen, and Tracy Snoddon's *Public Finance in Canada* (2016).

While it may be true that more arenas would exist with subsidies, there is not necessarily an efficiency improvement as a result of a new arena. There is a set number of NHL team franchises, so relocating a team from one city to another is a zero-sum game for NHL fans. Producers benefit by receiving a larger subsidy, but relocation does not lead to a Pareto improvement in resource allocation.<sup>58</sup> Also, because subsidies increase production beyond normal, resources could be inefficient.<sup>59</sup> Subsidies can create a deadweight loss, or excess burden, if output is less than the marginal social cost of production.

57. Harvey S. Rosen, Jean-François Wen, and Tracy Snoddon, 2016, *Public Finance in Canada*, Whitby, ON: McGraw-Hill Education.

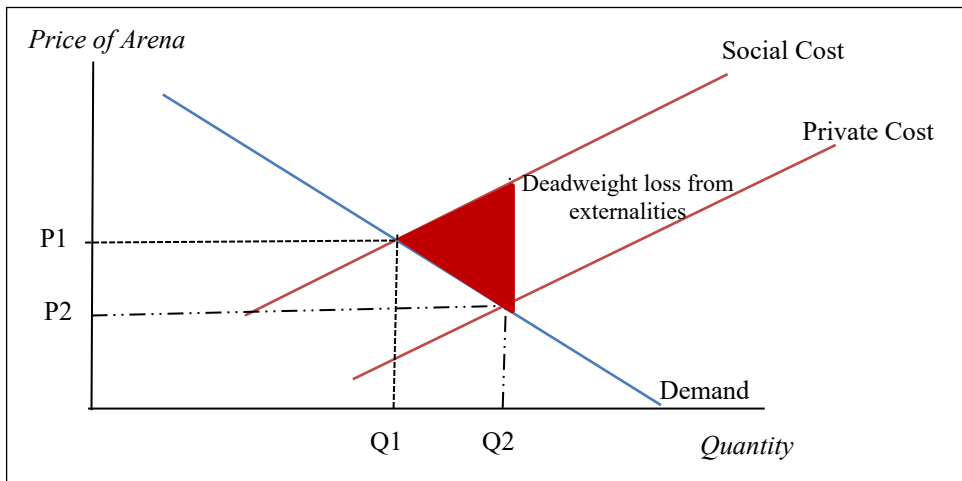
58. Dennis Coates and Brad R. Humphreys, "Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?" *Econ Journal Watch*, 5, no. 3, September 2008, 294-315.

59. Michael Farren, "The Hidden Costs of Stadium Subsidies," *Medium, Concentrated Benefits*, May 18, 2017, <https://medium.com/concentrated-benefits/the-hidden-costs-of-stadium-subsidies-fbc079f335f3>.



In Figure 4, equilibrium before subsidization is at  $Q_1, P_1$ . By introducing a subsidy, the government still causes quantity of output to increase and price to decrease like in Figure 3. However, it also creates a deadweight loss. This deadweight loss occurs because market output becomes inefficient. Social costs exist beyond what consumers and producers pay to consume and produce the good, respectively.

**Figure 4: Deadweight loss created by a government subsidy without prior market failure**



Source: Own figure based on information from *Investopedia*.

### Subsidization for Public Goods

An arena subsidy is efficient if marginal social benefit of the arena exceeds marginal social cost.<sup>60</sup> In other words, if the subsidy is equal to or less than consumption benefits, then government intervention may be appropriate. Professional sports teams and their arenas have a public good element. Sports teams can bring positive externalities to the community and local economy. Although attending ticketed events at the arena is rivalrous and excludable, team and civic pride is a public good.<sup>61</sup> This public good does not provide revenue to the team or arena

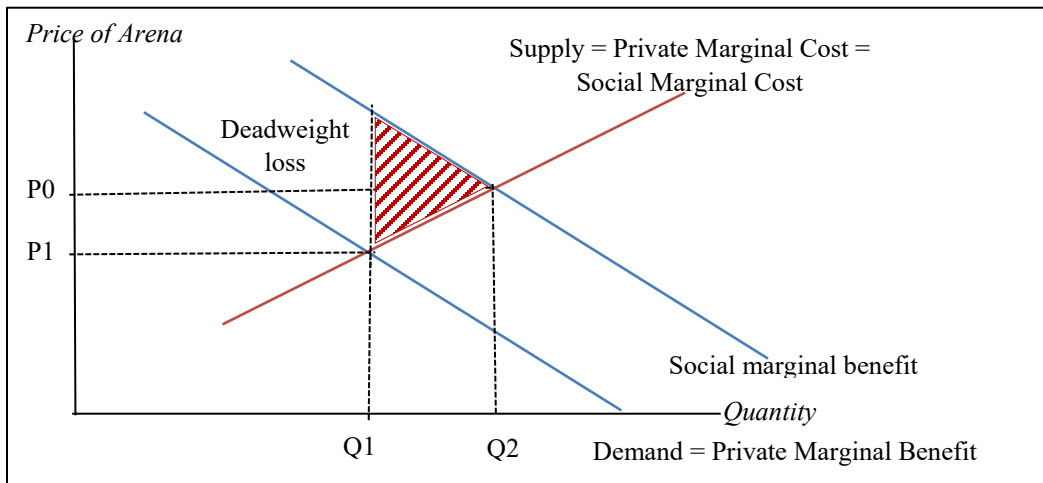
60. Dennis Coates and Brad R. Humphreys, “Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?” *Econ Journal Watch*, 5, no. 3, September 2008, 294-315.

61. “Cost-Benefit Analysis of Calgary 2026 Draft Hosting Plan Concept,” *Ernst & Young*, November 6, 2018, [calgary.ca/CS/PS/Recreation/Documents/2026%20Olympic%20Bid/Earnst%20and%20Y%20ung%20report.pdf?noredirect=1](http://calgary.ca/CS/PS/Recreation/Documents/2026%20Olympic%20Bid/Earnst%20and%20Y%20ung%20report.pdf?noredirect=1)

owners. Therefore, the government may help to increase production of an otherwise under-provided good. Smaller market cities often say that receiving a franchise team helps them become a “major league city”. In addition, residents may value having the option to attend a sports game, even if they are not regular consumers.<sup>62</sup>

In Figure 5, a positive externality without subsidy results in a market equilibrium at  $Q_1$ ,  $P_1$ . However, the socially optimal output is at  $Q_2$ , where social marginal benefit equals social marginal cost. A deadweight loss exists because supply and demand are not in market equilibrium.<sup>63</sup> A subsidy can increase the output and decrease the price to the socially optimal level. This case differs from Figure 4 because deadweight loss exists before the subsidy and government intervention corrects it.

**Figure 5: A good that has a positive externality.**



Source: Own figure based on information from *Investopedia*.

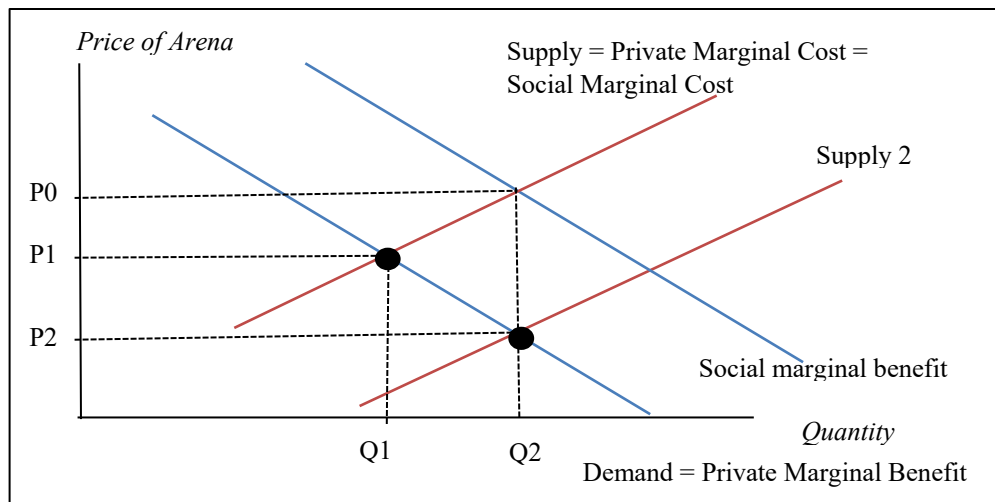
As shown in Figure 6, providing a subsidy increases supply of the good from  $Q_1$  to  $Q_2$  and decreases the price from  $P_1$  to  $P_2$ . Subsidies for goods that have positive externalities are

62. Michael Farren, “The Hidden Costs of Stadium Subsidies,” *Medium, Concentrated Benefits*, May 18, 2017, <https://medium.com/concentrated-benefits/the-hidden-costs-of-stadium-subsidies-fbc079f335f3>; Euston Quah and Raymond Toh, 2011, *Cost-Benefit Analysis: Cases and Materials*, New York: Routledge.

63. Will Kenton, "Deadweight Loss," *Investopedia*, March 12, 2019, <https://www.investopedia.com/terms/d/deadweightloss.asp>.

beneficial because they encourage production and decrease price. Still, to offer a subsidy, the government must raise taxes. Taxes can distort consumer behavior and create economic burden. In addition, the value of a positive externality is difficult to measure, so the government may not properly assess how much to subsidize. Team owners may come to rely on subsidies rather than provide private funding themselves.<sup>64</sup>

**Figure 6: Subsidizing a good that has a positive externality.**



Source: Own figure based on information from *EconomicsHelp.org*

### Future Value of Money

Besides supply and demand, time value of money is another important consideration. Arena leases between cities and team owners usually last for 30 years. In these leases, cities and teams detail debt payments and rent, if applicable. When comparing project cost to city or economic benefits, it is important to analyze payments in present value or future value. Present value is the amount of future cash flow(s) in today’s dollars. To calculate present value, we discount the future value by a capitalization rate, which measures uncertainty or risk. We discount the future cash flows by the number of periods between the future value’s date and

64. “Subsidies for Positive Externalities,” *Economics Help*, Accessed June 16, 2019, <https://www.economicshelp.org/micro-economic-essays/marketfailure/subsidy-positive-ext/>.

today. To compare public contribution options or identify benefits, cities must compare values in the same base year. An upfront contribution of \$100 million is a different value than \$100 million promised years from now. Furthermore, when comparing contribution costs in different years, we must consider inflation. The costs referred to in this paper by “(2019 dollars)” are inflation-adjusted. Costs not labeled with the year are nominal, referring to the price in the year spent. We cannot compare nominal values across years because they do not reflect the same purchasing power. A final caveat when comparing arena costs is to consider the quality and amenities. Arenas today have more amenities than earlier built arenas; so, quality-adjusted costs of newer arenas may be low.<sup>65</sup>

#### Demand for Arena: Sports Consumption

It is also important to understand the impact of consumer demand. Individuals usually allocate some discretionary spending to entertainment. Consuming sports entertainment takes away spending on other entertainment, such as going to a movie. When this transfer occurs, net effect on economic output is stagnant.<sup>66</sup> However, sports teams can increase economic output by attracting fans from out of the region. Approximately 5 to 20 percent of fans live outside of a team’s local taxing jurisdiction.<sup>67</sup> With a seating capacity around 18,000, only a small proportion of populations attend hockey games. However, as mentioned before, residents may enjoy national prestige that the team garners.<sup>68</sup> Overall, the sports industry has a large amount of revenues. In 2017, United States consumers spent \$56 billion to attend sporting events. This cost

---

65. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 218.

66. Roger G. Noll and Andrew Zimbalist, *Sports, Jobs and Taxes: The Economic Impact of Sports Teams and Stadiums*, Washington, D.C.: Brookings Institution, 1997.

67. Siegfried and Zimbalist, “The Economics of Sports Facilities and Their Communities,” 105.

68. John Crompton, "Beyond Economic Impact: An Alternative Rationale for the Public Subsidy of Major League Sports Facilities," *Journal of Sport Management* 18, no. 1 (2004), doi:10.1123/jsm.18.1.40.

included price of tickets, transportation, and food and beverages.<sup>69</sup> Average revenue per NHL fan is \$36 in the United States (Appendix D). Canadian teams only make up one-fifth of the league's teams, but they generate approximately one-third of NHL revenues. An average Canadian fan generates USD \$73 (Appendix D).

### Demand for Arena: Voter Referendum

The decision whether to publicly fund an arena comes from a public referendum or a vote in city council. Public referendums have become popular across all sports leagues in the United States. Between 1990 and 2016, cities and states have held more than 40 sports facility related referendums. In over half, citizens voted on public financing not only for the arena or stadium, but also for other projects like a shopping complex.<sup>70</sup> Five public referendums were for the NHL.

The first NHL referendum during this period was in Franklin County in 1997. The referendum asked citizens if they approve a 0.5 cents sales-tax increase for three-years to fund an NHL arena and soccer stadium.<sup>71</sup> Franklin County and the City of Columbus wanted the arena to attract an NHL franchise team. However, the referendum failed.<sup>72</sup> Fortunately, private investors decided to fund the arena so that the city could receive an NHL team.<sup>73</sup>

A referendum that did pass was in 1998, held by the City of Dallas. Dallas residents approved \$125 million in tax revenues towards building the arena. In addition, the referendum approved \$236 million annually to go towards municipal works. In the grand scheme, this public

---

69. Sarah O'Brien, "Americans Spend \$56 Billion on Sporting Events," *CNBC*, September 12, 2017, <https://www.cnbc.com/2017/09/11/americans-spend-56-billion-on-sporting-events.html>.

70. "Major League Sport Stadium/Arena Referenda (1990 – 2016)," *National Sports Law Institute of Marquette University Law School* 7, 2016.

71. "Arena Coming, but Is Hockey?" *WRAL.com, Capitol Broadcasting Company, Inc.*, April 22, 1997, <https://www.wral.com/news/local/story/162234/>.

72. Clyde Brown and David M. Paul, "The Political Scorecard of Professional Sports Facility Referendums in the United States, 1984-2000," *Journal of Sport and Social Issues* 26, no. 3 (2002): 248-67, doi:10.1177/0193723502263003.

73. McConnell et al., Appellees, v. Hunt Sports Enterprises et al., Appellants. (Court of Appeals of Ohio, Tenth District, Franklin County. August 31, 1999), United States FindLaw 98AP-1386, 98AP-1459.

funding made up only 30 percent of the arena capital cost. The owners of the Dallas Stars (NHL) and Dallas Mavericks (NBA) contributed the other 70 percent. (Appendix D).

A year later, in 1999, the City of Scottsdale held a referendum for the proposed Gila River Arena. Its referendum also passed. The city provided \$170 million of the arena cost as part of a \$535 million mall redevelopment project.

The final two referendums, held between 2011 and 2012, did not pass. These referendums were for the New York Islanders' arena and the Arizona Coyotes' arena, respectively. Regarding the Islanders, citizens of Nassau County rejected the proposal to fund a new NHL arena and a minor league baseball park with a \$400 million bond.<sup>74</sup> According to news reports, residents were unhappy with their property taxes and did not want potential tax increases.<sup>75</sup>

Unlike Nassau County, the City of Glendale did not hold a formal referendum. The Glendale City Council decided to fund the Arizona Coyotes' arena fees without public input. Shortly after, residents started a grass-roots movement to petition the decision. The Council rejected the petition because of an insufficient number of signatures. As a result, the City funded the arena by increasing the sales tax 0.7 percent.<sup>76</sup>

Not all city councils are in favor of supporting sports facilities. For example, in 2013, the New York City Council voted to limit Madison Square Garden Company's operating permit to 10 years. This decision came only months after the Company spent \$1 billion to renovate the

---

74. "Major League Sport Stadium/Arena Referenda (1990 – 2016), *National Sports Law Institute of Marquette University Law School* 7, 2016.

75. Frank Eltman and Associated Press, "Taxes Already High, NYers to Vote on Arena Plan," *San Diego Union-Tribune*, July 29, 2011, <https://www.sandiegouniontribune.com/sdut-taxes-already-high-nyers-to-vote-on-arena-plan-2011jul29-story.html>.

76. Melissa Leu, "Phoenix Coyotes Referendum Effort Falls Short," *USA Today*, December 28, 2012, <https://www.usatoday.com/story/sports/nhl/coyotes/2012/12/28/coyotes-referendum-effort-falls-short/1797621/>; "Major League Sport Stadium/Arena Referenda (1990 – 2016), *National Sports Law Institute of Marquette University Law School* 7, 2016.

arena. As a result, Council members may evict the teams from the arena in 2023.<sup>77</sup> The Council wants to expand the subway station beneath the arena and announced that Madison Square Garden will need to find a new home.<sup>78</sup>

Historically, public referendums for NHL arenas have not been present in Canada. In recent years, cities, such as Saskatoon, have discussed holding future referendums.<sup>79</sup> The closest to a public referendum that Canada has been was the City of Calgary's 2026 Olympic Bid plebiscite. In November 2018, Calgary residents voted if they were "for or against" hosting the 2026 Olympic and Paralympic Winter Games. The bid implied that the City would build a new NHL arena along with other facilities for the Olympics. The plebiscite resulted in 56 percent of voters against the proposal.<sup>80</sup> Although not legally bound to follow the results, the City decided to retract on its plans to bid on the Olympics.<sup>81</sup> The City did not, however, abandon plans to build a new NHL arena. As of July 22, 2019, the City and Calgary Sports and Entertainment Corporation have agreed to split the cost of a new \$550 million arena.<sup>82</sup>

Even without referendums, Canadian citizens and interest groups express their opinions through media. A city that did not listen to public opinion against funding an arena is Quebec City. In 2009, the City proposed constructing a new hockey arena to attract an NHL franchise

---

77. Zach Spedden, "Madison Square Garden Special Operating Permit Hits Halfway Point," *Arena Digest*, September 07, 2018, <https://arenadigest.com/2018/09/07/madison-square-garden-special-operating-permit-hits-halfway-point/>.

78. Charles V. Bagli, "Madison Square Garden Is Told to Move," *The New York Times*, July 24, 2013, <https://www.nytimes.com/2013/07/25/nyregion/madison-square-garden-is-told-to-move.html>.

79. Guy Quenneville, "'Let's Have a Referendum': CBC Asks Panellists Call for Public Vote on New Arena," *CBC News*, October 24, 2018, <https://www.cbc.ca/news/canada/saskatoon/arena-saskatoon-referendum-1.4876643>.

80. Canada, City of Calgary, "Official Results of the Vote of the Electors," *Elections Calgary*, Calgary: City of Calgary, 2018, <https://www.calgary.ca/vote2018/Pages/Vote-2018-results.aspx>.

81. Associated Press, "Majority of Calgary Voters Say 'No Thanks' to 2026 Olympics," *AP NEWS*, November 14, 2018, <https://www.apnews.com/cf51ec9f0c5a4e82b64dae89079270f1>.

82. Justin Giovannetti, "Calgary Strikes Deal for New Flames Arena, Agrees to Pay Half," *The Globe and Mail*, July 23, 2019, <https://www.theglobeandmail.com/sports/hockey/article-calgary-strikes-deal-for-new-flames-arena-agrees-to-pay-half/>.

team. Despite that opinion polls showed residents against the idea, the City continued to build the arena with public funds. In 2015, the \$400 million arena opened. The City provided half of the funds and the Province provided the other half.<sup>83</sup> To the dismay of the City, the NHL granted expansion teams to Las Vegas and Seattle. Commissioner Bettman said that Quebec City would not receive a team any time soon.<sup>84</sup>

### Game Theory: To Fund or Not to Fund

A way to understand the interaction between government officials and NHL team owners is through game theory. Game theory is a branch of mathematics which demonstrates interdependent outcomes between rational decision-makers. We assume that rational players understand the rules of a game, strategic actions they can take, and payoffs of those actions.<sup>85</sup>

Table 1 below shows a typical game theory matrix between two players--in this case, city council and NHL owner. The numbers within the matrix cells are the players' potential payoffs. The first number in the cell corresponds with the row player, city council. The second number in the cell corresponds with the column player, NHL team owner. As rational actors, both players want to receive as high of a payoff as possible or lose as little as possible. Players can see the entire table and understand the decisions that the other player is likely to make. This foresight is called having "perfect information".

---

83. Paul Munsey and Cory Suppes, *Ballparks.com*, Accessed July 1, 2019, <http://hockey.ballparks.com/NHL/misc/pastindex.html>; "Majority Oppose Use of Public Funds in Arenas or Stadiums: Poll," *The Star*, February 03, 2011, [https://www.thestar.com/sports/hockey/2011/02/03/majority\\_oppose\\_use\\_of\\_public\\_funds\\_in\\_arenas\\_or\\_stadiums\\_poll.html](https://www.thestar.com/sports/hockey/2011/02/03/majority_oppose_use_of_public_funds_in_arenas_or_stadiums_poll.html).

84. Dan Rosen, "Las Vegas Awarded NHL Franchise," *NHL.com*, June 22, 2016, <https://www.nhl.com/news/nhl-expands-to-las-vegas/c-281010682>.

85. Thomas Flanagan, *Game Theory and Canadian Politics*, Toronto: University of Toronto Press, 1998, <http://www.jstor.org/stable/10.3138/j.ctt2ttjxs>;



**Table 1: Chicken Game as a Model of Public Subsidization**

|              |                          | NHL OWNER    |                |
|--------------|--------------------------|--------------|----------------|
|              |                          | Stay in City | Leave the City |
| CITY COUNCIL | Provides Subsidy         | 2, 2         | <b>1, 3</b>    |
|              | Does Not Provide Subsidy | <b>3, 1</b>  | 0, 0           |

Source: Own table based on information from Thomas Flanagan, *Game Theory and Canadian Politics*, Toronto: University of Toronto Press, 1998, <http://www.jstor.org/stable/10.3138/j.ctt2ttjxs>.

In the Table 1 game, there are two unequal Nash equilibria: (3, 1) and (1, 3). The outcomes convey that if the city council provides a subsidy, the NHL team will leave the city. Conversely, if the city council does not provide a subsidy, the team will stay in the city. The city council and NHL owner do not cooperate, and neither benefits from a unilateral move away from one of these points.<sup>86</sup> In reality, the NHL owner’s decision is complex because it needs approval from the entire league to move the team out of the city. As we will see later in this paper, some teams pose credible relocation threats. However, relocation is generally not common today. The NHL must approve any team relocations and Commissioner Bettman prefers to keep teams in their original cities. Nonetheless, the city council and NHL owners can go back-and-forth in a game of chicken, trying to see who will compromise first. The more credible the player’s threat, the more likely the other player could be to compromise.<sup>87</sup>

Traditionally, cities who can provide the most funds for an arena receive the franchise team.<sup>88</sup> NHL owners capitalize on the framework that rent seeking is a transfer from consumers to their industry. They argue that total surplus—and thus welfare—is not reduced.<sup>89</sup> Owners

---

86. Ibid, 71

87. Ibid, 133.

88. Scott A. Jensen, Financing Professional Sports Facilities with Federal Tax Subsidies: Is it Sound Tax Policy? Marquette Sports Law Review, 10, no. 2 (2000): 425-60. <https://scholarship.law.marquette.edu/sportslaw/vol10/iss2/15/>; Dennis Coates and Brad R. Humphreys, "Proximity Benefits and Voting on Stadium and Arena Subsidies," *Journal of Urban Economics* 59, no. 2 (2006): 285-99, doi:10.1016/j.jue.2005.10.001.

89. Gordon Tullock, Gordon L. Brady, Arthur Seldon, 2005 *Government Failure: A Primer in Public Choice*. Washington, DC: Cato Institute.

demand public subsidies to pay upfront sunk costs and offset low returns.<sup>90</sup> In rent seeking, public welfare may not increase if team owners benefit by more than the costs to cities.<sup>91</sup>

## Literature Review

There has been some research done on stadium and arena construction costs. Most of this research focuses on economic impact and indirect effects of sports teams. Economic impact research can be useful if a city is deciding whether to invest in any sports teams. This project is for cities that do commit to invest in sports teams. I discuss how cities can provide an appropriate funding package.

Existing literature only features samples of sports arenas. I decided to evaluate every NHL team to see if trends exist across the league based on city population sizes, team performance, or arena location. To do this, I researched each team and identified how it, or its city, funded its arena. I differentiate between NHL teams in the United States and NHL teams in Canada. Canada and the United States are similar in many ways. However, public financing standards, hockey market size, and currency values are different. In addition, most of the teams reside in the United States.

## NHL USA Teams

As of 2019, the United States has 24 NHL arenas. Government entities own 15 of the arenas and private sports management companies own the remaining 9 arenas. Half of the arenas had at least 50 percent of their total capital costs paid for with public money (Table 2).

---

90. David Schein, James Phillips and Caroline Rider, “American Cities Held Hostage: Public Stadiums and Pro Sports Franchises,” *Richmond Public Interest Law Review* 20, no. 1 (2017): 64-110.

91. Gordon Tullock, Gordon L. Brady, and Arthur Seldon, 2005, *Government Failure: A Primer in Public Choice*, Washington, DC: Cato Institute.

**Table 2: Arenas Constructed with 50 Percent or More of Public Funds**

| Team                | Year<br>Arena<br>Opened | Arena<br>Owner | Public<br>Contribution | Public<br>Nominal<br>Cost<br>(million) | Nominal<br>Total Cost<br>(million) | Public<br>Real Cost<br>2019<br>(million) | Real Cost<br>2019<br>(million) |
|---------------------|-------------------------|----------------|------------------------|--|------------------------------------|--|--------------------------------|
| Buffalo Sabres      | 1996                    | Public         | 49.5%                  | \$63.1                                 | \$127.5                            | \$102.7                                  | \$207.6                        |
| Nashville Predators | 1996                    | Public         | 56.0%                  | \$210.0                                | \$375.0                            | \$258.7                                  | \$462.0                        |
| Tampa Bay Lightning | 1996                    | Public         | 61.9%                  | \$86.0                                 | \$139.0                            | \$140.1                                  | \$226.4                        |
| Florida Panthers    | 1998                    | Public         | 76.5%                  | \$130.0                                | \$170.0                            | \$192.9                                  | \$252.3                        |
| Arizona Coyotes     | 2003                    | Public         | 77.1%                  | \$771.3                                | \$1,000.0                          | \$848.4                                  | \$1,100.0                      |
| Carolina Hurricanes | 1999                    | Public         | 81.5%                  | \$132.5                                | \$162.5                            | \$234.3                                  | \$287.4                        |
| Pittsburgh Penguins | 2010                    | Public         | 87.1%                  | \$184.7                                | \$212.0                            | \$289.6                                  | \$332.4                        |
| New York Islanders  | 2012                    | Private        | 87.3%                  | \$138.0                                | \$158.0                            | \$208.7                                  | \$239.0                        |
| Anaheim Ducks       | 1993                    | Public         | 95.2%                  | \$305.5                                | \$321.0                            | \$357.8                                  | \$376.0                        |
| New Jersey Devils   | 2007                    | Public         | 100%                   | \$123.0                                | \$123.0                            | \$217.5                                  | \$217.5                        |
| Minnesota Wild      | 2000                    | Public         | 100%                   | \$144.0                                | \$144.0                            | \$234.5                                  | \$234.5                        |
| San Jose Sharks     | 1993                    | Public         | 100%                   | \$180.0                                | \$180.0                            | \$250.0                                  | \$250.0                        |
| <b>Median:</b>      |                         |                | <b>84.3%</b>           | <b>\$141.0</b>                         | <b>\$166.3</b>                     | <b>\$234.4</b>                           | <b>\$251.2</b>                 |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, and NHL official team websites. Nominal Total Costs estimated using *US Inflation Calculator*.

The median amount of public funding for these 12 arenas was 84 percent of capital costs, or approximately \$234 million (2019 dollars). The New York Islanders’ Barclays Center arena is an outlier, with a total cost of \$1.1 billion (2019 dollars) and public contribution of \$849 million (2019 dollars). In addition, all arenas, except the New York Islanders’ Barclays Center, are government-owned (Table 2). The Barclays Center received a large public contribution because the arena was one component of a \$4 billion redevelopment project in Brooklyn. Furthermore, the federal government provided \$249 million towards the project to support the EB-5 program. The EB-5 program encourages foreign investment in United States development projects through providing work visas or green cards in exchange for a \$1 million contribution.<sup>92</sup> The federal government approved construction funding before the 2008 IRS Regulation banned payments in

92. The Immigration Act of 1990 established the EB-5 program. Irwin P. Rajj and Alexander Chester, 2017, “Public Development for Professional Sports Stadiums,” *Oxford Handbooks Online*, <https://doi.org/10.1093/oxfordhb/9780190465957.013.34>; Stephen Sewalk et al., "Financing Construction Projects Using the EB-5 Program," *Proceedings of 49th ASC Annual International Conference*, California Polytechnic State University, San Luis Obispo (Associated Schools of Construction, 2013).

\*. Seattle is the newest NHL franchise that will begin play in 2021. The team currently does not have a name. The Seattle owners, Oak View Group (OVG), and the City of Seattle have agreed to renovate KeyArena.

lieu of taxes. Therefore, Barclays Center owners received tax-exempt bonds and make PILOTs to pay off construction debt.

The remaining 12 arenas had public contribution of less than half of the arena’s capital cost. While the public contribution for these arenas is lower, at a median of 17.9 percent, the total real cost of capital for these arenas is greater. Except for the publicly owned Columbus Blue Jackets arena, privately-owned arenas had the lowest amount of public funding towards capital (Table 3). As mentioned previously, the Blue Jackets’ arena was privately funded as a result of the failed public referendum.

**Table 3: Arenas Constructed with Less Than 50 Percent of Public Funds**

| Team                         | Arena Opened | Arena Owner | Public Contribution to Capital | Public Nominal Cost of Capital (million) | Nominal Total Cost of Capital (million) | Public Real Cost of Capital 2019 (million) | Real Cost of Capital 2019 (million) |
|------------------------------|--------------|-------------|--------------------------------|--|---|--|-------------------------------------|
| <b>Columbus Blue Jackets</b> | 2000         | Public      | 0.0%                           | \$0.0                                    | \$150.0                                 | \$0.0                                      | \$219.0                             |
| <b>New York Rangers</b>      | 1968         | Private     | 0.0%                           | \$0.0                                    | \$43.0                                  | \$0.0                                      | \$311.0                             |
| <b>Chicago Blackhawks</b>    | 1994         | Private     | 0.0%                           | \$0.0                                    | \$175.0                                 | \$0.0                                      | \$258.7                             |
| <b>Vegas Golden Knights</b>  | 2016         | Private     | 0.0%                           | \$0.0                                    | \$375.0                                 | \$0.0                                      | \$399.3                             |
| <b>Boston Bruins</b>         | 1995         | Private     | 10.0%                          | \$16.0                                   | \$160.0                                 | \$26.8                                     | \$268.0                             |
| <b>Philadelphia Flyers</b>   | 1996         | Private     | 16.9%                          | \$35.5                                   | \$210.0                                 | \$57.8                                     | \$342.0                             |
| <b>Los Angeles Kings</b>     | 1999         | Private     | 18.8%                          | \$70.5                                   | \$375.0                                 | \$108.1                                    | \$575.2                             |
| <b>Colorado Avalanche</b>    | 1999         | Private     | 22.8%                          | \$41.0                                   | \$180.0                                 | \$61.5                                     | \$270.0                             |
| <b>Washington Capitals</b>   | 1997         | Private     | 23.1%                          | \$60.0                                   | \$260.0                                 | \$95.5                                     | \$414.0                             |
| <b>Dallas Stars</b>          | 2001         | Public      | 29.8%                          | \$125.0                                  | \$420.0                                 | \$180.4                                    | \$606.0                             |
| <b>St. Louis Blues</b>       | 1994         | Public      | 36.7%                          | \$62.4                                   | \$170.0                                 | \$107.5                                    | \$293.0                             |
| <b>Detroit Red Wings</b>     | 2017         | Public      | 46.4%                          | \$400.1                                  | \$862.9                                 | \$410.8                                    | \$886.0                             |
| <b>Median:</b>               |              |             | <b>17.9%</b>                   | <b>\$38.3</b>                            | <b>\$195.0</b>                          | <b>\$59.7</b>                              | <b>\$326.5</b>                      |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, *Hockey.ballparks.com*, and NHL official team websites. Nominal Total Costs estimated using *US Inflation Calculator*.

### Public Contribution by Direct and Indirect Funding Types

It is valuable to assess public contribution in terms of the type of funding used. Some contribution may come in the form of new taxes, imposing a burden on certain parts of the population. Other contributions may not require taxes at all. All arenas had at least one type of direct or indirect public support. 21 arenas had direct public support for costs. The most popular

forms of direct public support were bonds and government appropriations. The New York Rangers and Vegas Golden Knights are the only teams that did not receive direct support. However, they received indirect support through tax abatement and infrastructure improvements.

As shown in Table 4, many publicly owned arenas received bonds. Bonds make up a large portion of public funding and usually involve tax revenue to pay off the debt. For privately-owned arenas, bonds are common, but the most popular form of support is tax abatement. Neither public nor private arenas received lottery or casino revenues as a form of support. Other tools, such as ticket surcharges, are less common but still make up a considerable amount of public funding. Ticket surcharges helped fund arenas for the Buffalo Sabres, Chicago Blackhawks, Nashville Predators, and New Jersey Devils. For the Sabres, Erie County added a \$4.50 facility fee onto all event tickets to back its \$20.4 million arena bonds.<sup>93</sup> Similarly, for the Devils, the City of Newark added a 1.37% surcharge to tickets for tenant events and a \$1.25 facility fee for non-tenant events.<sup>94</sup> Nashville Predators had a \$2 surcharge on its tickets that increased to \$3 in July 2019.<sup>95</sup> Finally, Chicago has the highest percentage surcharge, at 9 percent on ticket prices.<sup>96</sup> As we will see later, ticket surcharges are more common in Canada.

Like ticket surcharges, sales and tourism taxes fund some arenas' capital costs. Most of the teams that benefit from sales and tourism taxes use publicly owned arenas. The amount of funding from sales and tourism taxes ranges from as little as \$10 million to as much as \$150

---

93 "Blake Shelton Coming to KeyBank Center," *WGRZ*, October 31, 2018, <https://www.wgrz.com/article/entertainment/blake-shelton-coming-to-keybank-center/71-609749548>.

94. Jared Kofsky, "NJ Devils Partner with City Hall to Renovate Newark Ice Rink," *Jersey Digs*, July 2, 2018, <https://jerseydigs.com/nj-devils-city-hall-renovate-ice-rink-ironbound-newark/>.

95. Nate Rau, "New Predators Lease Deal a 'great Moment for the City,' Briley Says," *The Tennessean*, May 16, 2019, <https://www.tennessean.com/story/money/2019/05/16/nashville-predators-lease-agreement-bridgestone-arena-david-briley/3679035002/>.

96. Danny Ecker, "Shedding More Light on the United Center Tax Break," *Crain's Chicago Business*, January 7, 2013, <https://www.chicagobusiness.com/article/20130107/BLOGS04/130109869/report-details-united-center-s-tax-savings-during-last-decade>.

million. Implementing a sales tax depends on the likelihood of passing a tax. Implementing a tourism tax depends on the strength of the tourism industry. If the tourism industry is weak, revenue will be on the lower end of the spectrum. For example, the City of Dallas' 5 percent car rental tax and 2 percent hotel tax provided a whopping \$125 million to the arena.<sup>97</sup> On the lower end, the Florida Panthers received \$10 million from a 2 percent county hotel bed tax and state sales tax rebate.<sup>98</sup>

Another direct financing tool with wide variation is TIF or property taxes. The smallest amount of TIF went towards the Los Angeles Kings' arena, at \$12 million. Like other taxes, TIF or property taxes can back government bonds. For example, the City of Detroit's Downtown Development Authority provided \$284.75 million in tax-exempt bonds backed by property taxes.<sup>99</sup> Apart from TIF or property taxes, a government may also provide land for the arena at a discount to the team. The true value of government asset sales is difficult to assess with only the purchase price. For example, the City of Columbus sold 23 acres of land to the arena investors for \$11 million. While records do not state a true market value, an adjacent, privately-owned six acres sold for \$11.7 million.<sup>100</sup> Therefore, we may assume that the government sold land for the arena at a discount. Finally, instead of selling assets, sometimes a government may provide direct appropriations. Direct appropriations involve the government granting money directly to arena or team owners. In most cases, governments grant money to the teams to cover their operating losses at the arena. For example, in Anaheim, the City provided \$1.5 million for the

---

97. "The Texas Politics Project," *Texas Politics - Contesting the Political Arena*, accessed May 19, 2019, [https://texaspolitics.utexas.edu/archive/html/ig/features/0402\\_01/slide4b.html](https://texaspolitics.utexas.edu/archive/html/ig/features/0402_01/slide4b.html).

98. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>

99 . Urban Land Institute, *Development Case Studies: Arena District in Columbus, Ohio*, Report, Accessed May 20, 2019, <https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.

100. Urban Land Institute, *Development Case Studies: Arena District in Columbus, Ohio*, Report, Accessed May 20, 2019, <https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.

four years that the team arena had revenue deficits.<sup>101</sup> Likewise, in Nashville, the City paid \$3.5 million every year until 2019 to cover the team’s operating losses.<sup>102</sup> Appendix E contains all examples of direct funding.

**Table 4: Direct Financing for Public vs. Private Arena Ownership**

| Team                  | Arena Opened | Owner   | Bond | TIF & Property Tax | Sales / Tourism Tax | Sale of Assets | Government Appropriation | Ticket / Parking Surcharge / Tax | Lottery & Casino Revenue |
|-----------------------|--------------|---------|------|--------------------|---------------------|----------------|--------------------------|----------------------------------|--------------------------|
| Anaheim Ducks         | 1993         | Public  | Yes  |                    |                     |                | Yes                      |                                  |                          |
| Arizona Coyotes       | 2003         | Public  | Yes  |                    | Yes                 |                |                          |                                  |                          |
| Buffalo Sabres        | 1996         | Public  | Yes  |                    |                     | Yes            |                          | Yes                              |                          |
| Carolina Hurricanes   | 1999         | Public  | Yes  |                    | Yes                 |                | Yes                      |                                  |                          |
| Columbus Blue Jackets | 2000         | Public  | Yes  | Yes                |                     | Yes            |                          |                                  |                          |
| Dallas Stars          | 2001         | Public  |      |                    | Yes                 |                |                          |                                  |                          |
| Detroit Red Wings     | 2017         | Public  | Yes  | Yes                |                     |                |                          |                                  |                          |
| Florida Panthers      | 1998         | Public  | Yes  |                    | Yes                 |                |                          |                                  |                          |
| Minnesota Wild        | 2000         | Public  | Yes  |                    |                     |                |                          |                                  |                          |
| Nashville Predators   | 1996         | Public  | Yes  |                    |                     |                | Yes                      | Yes                              |                          |
| New Jersey Devils     | 2007         | Public  |      |                    |                     |                | Yes                      | Yes                              |                          |
| Pittsburgh Penguins   | 2010         | Public  | Yes  |                    |                     |                | Yes                      |                                  |                          |
| San Jose Sharks       | 1993         | Public  | Yes  |                    | Yes                 |                |                          |                                  |                          |
| St. Louis Blues       | 1994         | Public  | Yes  |                    |                     |                | Yes                      |                                  |                          |
| Tampa Bay Lightning   | 1996         | Public  | Yes  |                    | Yes                 |                | Yes                      |                                  |                          |
| Boston Bruins         | 1995         | Private | Yes  |                    |                     | Yes            |                          |                                  |                          |
| Chicago Blackhawks    | 1994         | Private |      |                    |                     |                |                          | Yes                              |                          |
| Colorado Avalanche    | 1999         | Private |      | Yes                |                     |                |                          |                                  |                          |
| Los Angeles Kings     | 1999         | Private | Yes  | Yes                |                     |                |                          |                                  |                          |
| New York Islanders    | 1972         | Private | Yes  |                    |                     |                | Yes                      |                                  |                          |
| New York Rangers      | 1968         | Private |      |                    |                     |                |                          |                                  |                          |
| Philadelphia Flyers   | 1996         | Private |      |                    |                     |                | Yes                      |                                  |                          |
| Vegas Golden Knights  | 2016         | Private |      |                    |                     |                |                          |                                  |                          |
| Washington Capitals   | 1997         | Private | Yes  | Yes                | Yes                 |                |                          |                                  |                          |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, and NHL official team websites. Nominal Total Costs estimated using *US Inflation Calculator*.

The four indirect financing tools are land donations, infrastructure improvements, tax abatement, and PILOTs. Two-thirds of teams received infrastructure improvements for their arenas or the surrounding area. More publicly owned arenas received infrastructure improvements than did the privately-owned arenas. However, more of the privately-owned arenas received city tax abatement (Table 5).

101. United States, City of Anaheim, Department of Finance, *Comprehensive Annual Financial Report*, By William G. Sweeney, June 30, 2002.

102. Nate Rau, "New Predators Lease Deal a 'great Moment for the City,' Briley Says," *The Tennessean*, May 16, 2019, <https://www.tennessean.com/story/money/2019/05/16/nashville-predators-lease-agreement-bridgestone-arena-david-briley/3679035002/>.

Infrastructure improvements refer to arena renovations or development to the surrounding area. Like sales and tourism taxes, the value of infrastructure improvements varies among teams. For example, Hillsborough County provided the Tampa Bay Lightning a total of \$73.5 million for arena renovations and upgrades.<sup>103</sup> In comparison, the City of Denver provided only \$4.5 million in improving the arena.<sup>104</sup> In addition to variation in value, the type of improvement varies among teams. For example, since 2007, the City of Newark has spent over \$10.8 million on police protection for the New Jersey Devils' arena.<sup>105</sup> In comparison, the City of New York's rerouted public transportation around the Rangers' arena. Some governments provide a one-time improvement while others provide annual assistance.

Like infrastructure improvements, tax abatement also varies in value and structure. Most governments grant the team complete property tax abatement. Depending on assessed property value, tax abatement can save a team approximately \$2 million to \$20 million per year. In New York City, a city with relatively high property values, the Islanders and Rangers saved over \$12 million per year. Between 2004 and 2018, the New York Islanders' property tax exemption was worth \$266.6 million.<sup>106</sup> As documented by New York City Council, Madison Square Garden's tax abatement saved the Rangers \$350 million between 1982 and 2012.<sup>107</sup> Instead of complete tax abatement, other governments may grant a capped property tax exemption. In a capped

---

103. Bethany Tyne, "Hillsborough Commissioners Approve \$61 Million for Amalie Arena," *WUSF News*, February 23, 2018, <https://wusfnews.wusf.usf.edu/post/hillsborough-commissioners-approve-61-million-amalie-arena-0>; Steve Contorno, "Hold on to Your Bolts: Lightning in Talks to Stay in Tampa through 2037," *Tampa Bay Times*, December 5, 2017, [http://www.tampabay.com/news/business/tourism/Hold-on-to-your-Bolts-Lightning-in-talks-to-stay-in-Tampa-through-2037\\_163300197](http://www.tampabay.com/news/business/tourism/Hold-on-to-your-Bolts-Lightning-in-talks-to-stay-in-Tampa-through-2037_163300197).

104. Deborah Mendez, "Ground-breaking on \$160 Million Pepsi Center May Come in October," *AP NEWS*, August 13, 1997, <https://www.apnews.com/389122ff7cf6b92abd031790b056ff29>.

105. Star-Led Staff, "Newark Paid out \$10.8M for Police at Prudential Center," *Nj.com*, April 11, 2012, [https://www.nj.com/news/2012/04/newark\\_paid\\_out\\_108\\_million\\_fo.html](https://www.nj.com/news/2012/04/newark_paid_out_108_million_fo.html).

106. Charles V. Bagli, "So Many Seats, So Many Tax Breaks," *The New York Times*, July 11, 2018, <https://www.nytimes.com/2018/07/11/nyregion/stadiums-arenas-funding-nyc.html>.

107. United States, New York City, City Planning Commission, *In the Matter of an Application Submitted by MSG Holdings, L.P. Pursuant to Sections 197-c and 201 of the New York City Charter*, May 22, 2013, <https://www1.nyc.gov/assets/planning/download/pdf/about/cpc/130139.pdf>.



property tax exemption, the assessed property value remains constant. An example of a capped property tax exemption is for the Chicago Blackhawks. From 1989 to 2016, Cook County assessed the arena at 18 percent less than the fair market value. This cap saved the team up to \$121.7 million.<sup>108</sup> The Blackhawks' tax exemption expired in 2016; however, the team is trying to renew its exemption. Finally, some governments may grant property tax abatement, but still require annual arena rent. For example, the Minnesota Wild owner, Saint Paul Arena Company, pays between \$2.5 million and \$6 million per year instead of property taxes.<sup>109</sup>

As was the case with the sale of government assets, land donations are difficult to assess. Some governments provide the land to the team at no cost. The true value of the land is unknown unless we know the market value of the land and the value of the opportunity cost.

**Table 5: Indirect Financing for Public vs. Private Arena Ownership**

| Team                  | Arena Opened | Arena Owner | Land Donation | Infrastructure Improvement | Tax Abatement | PILOTs |
|-----------------------|--------------|-------------|---------------|----------------------------|---------------|--------|
| Anaheim Ducks         | 1993         | Public      |               | Yes                        |               |        |
| Arizona Coyotes       | 2003         | Public      |               | Yes                        |               |        |
| Buffalo Sabres        | 1996         | Public      |               | Yes                        |               |        |
| Carolina Hurricanes   | 1999         | Public      |               |                            |               |        |
| Columbus Blue Jackets | 2000         | Public      |               | Yes                        | Yes           |        |
| Dallas Stars          | 2001         | Public      | Yes           | Yes                        |               |        |
| Detroit Red Wings     | 2017         | Public      | Yes           | Yes                        | Yes           |        |
| Florida Panthers      | 1998         | Public      |               |                            |               |        |
| Minnesota Wild        | 2000         | Public      |               |                            | Yes           | Yes    |
| Nashville Predators   | 1996         | Public      |               | Yes                        |               |        |
| New Jersey Devils     | 2007         | Public      |               | Yes                        |               |        |
| Pittsburgh Penguins   | 2010         | Public      | Yes           | Yes                        |               |        |
| San Jose Sharks       | 1993         | Public      |               |                            | Yes           |        |
| St. Louis Blues       | 1994         | Public      | Yes           | Yes                        | Yes           |        |
| Tampa Bay Lightning   | 1996         | Public      |               | Yes                        |               |        |
| Boston Bruins         | 1995         | Private     |               |                            |               |        |
| Chicago Blackhawks    | 1994         | Private     |               | Yes                        | Yes           |        |
| Colorado Avalanche    | 1999         | Private     |               | Yes                        | Yes           |        |
| Los Angeles Kings     | 1999         | Private     |               |                            |               |        |
| New York Islanders    | 1972         | Private     |               |                            | Yes           | Yes    |
| New York Rangers      | 1968         | Private     |               | Yes                        | Yes           |        |
| Philadelphia Flyers   | 1996         | Private     |               | Yes                        |               |        |
| Vegas Golden Knights  | 2016         | Private     |               |                            | Yes           |        |
| Washington Capitals   | 1997         | Private     |               | Yes                        | Yes           |        |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

108. Sean Dinces, "Nothing but Net Profit," *Radical History Review*, no. 125 (May 2016), doi 10.1215/01636545-3451712.

109. "Minnesota Issues Resource Guides Professional Hockey in Minnesota," *NHL Hockey in Minnesota - Minnesota Issues Resources Guides*, June 2018, <https://www.leg.state.mn.us/lrl/guides/guides?issue=hockey>.

In the next section, I focus on the reasoning behind various supports. I organized public supports into categories based on why the team or city constructed the arena to see if purpose affected the type of supports.

### Public Contribution by Purpose of Arena Construction

All 24 arenas fall into three broad categories regarding the purpose of arena construction. First, 11 of the arenas are the team’s original playing facility. I included teams in this category if their current arena opened within their first few years of joining the league. Second, eight arenas exist due to a team’s threat of relocation. This category includes teams that relocated and teams that only threatened to relocate. Finally, five arenas exist because they replaced facilities that were too old and outdated for continued use.

**Table 6: Direct Financing by Arena Purpose**

| Team                  | Purpose                        | Bond | TIF & Property Tax | Sales / Tourism Tax | Sale of Assets | Government Appropriation | Ticket / Parking Surcharge / Tax | Lottery & Casino Revenue |
|-----------------------|--------------------------------|------|--------------------|---------------------|----------------|--------------------------|----------------------------------|--------------------------|
| New York Rangers      | Old Arena                      |      |                    |                     |                |                          |                                  |                          |
| Chicago Blackhawks    | Old Arena                      |      |                    |                     |                |                          | Yes                              |                          |
| St. Louis Blues       | Old Arena                      | Yes  |                    |                     |                | Yes                      |                                  |                          |
| Buffalo Sabres        | Old Arena                      | Yes  |                    |                     | Yes            |                          | Yes                              |                          |
| Detroit Red Wings     | Old Arena                      | Yes  | Yes                |                     |                |                          |                                  |                          |
| Boston Bruins         | Non-credible Relocation Threat | Yes  |                    |                     | Yes            |                          |                                  |                          |
| Philadelphia Flyers   | Non-credible Relocation Threat |      |                    |                     |                | Yes                      |                                  |                          |
| Arizona Coyotes       | Relocation Threat              | Yes  |                    | Yes                 |                |                          |                                  |                          |
| New Jersey Devils     | Relocation Threat              |      |                    |                     |                | Yes                      | Yes                              |                          |
| Pittsburgh Penguins   | Relocation Threat              | Yes  |                    |                     |                | Yes                      |                                  |                          |
| New York Islanders    | Suburb Relocation              | Yes  |                    |                     |                | Yes                      |                                  |                          |
| Washington Capitals   | Suburb Relocation              | Yes  | Yes                | Yes                 |                |                          |                                  |                          |
| Los Angeles Kings     | Suburb Relocation              | Yes  | Yes                |                     |                |                          |                                  |                          |
| Anaheim Ducks         | Original Arena                 | Yes  |                    |                     |                | Yes                      |                                  |                          |
| San Jose Sharks       | Original Arena                 | Yes  |                    | Yes                 |                |                          |                                  |                          |
| Tampa Bay Lightning   | Original Arena                 | Yes  |                    | Yes                 |                | Yes                      |                                  |                          |
| Nashville Predators   | Original Arena                 | Yes  |                    |                     |                | Yes                      | Yes                              |                          |
| Florida Panthers      | Original Arena                 | Yes  |                    | Yes                 |                |                          |                                  |                          |
| Carolina Hurricanes   | Original Arena                 | Yes  |                    | Yes                 |                | Yes                      |                                  |                          |
| Colorado Avalanche    | Original Arena                 |      | Yes                |                     |                |                          |                                  |                          |
| Columbus Blue Jackets | Original Arena                 | Yes  | Yes                |                     | Yes            |                          |                                  |                          |
| Minnesota Wild        | Original Arena                 | Yes  |                    |                     |                |                          |                                  |                          |
| Dallas Stars          | Original Arena                 |      |                    | Yes                 |                |                          |                                  |                          |
| Vegas Golden Knights  | Original Arena                 |      |                    |                     |                |                          |                                  |                          |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

**Table 7: Indirect Financing by Arena Purpose**

| Team                  | Purpose                        | Land Donation | Infrastructure Improvement | Tax Abatement | PILOTs |
|-----------------------|--------------------------------|---------------|----------------------------|---------------|--------|
| New York Rangers      | Old Arena                      |               | Yes                        | Yes           |        |
| Chicago Blackhawks    | Old Arena                      |               | Yes                        | Yes           |        |
| St. Louis Blues       | Old Arena                      | Yes           | Yes                        | Yes           |        |
| Buffalo Sabres        | Old Arena                      |               | Yes                        |               |        |
| Detroit Red Wings     | Old Arena                      | Yes           | Yes                        | Yes           |        |
| Boston Bruins         | Non-credible Relocation Threat |               |                            |               |        |
| Philadelphia Flyers   | Non-credible Relocation Threat |               | Yes                        |               |        |
| Arizona Coyotes       | Relocation Threat              |               | Yes                        |               |        |
| New Jersey Devils     | Relocation Threat              |               | Yes                        |               |        |
| Pittsburgh Penguins   | Relocation Threat              | Yes           | Yes                        |               |        |
| New York Islanders    | Suburb Relocation              |               |                            | Yes           | Yes    |
| Washington Capitals   | Suburb Relocation              |               | Yes                        | Yes           |        |
| Los Angeles Kings     | Suburb Relocation              |               |                            |               |        |
| Anaheim Ducks         | Original Arena                 |               | Yes                        |               |        |
| San Jose Sharks       | Original Arena                 |               |                            | Yes           |        |
| Tampa Bay Lightning   | Original Arena                 |               | Yes                        |               |        |
| Nashville Predators   | Original Arena                 |               | Yes                        |               |        |
| Florida Panthers      | Original Arena                 |               |                            |               |        |
| Carolina Hurricanes   | Original Arena                 |               |                            |               |        |
| Colorado Avalanche    | Original Arena                 |               | Yes                        | Yes           |        |
| Columbus Blue Jackets | Original Arena                 |               | Yes                        | Yes           |        |
| Minnesota Wild        | Original Arena                 |               |                            | Yes           | Yes    |
| Dallas Stars          | Original Arena                 | Yes           | Yes                        |               |        |
| Vegas Golden Knights  | Original Arena                 |               |                            | Yes           |        |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

### ***New Team, New Arena***

Government entities own most of the arenas that were the team’s first official playing facility (9 out of 11). The most popular form of public funding provided for these arenas was bonds, with 73 percent of teams receiving this support. No arenas in this category used ticket or parking surcharges or taxes as funding. The nine publicly owned arenas have a median total cost of capital of \$239 million (2019 dollars) and a median public contribution of 82 percent. The two privately-owned arenas have a slightly higher total median cost of capital, at \$335 million (2019 dollars). In addition, the median public contribution is much lower, at 11 percent.

Four cities planned their arenas before acquiring a team. These cities were of the Anaheim Ducks, Nashville Predators, Columbus Blue Jackets, and Vegas Golden Knights. First, in 1990, the City of Anaheim approved construction of a new arena in hopes to attract an NHL

and NBA team. Two years later, the NHL granted an expansion team to the Walt Disney Company that would play in Anaheim. The team debuted upon the arena opening in 1993. To finance construction, the City of Anaheim provided \$103.5 million. The City further provided \$23 million to cover arena enhancements and part of the NHL franchise fee. Public financing continued beyond initial construction, as the City paid off debt obligations.<sup>110</sup>

Similarly, the City of Nashville built an arena in hopes of acquiring an NHL team. Like Anaheim, the City of Nashville helped pay the NHL franchise fee. The City took public funding even further, covering the team's expenses in excess of \$1 million each year.<sup>111</sup> Nashville was adamant about receiving a team, previously offering \$20 million to any team that would relocate to its city in 1995.<sup>112</sup>

In 1996, Columbus Hockey Limited applied to the NHL to receive an expansion team for Columbus, Ohio. As we saw earlier, the City of Columbus and Franklin County failed to implement a sales tax increase for arena funding. Still, the City still contributed \$36.6 million from the city's tax increment financing (TIF). Further, the City provided \$30 million in bonds and granted the arena a 99-year tax abatement.<sup>113</sup>

---

110. United States, City of Anaheim, Department of Finance, *Comprehensive Annual Financial Report*, By William G. Sweeney, June 30, 2002.

111. United States, City of Nashville, Metropolitan Council Office, *Memorandum To: All Members of the Metropolitan Council, RE: Analysis Report*, By Donald W. Jones, April 15, 2008, <https://www.nashville.gov/portals/0/SiteContent/Council/docs/analysis/080415.pdf>.

112. Aaron N. Wise and Bruce S. Meyer, *International Sports Law and Business*, The Hague: Kluwer Law International, 1997.

113. Urban Land Institute, *Development Case Studies: Arena District in Columbus, Ohio*, Report, Accessed May 20, 2019, <https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.

Most recently, in 2013, AEG and MGM Resorts International formed a joint venture to build an arena to help revitalize a section of Las Vegas.<sup>114</sup> Construction began in 2014, two years before the city of Las Vegas received an NHL expansion team. Vegas is unique because the team owner and arena owner are separate entities. The NHL is the first professional sports league to have a team in Las Vegas, so having an arena was a new step for the city.<sup>115</sup>

### ***Relocation Threats: Go Big or Go Home to another City***

Most of the arenas built as a result of relocation threats are privately-owned (five out of eight). As expected, the privately-owned arenas have a higher total cost of capital and lower public contribution. The median cost of capital for the five private arenas is \$414 million (2019 dollars) and the median public contribution is 19 percent. In contrast, the three publicly owned arenas have a median cost of \$376 million (2019 dollars) and a public contribution of 95 percent. The only three teams to successfully relocate play in these publicly owned arenas. These three teams are the Pittsburgh Penguins, New Jersey Devils, and Arizona Coyotes.

In 2000, the Pittsburgh Penguins began discussing a new arena for their team. Their previous arena was the oldest and third smallest by NHL official capacity. A casino developer offered to privately finance a \$290 million arena for the Penguins. However, the State of Pennsylvania denied the developer the gaming license that he needed. After this deal fell through, the Penguins threatened to leave the city. In March 2007, City and State officials signed a deal with the Penguins to publicly finance the new arena.

---

114. "MGM Resorts International & AEG Enter into Definitive Joint Venture Agreement to Develop New Las Vegas Arena," *MGM Resorts Newsroom*, June 18, 2013, <http://newsroom.mgmresorts.com/mgm-resorts-international-aeg-enter-into-definitive-joint-venture-agreement-to-develop-new-las-vegas-arena.htm>.

115. Dan Rosen, "Las Vegas Awarded NHL Franchise," *NHL.com*, June 22, 2016, <https://www.nhl.com/news/nhl-expands-to-las-vegas/c-281010682>.

Similarly, the City of Glendale financed a new arena for the Arizona Coyotes to prevent the team from relocating to Portland, Oregon.<sup>116</sup> For the team's first eight seasons, the Coyotes played in the America West Arena. The America West Arena was in downtown Phoenix and home to the city's National Basketball Association, American Football League, and Women's National Basketball Association teams. The America West Arena was not constructed to host an NHL team.<sup>117</sup> The team owner at the time, Steve Ellman, made a deal with the City of Glendale. The City agreed to finance a new arena if Ellman agreed to develop the 223 acres surrounding the arena.<sup>118</sup>

Another team that considered relocating was the New Jersey Devils. In 1995, the City of Nashville offered the Devils a relocation bonus if the team moved to its city. Another offer arose for the Devils in 1999 when the City of Hoboken proposed a new arena for the team as part of an entertainment district. To prevent relocation, a private investment group promised to fund a new arena in the team's current city of Newark. For this reason, the New Jersey Devils had the lowest public funding of the three credible relocation threats.

Two other teams also had arenas built to prevent them from relocating. However, the threat of relocation was not as credible as it was in Pittsburgh, Glendale, and Newark. These teams were the Philadelphia Flyers and Boston Bruins.

---

116. Matt Paulson, "Ellman Stopped Coyotes' Migration," *East Valley Tribune*, October 07, 2011, [http://www.eastvalleytribune.com/sports/ellman-stopped-coyotes-migration/article\\_a61e2bee-48ad-5c42-80cf-6f00334c68c2.html](http://www.eastvalleytribune.com/sports/ellman-stopped-coyotes-migration/article_a61e2bee-48ad-5c42-80cf-6f00334c68c2.html).

117. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>.

118. Darren Rovell, "Coyotes' Strike a Real Deal," *ESPN*, December 23, 2003, <https://www.espn.com/nhl/news/story?id=1693100>.

Regarding the Flyers, between 1980 and 1990, the State of New Jersey tried to get the Flyers to move. The State offered to build the team a \$100 million arena that would be 67 to 80 percent publicly funded. However, the team owner was set on remaining in Philadelphia. Thus, public contribution for the Flyers' new arena in Philadelphia was only 17 percent.

In Boston, the Bruins discussed moving to Salem, New Hampshire for a \$50 million sports complex. The New Hampshire General Court shut down the team's arena plan, so the only alternative was to remain in Boston. The State of Massachusetts did worry that the team could leave the city; so, it formed a committee to plan a new arena in Boston. Like the Flyers, the relocation threat was not credible. The final public contribution to the Bruins' arena was only 10 percent of the total capital cost.

Despite that teams use relocation threats to leverage a city's public funding, the threat of moving in 2019 is not credible. Relocation requires approval from the NHL Board of Governors and a new city willing to take on the team. Later, I will discuss the nine teams that are no longer in the league. All these teams relocated out of their city due to extraneous factors, such as a small population size or poor team management. Unless there are extreme circumstances, the NHL Board of Governors is against team relocation.<sup>119</sup>

### *Out with the Old, In with the New*

Acquiring a new franchise team can create new jobs in a city. However, if the arena is a replacement facility, then resources and jobs transfer from the old arena to the new arena.<sup>120</sup> The

---

119. Pierre LeBrun, "Gary Bettman Refutes Relocation Reports," *ESPN*, May 13, 2011, <https://www.espn.com/nhl/news/story?id=6536272>.

120. Scott A. Jensen, 2000, "Financing Professional Sports Facilities," 442.

five team arenas that replaced outdated facilities are for the New York Rangers, Chicago Blackhawks, St. Louis Blues, Buffalo Sabres, and Detroit Red Wings.

Two of the oldest United States teams are the Blackhawks and Red Wings. They occupied their previous facilities for an average of 71.5 years before receiving their new arenas. The Blackhawks' old arena was so outdated that the ice surface was shorter than NHL regulation. In addition, the old facility lacked modern suites.<sup>121</sup> Similarly, the Red Wings' old arena was unsuitable by luxury seat standards and by safety standards. The facility lacked club seats and had only two main entrances or exits. The Rangers are also one of the oldest franchises but had their most recent arena built 26 years after they joined the league. The Rangers occupied this arena now for 77 years.

The Blues and Sabres, who joined the league in 1967 and 1970, respectively, occupied their previous arenas for an average of 26.5 years. Despite being newer teams, the Sabres and the Blues initially played in arenas built several decades prior to the teams' existence. The Sabres' old arena, built in 1939, lacked air conditioning and a compliant ice surface.<sup>122</sup> Similarly, the Blues' old arena, built in 1929, lacked adequate plumbing and had cracks along the ice floor.<sup>123</sup> These teams show that some arena replacements are unavoidable.

### Public Funding: All or Nothing

Four teams report direct public contribution of 95 to 100 percent of arena cost of capital. These teams are the Anaheim Ducks, Nashville Predators, Arizona Coyotes, and Pittsburgh

---

121. John Kass, "Chicago Stadium Replacement Urged," *Chicago Tribune*, September 13, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-09-13-8801290946-story.html>.

122. Buffalo Sabres Staff Writer, "Saying Goodbye to the Aud," *NHL.com*, September 05, 2008, <https://www.nhl.com/sabres/news/saying-goodbye-to-the-aud/c-438116>.

123. R.B. Fallstrom, "Following a Checkered Past, The Arena to Close," *Associated Press News*, May 07, 1994, <https://www.apnews.com/0cd6a98080c04384c433a973e6e21389>.



Penguins. As previously mentioned, the Ducks' and the Predators' arenas resulted from desire to receive an NHL team. Both teams received bonds, government appropriation, and infrastructure improvements. The Coyotes and the Penguins arenas resulted from credible relocation threats. Both received bonds and infrastructure improvements. The Coyotes also received tax abatement while the Penguins also received government appropriation and land donation.

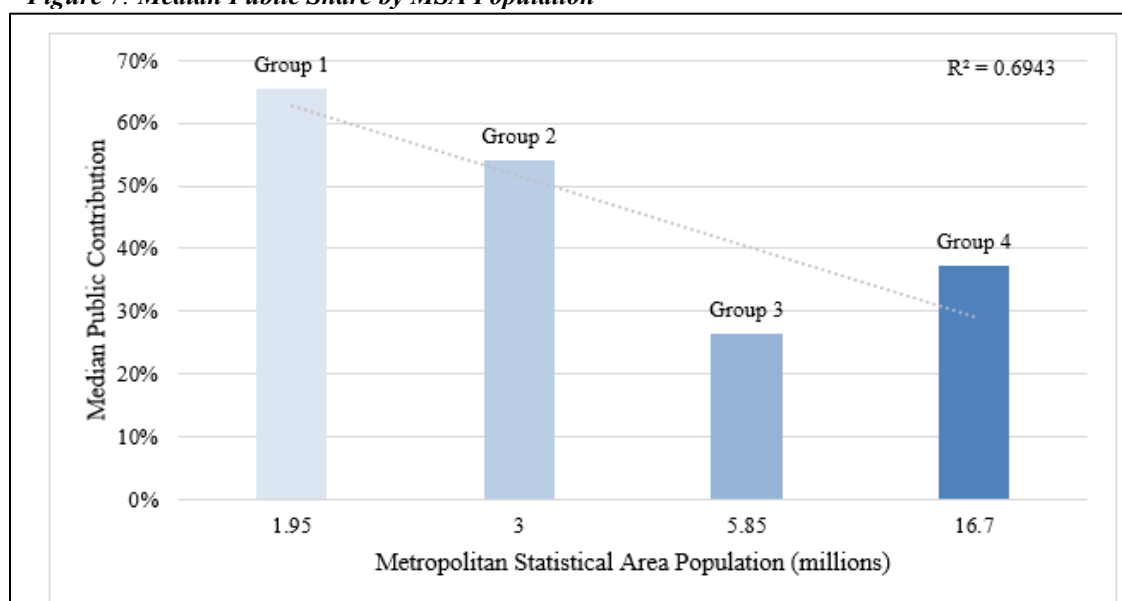
Four team arenas appear to be completely privately financed. These teams are the Chicago Blackhawks, Columbus Blue Jackets, New York Rangers, and Vegas Golden Knights. Upon further research, we see that no team is completely void of public financing. All four of these teams received property tax abatement from their cities. The cities of the Blackhawks, Blue Jackets, and Rangers also funded infrastructure improvements. The Blue Jackets arena had the most public funding types, also receiving bonds, TIF, and government assets.

#### Public Funding by Metro Population Size

Aside from arena purpose, I assumed that the metropolitan statistical area (MSA) population size would correspond with public funding. Specifically, I anticipated that population sizes would negatively correlate with public contribution percentages. My assumption is that smaller cities must contribute a higher portion of capital costs due to a lack of private investment. Consistent with Figure 6, as MSA population increases, public contribution towards capital decreases. To analyze public contribution by MSA, I divided the teams into four groups based on their population sizes. Then, I compared the median of each group's MSA population size and public contribution. Cities with MSA population sizes less than the average typically own the team arenas. Most of the privately-owned arenas are within cities that have an MSA population greater than the average (Table 8). To corroborate this data, I compared Nielsen rankings for designated market areas to the cities' public contribution. Nielsen ranks designated

market areas based on the percentage of households with television. As shown in Figure 7, as Nielsen ranking increases, public contribution tends to increase.<sup>124</sup> This data suggests that population market size is negatively correlated with public contribution. Private contribution is higher in larger markets. Revenues from arena luxury offerings, sponsorships, and events justify the investment.<sup>125</sup>

**Figure 7: Median Public Share by MSA Population**



Source: Own calculations using data from United States Census Bureau, *National Sports Law Institute of Marquette University Law School* and *Hockey.ballparks.com*. See Table 8 for data.

**Table 8: United States Teams Organized by MSA Population Size**

|         | Metro Area Population (millions) | Team                  | Median Household Income | Industry | Public Contribution to Capital |
|---------|----------------------------------|-----------------------|-------------------------|----------|--------------------------------|
| Group 1 | 1.1                              | Buffalo Sabres        | \$34,268                | Public   | 49.5%                          |
|         | 1.3                              | Carolina Hurricanes   | \$61,505                | Public   | 87.3%                          |
|         | 1.9                              | Nashville Predators   | \$52,858                | Public   | 100.0%                         |
|         | 2                                | San Jose Sharks       | \$96,662                | Public   | 81.5%                          |
|         | 2.1                              | Columbus Blue Jackets | \$49,478                | Public   | 0.0%                           |
|         | 2.3                              | Vegas Golden Knights  | \$53,159                | Private  | 0.0%                           |
| Group 2 | 2.4                              | Pittsburgh Penguins   | \$44,092                | Public   | 95.2%                          |
|         | 2.8                              | St. Louis Blues       | \$38,664                | Public   | 36.7%                          |
|         | 2.9                              | Colorado Avalanche    | \$60,098                | Private  | 22.8%                          |
|         | 3.1                              | Tampa Bay Lightning   | \$48,245                | Public   | 61.9%                          |
|         | 3.6                              | Minnesota Wild        | \$52,841                | Public   | 76.5%                          |
|         | 4.3                              | Detroit Red Wings     | \$27,838                | Public   | 46.4%                          |

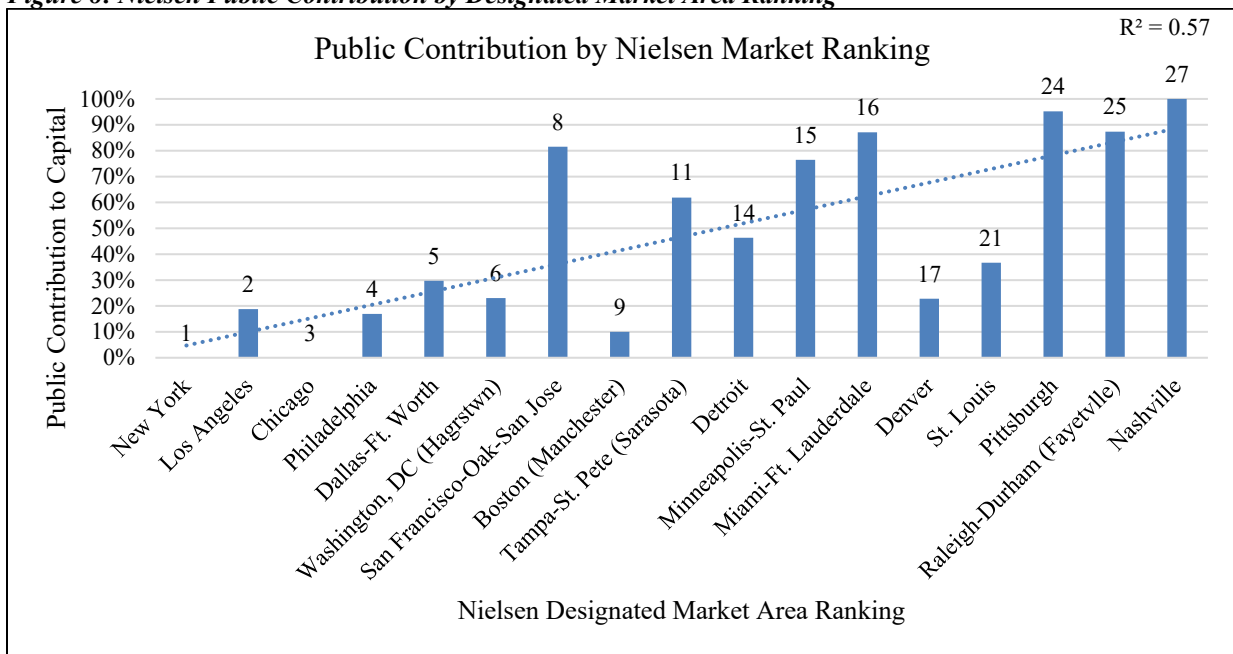
124. An increase in designated market area ranking means that the number of households with televisions decreases.

125. Matthew T. Brown, 2010, *Financial Management in the Sport Industry*, 218.

|         |      |                            |          |         |        |
|---------|------|----------------------------|----------|---------|--------|
| Group 3 | 4.6  | <b>Boston Bruins</b>       | \$62,021 | Private | 10.0%  |
|         | 4.7  | <b>Arizona Coyotes</b>     | \$52,080 | Public  | 100.0% |
|         | 5.6  | <b>Florida Panthers</b>    | \$53,237 | Public  | 87.1%  |
|         | 6.1  | <b>Washington Capitals</b> | \$77,649 | Private | 23.1%  |
|         | 6.1  | <b>Philadelphia Flyers</b> | \$40,649 | Private | 16.9%  |
|         | 7.2  | <b>Dallas Stars</b>        | \$47,285 | Public  | 29.8%  |
| Group 4 | 9.5  | <b>Chicago Blackhawks</b>  | \$52,497 | Private | 0.0%   |
|         | 13.1 | <b>Anaheim Ducks</b>       | \$65,313 | Public  | 100.0% |
|         | 13.1 | <b>Los Angeles Kings</b>   | \$61,015 | Private | 18.8%  |
|         | 20.3 | <b>New York Islanders</b>  | \$57,782 | Private | 77.1%  |
|         | 20.3 | <b>New York Rangers</b>    | \$57,782 | Private | 0.0%   |
|         | 20.3 | <b>New Jersey Devils</b>   | \$34,826 | Public  | 56.0%  |

Source: Own calculations using data from United States Census Bureau, *National Sports Law Institute of Marquette University Law School* and *Hockey.ballparks.com*. See Appendix E for team data on public contribution to capital.

**Figure 8: Nielsen Public Contribution by Designated Market Area Ranking**



Source: Own calculations using data from “Nielsen DMA Rankings 2019” by *Mediatracks Communications*. Markets omitted if they do not have an NHL team.

## Canadian NHL Teams

As of 2019, Canada has seven NHL teams. Government entities own two of the team arenas, and private companies own the remaining five arenas. Most arenas had only 0 to 30 percent of their total capital costs paid for with public money (five out of seven, Table 9). All cost in this section are in CDN currency, unless otherwise specified.

**Table 9: Canadian Team Arenas Capital Cost by Public Contribution**

| Team                | Arena Opened | Arena Owner    | Public Contribution | Public Nominal Cost (million) | Nominal Total Cost (million) | Public Real Cost 2019 (million) | Real Cost 2019 (million) |
|---------------------|--------------|----------------|---------------------|-------------------------------|------------------------------|---------------------------------|--------------------------|
| Montreal Canadiens  | 1996         | Private        | 0.0%                | \$0.0                         | \$198.2                      | \$0.0                           | \$294.8                  |
| Toronto Maple Leafs | 1999         | Private        | 0.0%                | \$0.0                         | \$265.0                      | \$0.0                           | \$377.3                  |
| Vancouver Canucks   | 1995         | Private        | 0.0%                | \$0.0                         | \$160.0                      | \$0.0                           | \$243.0                  |
|                     |              | <b>Median:</b> | 0.0%                | \$0.0                         | \$198.2                      | \$0.0                           | \$294.8                  |
| Ottawa Senators     | 1996         | Private        | 3.5%                | \$6.0                         | \$170.0                      | \$8.9                           | \$253.0                  |
| Winnipeg Jets       | 2004         | Private        | 30.0%               | \$40.0                        | \$133.5                      | \$50.0                          | \$167.0                  |
| Calgary Flames      | 2023*        | Public         | 50.0%               | \$275.0                       | \$550.0                      | \$275.0                         | \$550.0                  |
| Edmonton Oilers     | 2016         | Public         | 50.9%               | \$312.5                       | \$613.7                      | \$324.7                         | \$637.6                  |
|                     |              | <b>Median:</b> | 40.0%               | \$157.5                       | \$360.0                      | \$162.5                         | \$401.5                  |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, and NHL official team websites. Nominal Total Costs estimated using *Bank of Canada Inflation Calculator*.

The median public contribution for arenas with public funding was 40 percent, or approximately \$162.5 million (2019 dollars). The two arenas with the highest amount of funding are the only government owned arenas. None of the current Canadian NHL arenas received 100 percent public contribution. The Calgary Flames’ Scotiabank Saddledome received 100 percent public funding; however, this facility was a part of the Olympics.

### Public Contribution by Direct and Indirect Funding Types

Public financing NHL arenas is less prominent in Canada than in the United States. As we saw, Canadian public contribution is smaller than that of the United States. Even so, like in the United States, many Canadian arenas received direct appropriations and infrastructure improvements. The Vancouver Canucks are the only team that did not receive direct or indirect supports upon initial arena construction. However, the Canucks later benefited from transportation routes and \$5 million worth of arena renovations from the Province of British Columbia for the 2010 Winter Olympics.<sup>126</sup> None of the arenas received sales or tourism taxes,

\* The City of Calgary and Calgary Sports and Entertainment Corporation agree to construct a new Event Centre (arena). Construction will begin in 2021 and take approximately three years.

126. Canada, British Columbia, Office of the Auditor General, *The 2010 Olympic and Paralympic Winter Games: A Review of Estimates Related to the Provinces Commitments*. Victoria, B.C.: Office of the Auditor General, 2006, <https://www.bcauditor.com/sites/default/files/publications/2006/report2/report/2010-olympic-and->

PILOTs, or land donations. Tables 10 and 11 show the team financing types by private and public ownership.

As shown in Table 10, the most popular type of direct financing is government appropriation. The amount of government appropriation provided for arena construction has increased over time. The smallest amount of appropriation went to the Ottawa Senators, at \$6 million in 1996. The largest, and most recent, appropriation is going to the Calgary Flames, at \$275 million. The Winnipeg Jets and Edmonton Oilers also received government appropriation. Their direct funds were \$40 million and \$81 million, respectively (Appendix E).

Another common form of financing for Canadian arenas is ticket surcharges. Some ticket charges are an added percentage while others are a set fee. In Edmonton, the Oilers' arena will receive \$125 million from a ticket surcharge that is set annually. In the 2018-2019 season, the fee was set at 9.5 per cent per ticket.<sup>127</sup> Another rate that is set annually is that of the Toronto Maple Leafs' arena tickets. Currently, the rate is at \$3.50 per ticket.<sup>128</sup> The Ottawa Senators have a similar fee as the Leafs, at \$3.40 per ticket.<sup>129</sup> Finally, the Calgary Flames new arena tickets will have a 2 per cent ticket surcharge; however, these revenues go to the City of Calgary.<sup>130</sup>

---

paralympic-winter-games.pdf; Rob VanWynsberghe, Trisha Bischel, Mariana Gatzeva, Meredith Hambrock, Brenda Kwan, and Clark Lim, *Olympic Games Impact (OGI) Study for the 2010 Olympic and Paralympic Winter Games*, Report, OGI-UBC Research Team, University of British Columbia, Vancouver, B.C., 2011, <http://cfss.sites.olt.ubc.ca/files/2011/10/The-Olympic-Games-Impact-Study-Games-time-Report-2011-11-21.pdf>.

127. Sammy Hudes, "Ticket Tax for New Arena Would Be a Fraction of Edmonton's Fee - But Why?" *Calgary Herald*, July 26, 2019. <https://calgaryherald.com/news/local-news/ticket-tax-for-new-arena-would-be-a-fraction-of-edmontons-fee-but-why>; Canada, City of Edmonton, *Ticket Surcharge Agreement*, February 10, 2014, [https://www.edmonton.ca/attractions\\_events/documents/PDF/Arena\\_Ticket\\_Surcharge\\_Agreement.pdf](https://www.edmonton.ca/attractions_events/documents/PDF/Arena_Ticket_Surcharge_Agreement.pdf).

128. "Scotiabank Arena - Toronto: Tickets, Schedule, Seating Chart, Directions," *Ticketmaster Canada*, Accessed August 23, 2019, <https://www.ticketmaster.ca/Scotiabank-Arena-tickets-Toronto/venue/131157?brand=sba>.

129. "Canadian Tire Centre - Ottawa: Tickets, Schedule, Seating Chart, Directions," *Ticketmaster Canada*, [https://www.ticketmaster.ca/Canadian-Tire-Centre-tickets-Kanata/venue/401524?\\_ga=2.86911320.192072074.1566766802-1398537364.1566766802](https://www.ticketmaster.ca/Canadian-Tire-Centre-tickets-Kanata/venue/401524?_ga=2.86911320.192072074.1566766802-1398537364.1566766802).

130. Canada, City of Calgary, *Facilities Update C2019-0964 Combined Meeting of Council*, by Glenda Cole, Carla Male, Barry Munro, and Michael Brown, July 22, 2019, <https://www.calgary.ca/PDA/pd/Documents/Facility-Update-Presentation.pdf>.

**Table 10: Direct Financing for Public vs. Private Arena Ownership**

| Team                | Arena Opened | Owner   | Bond | TIF & Property Tax | Sales / Tourism Tax | Sale of Assets | Government Appropriation | Ticket / Parking Surcharge / Tax | Lottery & Casino Revenue |
|---------------------|--------------|---------|------|--------------------|---------------------|----------------|--------------------------|----------------------------------|--------------------------|
| Vancouver Canucks   | 1995         | Private |      |                    |                     |                | Yes                      |                                  |                          |
| Montreal Canadiens  | 1996         | Private | Yes  |                    |                     |                |                          |                                  |                          |
| Ottawa Senators     | 1996         | Private |      |                    |                     |                | Yes                      | Yes                              |                          |
| Toronto Maple Leafs | 1999         | Private |      |                    |                     |                |                          | Yes                              |                          |
| Winnipeg Jets       | 2004         | Private |      |                    |                     |                | Yes                      |                                  | Yes                      |
| Edmonton Oilers     | 2016         | Public  |      | Yes                |                     |                | Yes                      | Yes                              |                          |
| Calgary Flames      | 2023         | Public  |      |                    |                     | Yes            | Yes                      | Yes                              |                          |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

Indirect financing is even less common than direct financing. Two teams received infrastructure improvements and two teams received tax exemptions (Table 11). The value of these supports varied among the teams. This variation is clear when comparing the Edmonton Oilers and the Vancouver Canucks. The Edmonton Oilers received a large public contribution towards area infrastructure improvements. Edmonton's CRL contributed \$25 million to a Winter Garden, \$15 million to a pedestrian walkway, and \$14 million to a community arena. In comparison, the Canucks benefited from \$5 million in arena and transportation renovations.

Variation also occurs in property tax exemptions. Most Canadian teams pay more in property taxes than United States teams.<sup>131</sup> Two teams that currently receive property tax exemption are the Winnipeg Jets and Calgary Flames. The Jets receive a property tax exemption of \$6.9 million per year. This tax exemption is due to the arena's classification as a recreational property. The Province of Manitoba labeled the arena as recreational instead of commercial property.<sup>132</sup> In Winnipeg, the City taxes commercial property at 65 per cent of its assessed value

131. Judith Grant Long, *Public/private Partnerships for Major League*, 75.

132. Bipin Dhillon, "Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations," *MPA Major Research Papers*, 178, July 1, 2018.

and recreational property at 10 per cent of its assessed value.<sup>133</sup> As we can see, the Winnipeg Jets’ arena receive an exemption of 55 per cent its assessed value. Calgary Flames, on the other hand, receive 100 percent city property tax exemption on its new arena. The team must pay provincial property taxes after its CRL expires in 2047.<sup>134</sup> Nonetheless, the team will not pay any property taxes for at least 24 years.

**Table 11: Indirect Financing for Public vs. Private Arena Ownership**

| Team                | Arena Opened | Owner   | Land Donation | Infrastructure Improvement | Tax Abatement | PILOTs |
|---------------------|--------------|---------|---------------|----------------------------|---------------|--------|
| Vancouver Canucks   | 1995         | Private |               | Yes                        |               |        |
| Montreal Canadiens  | 1996         | Private |               |                            |               |        |
| Ottawa Senators     | 1996         | Private |               |                            |               |        |
| Toronto Maple Leafs | 1999         | Private |               |                            |               |        |
| Winnipeg Jets       | 2004         | Private |               |                            | Yes           |        |
| Edmonton Oilers     | 2016         | Public  |               | Yes                        |               |        |
| Calgary Flames      | 2023         | Public  |               |                            | Yes           |        |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

### Public Contribution by Purpose of Arena Construction

The seven Canadian NHL arenas fall into the same three broad categories as the United States regarding the purpose of arena construction. First, two arenas are the team’s original playing facility. This category includes teams whose current arena was built within their first four years of joining the league. Second, four arenas exist because they replaced facilities that were too old and outdated for continued use. Finally, one arena exists due to a team owner’s wish to relocate the team from a suburb to the downtown core.

133. Bartley Kives, “City and Province to Provide Winnipeg pro Sports with \$16.6M This Year,” *CBC News*, March 6, 2019, <https://www.cbc.ca/news/canada/manitoba/winnipeg-manitoba-pro-sports-subsidies-1.5041908>.

134. Canada, City of Calgary, *Facilities Update C2019-0964 Combined Meeting of Council*, by Glenda Cole, Carla Male, Barry Munro, and Michael Brown, July 22, 2019, <https://www.calgary.ca/PDA/pd/Documents/Facility-Update-Presentation.pdf>.

**Table 12: Direct Financing by Arena Purpose**

| Team                | Purpose        | Bond | TIF & Property Tax | Sales / Tourism Tax | Sale of Assets | Government Appropriation | Ticket / Parking Surcharge / Tax | Lottery & Casino Revenue |
|---------------------|----------------|------|--------------------|---------------------|----------------|--------------------------|----------------------------------|--------------------------|
| Montreal Canadiens  | Old Arena      | Yes  |                    |                     |                |                          |                                  |                          |
| Calgary Flames      | Old Arena      |      |                    |                     | Yes            | Yes                      | Yes                              |                          |
| Edmonton Oilers     | Old Arena      |      | Yes                |                     |                | Yes                      | Yes                              |                          |
| Toronto Maple Leafs | Old Arena      |      |                    |                     |                |                          | Yes                              |                          |
| Winnipeg Jets       | Original Arena |      |                    |                     |                | Yes                      |                                  | Yes                      |
| Ottawa Senators     | Original Arena |      |                    |                     |                | Yes                      | Yes                              |                          |
| Vancouver Canucks   | Relocation     |      |                    |                     |                | Yes                      |                                  |                          |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

**Table 13: Indirect Financing by Arena Purpose**

| Team                | Purpose        | Land Donation | Infrastructure Improvement | Tax Abatement | PILOTs |
|---------------------|----------------|---------------|----------------------------|---------------|--------|
| Montreal Canadiens  | Old Arena      |               |                            |               |        |
| Calgary Flames      | Old Arena      |               |                            | Yes           |        |
| Edmonton Oilers     | Old Arena      |               | Yes                        |               |        |
| Toronto Maple Leafs | Old Arena      |               |                            |               |        |
| Winnipeg Jets       | Original Arena |               |                            | Yes           |        |
| Ottawa Senators     | Original Arena |               |                            |               |        |
| Vancouver Canucks   | Relocated      |               | Yes                        |               |        |

Source: Own calculations using data from *National Sports Law Institute of Marquette University Law School*, Hockey.ballparks.com, NHL official team websites, news sources, and leases between cities and teams. See Appendix E for data.

### ***New Team, New Arena***

An arena built originally for a team’s use is the Ottawa Senators’ Canadian Tire Centre. Ottawa Senators founder, Bruce Firestone, says that the New Democratic Party in Ontario was not supportive of an NHL franchise. Mr. Firestone had to seek approval for arena land zoning from the Ontario Municipal Board. The Board said that he could only develop 100 of the 600 acres that he owned. In addition, the Board said that he would also have to pay for a \$30 million highway interchange.<sup>135</sup> Despite claims that it would not provide any funding, the Province of Ontario provided a \$25.3 million loan to help fund the highway interchange. To repay this 10-year loan, the arena owners added a \$2 ticket surcharge to all event admissions.<sup>136</sup> After the New

135. Bruce Firestone, "Opinion: Why Scotiabank Place Is in Kanata," *Ottawa Business Journal*, April 27, 2009, <https://obj.ca/article/opinion-why-scotiabank-place-kanata>.

136. David Naylor, "Bryden Turns Attention to Loan from Government," *The Globe and Mail*, August 17, 2018, <https://www.theglobeandmail.com/sports/bryden-turns-attention-to-loan-from-government/article25279928/>.



Democratic Party left office, the Province of Ontario planned to provide \$10 million worth of tax breaks to sports teams. The agreement, approved by former premier Mike Harris, stopped two-weeks later when the new premier was sworn into office.<sup>137</sup> More funding did come from the Government of Canada, who granted the arena owners \$6 million for construction. The reasoning for this grant is not public knowledge. News sources say that the grant was an effort to support Canada's national sport in Canada's capitol.<sup>138</sup>

Similarly, in 2004, the Winnipeg Jets' Bell MTS Place opened. This arena opened before the city acquired the Winnipeg Jets in 2011. From 1972 to 1996, the city of Winnipeg had an NHL franchise team, also called the Winnipeg Jets. However, due to financial troubles, this team relocated to Phoenix, Arizona. The City of Winnipeg and True North Sports and Entertainment planned the arena to revitalize the downtown. They also wanted to attract an NHL franchise team back to the city.<sup>139</sup> Therefore, all three levels of government contributed 30 percent of capital costs.<sup>140</sup> In addition, the Province of Manitoba provides True North Sports and Entertainment \$1.5 million a year to reduce arena debt.<sup>141</sup> True North Sports and Entertainment also receives casino gaming revenue and tax breaks, tax refunds and tax exemptions. In 2019, True North Sports and Entertainment will receive \$8.1 million in a refund from entertainment taxes levied on tickets sold. It will also receive \$249,000 from a city business tax refund and \$5.5 million

---

137. CBC Sports, "Ontario Kills Tax Break for Pro Teams," *CBC News*, October 9, 2002, <https://www.cbc.ca/sports/ontario-kills-tax-break-for-pro-teams-1.307303>.

138. Andrew Mayeda, "Secret Memo: Federal Cash for Arena in Quebec City Would be 'rare' Exception," *IPolitics*, January 16, 2011, <https://ipolitics.ca/2011/01/15/secret-memo-federal-cash-for-quebec-city-arena-would-be-rare-exception/>.

139. True North Sports and Entertainment is the owner of the Bell MTS Place and Winnipeg Jets. "Winnipeg Jets Deal: The Investors Who Made It Happen," *CBC News*, May 31, 2011, <https://www.cbc.ca/news/canada/manitoba/winnipeg-jets-deal-the-investors-who-made-it-happen-1.1054220>.

140. Canada, Province of Manitoba, Office of the Minister of Finance, *Province Of Manitoba Annual Report For The Year Ended March 31, 2004*, By Greg Selinger, Ottawa: Office of the Minister of Finance, 2004, <https://www.gov.mb.ca/finance/publications/pubs/annualreports/annreport2004.pdf>.

141. These payments occur from from 2004 to 2024. "Manitoba Boosts Funding for MTS Centre," *CBC News*, June 2, 2011, <https://www.cbc.ca/news/canada/manitoba/manitoba-boosts-funding-for-mts-centre-1.1026604>.

from gaming machine revenues. In addition, as discussed earlier, the arena receives a property tax break. In 2019, the tax exemption amounts to \$931,000.<sup>142</sup>

### *Out with the Old, In with the New*

Four arenas that replaced previous facilities are that of the Montreal Canadiens, Calgary Flames, Edmonton Oilers, and Toronto Maple Leafs. The oldest of these arenas is the Canadiens' Bell Centre, which opened in 1996. At the time, the Canadiens' previous arena was 71 years old. The Bell Centre was initially privately financed. However, in 2009, former Finance Minister of Quebec, Raymond Bachand, gave the Molson Brothers a \$100 million loan to buy the arena and team. Minister Bachand offered the loan to ensure that a Quebec-based company would own the arena and team.<sup>143</sup> Prior to this loan, the government had not assisted in arena financing. In fact, the Canadiens' arena received no public contribution. In addition, the Bell Centre's property tax bill is three times greater than all United States arenas.<sup>144</sup>

The next oldest arena is the Leafs' Scotiabank Arena, which opened in 1999. The Leafs' owner, Maple Leaf Sports & Entertainment, built Scotiabank Arena after acquiring an NBA team. The owners designed the facility with the NBA and NHL teams in mind, as the Leafs' previous arena was 68 years old. Scotiabank Arena was privately funded. However, Maple Leaf Sports & Entertainment added a ticket surcharge that feeds into a Capital Restoration Fund.<sup>145</sup>

The most recently built arena is Edmonton Oilers' Rogers Place Arena, which opened in 2016. The real cost of Rogers Place Arena is the most expensive in Canada, at approximately

---

142. "City and Province to Provide Winnipeg Pro Sports with \$16.6M This Year," *CBC News*, March 6, 2019, <https://www.cbc.ca/news/canada/manitoba/winnipeg-manitoba-pro-sports-subsidies-1.5041908>.

143. Pat Hickey, "Molson Brothers Buy Montreal Canadiens for \$500M," *Montreal Gazette*, June 22, 2009, [http://www.montrealgazette.com/life/Molson brothers Montreal Canadiens 500M/1717280/story.html](http://www.montrealgazette.com/life/Molson%20brothers%20Montreal%20Canadiens%20500M/1717280/story.html).

144. CBS Sports, "Habs Get Tax Relief on Molson Centre," *CBC News*, February 01, 2001, <https://www.cbc.ca/sports/hockey/habs-get-tax-relief-on-molson-centre-1.278994>.

145. *2016-17 Scotiabank Centre Annual Report*, Report, September 2018, [http://www.scotiabank-centre.com/sites/default/files/2018-09/Scotiabank%20Centre%202016-17%20Annual%20Report%20WEB\\_0.pdf](http://www.scotiabank-centre.com/sites/default/files/2018-09/Scotiabank%20Centre%202016-17%20Annual%20Report%20WEB_0.pdf).

\$637.6 million (2019 dollars). The team's old arena was the third oldest and third smallest in the league. Like many arenas built between 1960 and 1980, the Oilers' old arena lacked enough restrooms and concessions.<sup>146</sup> To construct the Rogers Place Arena, the City of Edmonton paid \$312.5 million. This funding came from a community revitalization levy (CRL) and reallocated revenues. The Edmonton Oilers paid \$166 million, primarily through renting the Arena. \$125 million came from a promised ticket surcharge over 35 years. The CRL funded all public aspects of the arena. Namely, the CRL funded the pedestrian corridor and light rail train connection.<sup>147</sup> The City of Edmonton owns Rogers Place Arena. However, the private operator, Edmonton Arena Corporation, still pays up to \$250,000 per year in property taxes.<sup>148</sup>

The oldest arena still used today is the Calgary Flames' Scotiabank Saddledome. The Saddledome opened in 1983 and was part of the 1988 Winter Olympics. Because of the Olympics, the three levels of government funded arena. Recently, the City of Calgary and Calgary Sports and Entertainment Corporation (CSEC) agreed to construct and operate a new arena/event centre. The new arena is set to open in 2023 at a current capital cost of \$550 million CDN. Like Edmonton, the City of Calgary agreed to fund approximately half of the arena's capital costs. In a council meeting on July 22, 2019, the City approved funds from its Major Projects Capital Reserve. While the Council suggests the funds will come from cash, funds in this Reserve can also come from government grants or the CRL. Unlike most other Canadian cities, Calgary is granting CSEC full property tax abatement.<sup>149</sup>

---

146. David Bloom, "Edmonton Oilers' New Arena Living up to the Hype," *Edmonton Journal*, May 30, 2016, <https://edmontonjournal.com/sports/hockey/nhl/edmonton-oilers/oilers-new-arena-is-nice>.

147. Canada, City of Edmonton, "The Agreement," Edmonton: City of Edmonton, Accessed June 8, 2019, [https://www.edmonton.ca/attractions\\_events/rogers\\_place/the-agreement.aspx](https://www.edmonton.ca/attractions_events/rogers_place/the-agreement.aspx).

148. Canada, City of Edmonton, "The Agreement," Edmonton: City of Edmonton, Accessed June 8, 2019, [https://www.edmonton.ca/attractions\\_events/rogers\\_place/the-agreement.aspx](https://www.edmonton.ca/attractions_events/rogers_place/the-agreement.aspx).

149. The City of Calgary will also contribute \$12.4 million for demolition of the Saddledome and potential uninsured expenses. Canada, City of Calgary, "New Event Centre Overview Infographic," digital image, Calgary:

### *Relocation Threats: from Suburb to City*

Canada is familiar with teams leaving its cities for United States counterparts. The original Winnipeg Jets became the Phoenix Coyotes and the Quebec Nordiques became the Colorado Avalanche. Canada is also familiar with receiving teams from the United States. The Atlanta Flames and Atlanta Thrashers relocated to Calgary and Winnipeg, respectively. Despite its familiarity with team relocation, only one arena exists as a result of preventing relocation. This arena is the Vancouver Canucks' Rogers Arena. In the early 1990s, the Canucks' former arena, the Pacific Coliseum, was in good condition despite being over 20 years old. Still, the team owner at the time thought that the location was not optimal. He said that moving the team downtown would increase revenues and customer reach. As is typical of most major cities, downtown was the entertainment district and had rapid transit.<sup>150</sup> Thus, Rogers Arena, known at the time as General Motors Place, was born. At the time, Canadian governments were resistant to funding NHL arenas. Therefore, the Canucks did not receive support for arena construction. However, as we saw before with community events, the Canucks would later benefit from the Olympics. To prepare for the 2010 Winter Olympics, the province renovated the arena and added city transportation around the arena.<sup>151</sup>

---

City of Calgary: 2019, [https://content.presspage.com/uploads/1485/1920\\_eventcentreoverview-graphic--239102.jpg?10000](https://content.presspage.com/uploads/1485/1920_eventcentreoverview-graphic--239102.jpg?10000); Canada, City of Calgary, *Facilities Update C2019-0964 Combined Meeting of Council*, by Glenda Cole, Carla Male, Barry Munro, and Michael Brown, July 22, 2019, <https://www.calgary.ca/PDA/pd/Documents/Facility-Update-Presentation.pdf>.

<sup>150</sup> Bruce Constantineau, "Rogers Arena Still Rockin' 20 Years Later," *Vancouver Sun*, August 28, 2015, [http://www.vancouver.sun.com/sports/rogers\\_arena\\_still\\_rockin\\_years\\_later/11325281/story.html](http://www.vancouver.sun.com/sports/rogers_arena_still_rockin_years_later/11325281/story.html).

<sup>151</sup>. Canada, British Columbia, Office of the Auditor General, *The 2010 Olympic and Paralympic Winter Games: A Review of Estimates Related to the Provinces Commitments*, Victoria, B.C.: Office of the Auditor General, 2006, <https://www.bcauditor.com/sites/default/files/publications/2006/report2/report/2010-olympic-and-paralympic-winter-games.pdf>; Rob VanWynsberghe, Trisha Bischel, Mariana Gatzeva, Meredith Hambrook, Brenda Kwan, and Clark Lim, *Olympic Games Impact (OGI) Study for the 2010 Olympic and Paralympic Winter Games*, Report, OGI-UBC Research Team, University of British Columbia, Vancouver, B.C., 2011, <http://cfss.sites.olt.ubc.ca/files/2011/10/The-Olympic-Games-Impact-Study-Games-time-Report-2011-11-21.pdf>.

### Public Funding: All or Nothing

Four team arenas had zero to four percent direct public financing for capital. These teams were the Montreal Canadiens, Toronto Maple Leafs, Vancouver Canucks, and Ottawa Senators. While private investment is often praised in policy, three of the four teams ended up in financial distress. In 2001, the Molson Family, who financed the entire arena capital cost, had to sell the arena and Canadiens for a major loss. Similarly, in Ottawa, the original owner, Rob Bryden, had to sell the arena and team in bankruptcy. In 2003, the arena sold for \$143.5 million less than its initial construction cost. The third team and arena to go into bankruptcy was the Vancouver Canucks. In 1997, shortly after opening the arena, owner Arthur Griffith sold the team and arena for a \$90 million loss. These three team owners had financial distress because arena operating costs outweighed revenues.<sup>152</sup> Today, most NHL team owners are billionaires, and bankruptcy has not been a major issue since the Phoenix Coyotes in 2009.<sup>153</sup>

### Public Funding by Metro Population Size

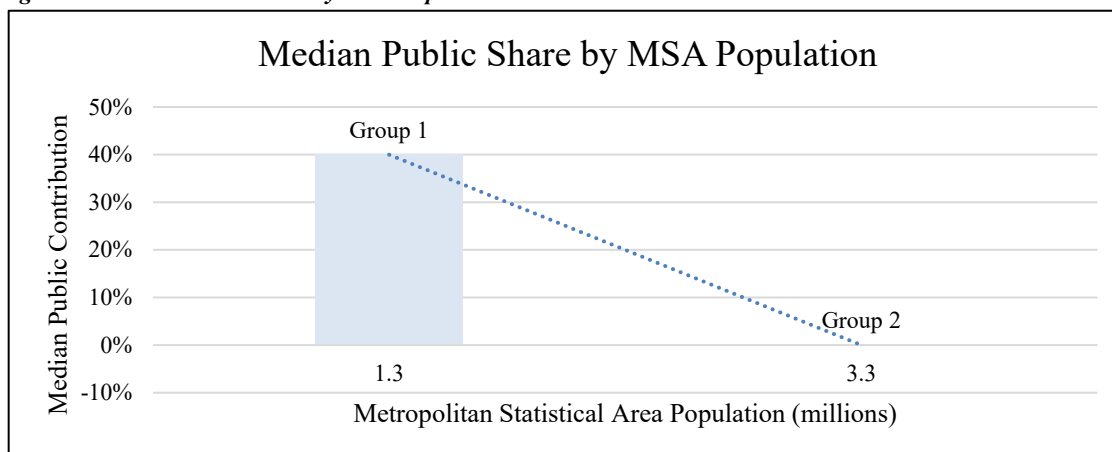
Consistent with Figure 9, as the median metropolitan statistical area (MSA) population increases, public contribution to cost of capital decreases. Because the total number of teams in Canada is less than that of the United States, I divided the teams into two groups based on their MSA population size. Arenas with any public funds have an MSA population size less than 1.5 million (Table 10). As we saw earlier, population size and public funding is consistent in the United States and Canada. Larger populations typically have a higher share of private funding.

---

152. Katz Group Canadian Private Arena Funding, Report, July 2010, <https://doniveson.ca/wp-content/uploads/2010/07/Katz-Group-Canadian-Private-Arena-Funding.pdf>.

153. Alan Dawson, "The 23 Richest Billionaire NHL Franchise Owners - and How They Made Their Fortune," *Business Insider*, March 04, 2018, <https://www.businessinsider.com/the-23-richest-billionaire-nhl-franchise-owners-2018-3>; Matthew Futterman, "NHL, Team in Bankruptcy Showdown," *The Wall Street Journal*, May 7, 2009, <https://www.wsj.com/articles/SB124165359524593827>.

**Figure 9: Median Public Share by MSA Population**



Source: Own calculations using data from United States Census Bureau, *National Sports Law Institute of Marquette University Law School* and *Hockey.ballparks.com*. See Table 12 for data.

**Table 14: Canadian Teams Organized by MSA Population Size**

| Quartile Range Population | Metro Area Population (millions) | Team                | Median Household Income | Industry | Public Contribution to Capital |
|---------------------------|----------------------------------|---------------------|-------------------------|----------|--------------------------------|
| Group 1                   | 0.8                              | Winnipeg Jets       | \$ 70,795               | Private  | 30.0%                          |
|                           | 1.3                              | Edmonton Oilers     | \$ 41,836               | Public   | 50.9%                          |
|                           | 1.3                              | Ottawa Senators     | \$ 85,981               | Private  | 3.5%                           |
| Median                    | 1.4                              | Calgary Flames      | \$ 99,388               | Public   | 50.0%                          |
| Group 2                   | 2.5                              | Vancouver Canucks   | \$ 72,662               | Private  | 0.0%                           |
|                           | 4.1                              | Montreal Canadiens  | \$ 50,227               | Private  | 0.0%                           |
|                           | 5.9                              | Toronto Maple Leafs | \$ 65,829               | Private  | 0%                             |

Source: Own calculations using data from United States Census Bureau, *National Sports Law Institute of Marquette University Law School* and *Hockey.ballparks.com*. See Appendix E for team data on public contribution to capital.

### On the Bench: Teams that no Longer Exist

The nine teams that no longer exist in their initial form all relocated to another city. The California Golden Seals, Quebec Nordiques, Hartford Whalers, and Cleveland Barons relocated because their cities could not support an NHL team. These cities either had a low fan base or low population that led the team into financial distress. Regarding the Golden Seals, the team’s arena was in Oakland, California with an MSA population size of approximately 425,000. Over their 9 years at the arena, the Seals averaged an attendance of 5,795 people per season. The low fan base in Oakland escalated the team’s financial distress, causing them to relocate. The Golden Seals

became the Cleveland Barons.<sup>154</sup> The Cleveland Barons did not fare well either, also suffering from low attendance. News reports speculate that the arena's location, one-hour outside of Cleveland, did not help fan attendance. After only two years, the team relocated to merge with the Minnesota North Stars.<sup>155</sup> The last two teams, the Whalers and Nordiques, share a similar story about their relocation. In Quebec, the Nordiques suffered from their city being the smallest NHL market in Canada. The Nordiques could not compete for fans with the more popular Montreal Canadiens.<sup>156</sup> Likewise, Hartford was the smallest NHL market in the United States. The team did not stand a chance competing for fans with the nearest major cities, New York City and Boston.<sup>157</sup> Both the Nordiques and the Whalers relocated. The Nordiques became the Colorado Avalanche and the Whalers became the Carolina Hurricanes.

Teams located in larger cities succumbed to poor team performance or poor management. Two teams that suffered from poor performance were the Kansas City Scouts and the Minnesota North Stars. In the two years that the Kansas City Scouts played, the team ended up ranking second to last in the league. Even worse, in the team's second year, they lost 70 percent of their games (56 games out of 80).<sup>158</sup> After this season, the team relocated to Denver to become the Colorado Rockies. The Minnesota North Stars lasted much longer than the Kansas City Scouts.

---

154. Adam Gretz, "Remembering the Oakland Seals," *SBNation.com*, September 11, 2014, <https://www.sbnation.com/nhl/2014/9/11/6130229/oakland-seals-history-california-hockey-nhl>.

155. Adam Gretz, "Lost Franchises: Remembering the NHL's Cleveland Barons," *CBS Sports*, June 19, 2013, <https://www.cbssports.com/nhl/news/lost-franchises-remembering-the-nhls-cleveland-barons/>; Peter Chakerian, "Remembering the Richfield Coliseum: From 1974 to 1994, 'The Palace on the Prairie' Was Northeast Ohio's Sports, Entertainment Mecca (Photo Gallery)," *Cleveland.com*, September 24, 2014, [https://www.cleveland.com/entertainment/2014/09/remembering\\_the\\_coliseum\\_at\\_ri.html](https://www.cleveland.com/entertainment/2014/09/remembering_the_coliseum_at_ri.html).

156. Mark Wallace Graham, "The Quebec Coyotes? A Potential Move from The Desert," *The Hockey Writers*, April 15, 2013, <https://thehockeywriters.com/the-quebec-coyotes-a-potential-move-from-the-desert/>.

157. Jonathan Rabinovitz, "Another Blow to Hartford: Whalers to Leave, Rejecting Arena Offer," *The New York Times*, March 27, 1997, <https://www.nytimes.com/1997/03/27/nyregion/another-blow-to-hartford-whalers-to-leave-rejecting-arena-offer.html>.

158. Greg Caggiano, "Turnin' Back the NHL Clock: Kansas City Scouts," *Bleacher Report*, June 25, 2008, <https://bleacherreport.com/articles/32553-turnin-back-the-nhl-clock-kansas-city-scouts>.

Still, poor team performance in its last several years hurt fan support and attendance.<sup>159</sup> After 26 years in Bloomington, Minnesota, the Minnesota North Stars relocated in 1993, becoming the Dallas Stars.

Two teams that suffered from poor management are the Colorado Rockies and the Atlanta Thrashers. The Rockies consistently ranked among the lowest performing teams in the league. According to a former team owner, the team's problem was absentee ownership. Colorado residents lost interest in the team, and the owner requested to move the team to New Jersey. In 1982, the Rockies became the New Jersey Devils.<sup>160</sup> Similar to the Rockies, the Atlanta Thrashers performed poorly and suffered from ownership. The owner of the Thrashers, the Atlanta Spirit Group, ignored opportunities to promote the team in Atlanta.<sup>161</sup> The issues in Atlanta were so severe that Commissioner Bettman charged the Atlanta Spirit Group a \$60 million relocation fee. Bettman moved the team to Winnipeg.<sup>162</sup>

Unlike other teams, the Atlanta Flames suffered from having an unfavorable arena. The former general manager of the Atlanta Flames, Cliff Fletcher, explained that the arena was small in capacity and lacked seating. The team performed well, qualifying for Stanley Cup Playoffs in six of their eight seasons. However, arena attendance dropped so low—below 75 percent of

---

159. Norm Green, "The North Stars Move to Dallas," *D Magazine Partners, Inc.*, January 2010, <https://www.dmagazine.com/publications/d-magazine/2010/january/the-north-stars-move-to-dallas/>.

160. Parton Keese, "Rockies Request N.H.L. Approval for Move to New Jersey," *The New York Times*, February 9, 1982, <https://www.nytimes.com/1982/02/09/sports/rockies-request-nhl-approval-for-move-to-new-jersey.html>.

161. James Mirtle, "Thrashers Failure Rests with Owners (and the NHL)," *The Globe and Mail*, May 3, 2018, <https://www.theglobeandmail.com/sports/hockey/globe-on-hockey/thrashers-failure-rests-with-owners-and-the-nhl/article614543/>.

162. Scott Burnside, "Owners to Blame for Thrashers' Failure," *ESPN*, May 31, 2011, [https://www.espn.com/nhl/columns/story?columnist=burnside\\_scott&id=6611534](https://www.espn.com/nhl/columns/story?columnist=burnside_scott&id=6611534).



capacity—that Flames players gave up 1.5 percent of their salaries to buy out tickets.<sup>163</sup> Despite the players’ attempts to save the team, the Flames moved to Calgary in 1980.

*Table 15: NHL Teams from 1970 to 2019 that No Longer Exist*

| MSA Population (millions) | Team                  | First Year | Year Ended | Future Team                             | Reason for relocation: Unfavorable... |
|---------------------------|-----------------------|------------|------------|---|---------------------------------------|
| 0.425                     | California Seals      | 1967       | 1976       | Cleveland Barons                        | City                                  |
| 0.8                       | Quebec Nordiques      | 1979       | 1995       | Colorado Avalanche                      | City                                  |
| 1.2                       | Hartford Whalers      | 1979       | 1997       | Carolina Hurricanes                     | City                                  |
| 2.06                      | Cleveland Barons      | 1976       | 1978       | Minnesota North Stars ( <i>Merger</i> ) | City                                  |
| 2.1                       | Kansas City Scouts    | 1974       | 1976       | Colorado Rockies                        | Team performance                      |
| 2.9                       | Colorado Rockies      | 1976       | 1982       | New Jersey Devils                       | Ownership                             |
| 3.6                       | Minnesota North Stars | 1967       | 1993       | Dallas Stars                            | Team performance                      |
| 5.6                       | Atlanta Flames        | 1972       | 1980       | Calgary Flames                          | Arena                                 |
| 5.6                       | Atlanta Thrashers     | 1999       | 2011       | Winnipeg Jets                           | Ownership                             |

Source: Own calculations using data from United States Census Bureau, NHL.com, Hockey.ballparks.com, ESPN, news sources, and city publications.

### Public Financing and Team “Success”

Now that we know team arena funding, we can assess if trends exist between team performance and the arena capital cost. The first measure to examine is ticket pricing. Arenas that received public funding in the United States had an average ticket price of \$103 in 2018. In Canada, the average ticket price was USD \$126. Ticket prices for privately funded arenas in 2018 was higher in the United States and Canada. In the United States, the average ticket price was \$138. In Canada, the average ticket price was USD \$173. Many NHL teams use variable ticket pricing to determine their ticket prices. Variable ticket pricing involves basing price on expected demand for that game. Metrics such as time of the week, holidays, and opponent quality helps teams assess consumer willingness to pay.<sup>164</sup> Literature on NHL ticket pricing suggests that newer arenas have higher ticket prices. In addition, research shows that population

163. Mark Byrnes, "The Arena That Helped Revitalize Downtown Atlanta," *CityLab*, April 24, 2015, <https://www.citylab.com/design/2015/04/remembering-the-omni-the-arena-that-helped-revitalize-downtown-atlanta/391349/>.

164. David A. Rascher, “Variable Ticket Pricing in Major League Baseball,” *University of San Francisco Kinesiology (Formerly Exercise and Sport Science)*, 2007, <http://repository.usfca.edu/ess/21>.

income correlates positively with ticket prices.<sup>165</sup> However, NHL ticket prices from 2008-09 and 2018-19 show that these correlations do not necessarily hold true. The Vegas Golden Knights did have the highest ticket price in 2018-19 at \$174. As the newest arena in the United States, this price association holds true. However, the Detroit Red Wings and New York Islanders, whose arenas were also built recently, did not have the highest ticket prices. Similarly, there is no correlation between ticket prices and real cost of arena capital. The only clear assessment of ticket prices is that they have increased between 2008 and 2018 for all teams.

Other literature suggests that public funding positively correlates with team performance.<sup>166</sup> Examining NHL team performance and public funding, there is little evidence here to show a strong correlation. For example, let us examine the New York Islanders, who received the largest value of public funding. The Islanders averaged a ranking of 23 out of 30 over the 10 years prior to the arena construction. Similarly, the Pittsburgh Penguins, whose arena had 87.1% public contribution, averaged a ranking of 17 over the 10 years before its arena opened. We can even broaden the scope of league performance in terms of Stanley Cup Championships won. The number of Cup wins does not positively correlate with public funding. The three teams with the highest value of public contribution did win more than three Stanley Cups each. However, three teams with the lowest public funding amount also won more than three Stanley Cups.

Finally, no correlation exists between real cost of arenas and MSA population size, median household income, poverty rate, or team valuation. I characterize wealthier cities as

---

165. Patrick Rishe and Michael Mondello, "Ticket Price Determination in Professional Sports: An Empirical Analysis of the NBA, NFL, NHL, and Major League Baseball," *Sport Marketing Quarterly* 13, no. 2, 2004: 104-112.

166. Elaine S. Povich, "Why Should Public Money Be Used to Build Sports Stadiums?" *PBS*, July 13, 2016, <https://www.pbs.org/newshour/nation/public-money-used-build-sports-stadiums>.

having high median household incomes, low poverty rates, and large population sizes (i.e. major city). My assumptions came from the archetype of a major city. I assumed that wealthier cities would have more money to provide for a sports team. This assumption does not show to be the case. As we saw earlier, larger market cities typically have a lower public contribution. We saw that less populated cities tend to have a larger public contribution and/or be government owned. This association likely exists because private investors are willing to pay for arenas in larger cities. Larger market cities provide more opportunities for investors to receive a positive return.

## **Discussion**

### **Public versus Private Ownership**

As shown earlier, public entities own most NHL arenas. Owning an arena can provide benefits for governments. Benefits include extracted rent from the team through a tenancy lease. For current arenas, this rent ranges as high as \$4 million per year. Cities will structure rent payments as either a specific amount or a percentage of arena revenues. In addition, owning an arena ensures that the facility is multi-use so that it is never vacant. Cities can capitalize on arena events through a revenue-sharing agreement with the team owner. For example, the City of Anaheim receives 47.5 percent and Orange County receives 5 percent of all arena revenues. Recently, this structure has become more popular. Historically, this magnitude of revenue sharing is less popular. Most existing leases direct approximately 90 to 100 percent of revenues to the team rather than the city.

Aside from potential revenues, a government may want to own an arena because they have less risk in backing debt than a private company. As was seen in Canada and Arizona, a private owner has a greater risk at bankruptcy. Today, risk of bankruptcy is not as high since

team owners tend to be worth billions of dollars.<sup>167</sup> Team owner wealth is a point of contention among the public. Some argue that the owners should not need assistance. As discussed earlier, a government may need to provide a subsidy to ensure optimal arena production. Arenas may not be a lucrative venture, with operating costs outweighing potential revenues. A private owner may be unwilling to front the entire capital cost, especially in smaller market cities. When a government owns the arena, it can correct this market failure. In addition, the government entity can label the arena as public infrastructure rather than a contribution towards a privately-owned team. This distinction in ownership may appease political contention. If politicians create a sense of optimism and civic pride in the city, citizens are more likely to approve of public involvement with sports facilities.<sup>168</sup>

There are three major downsides to a government entity owning an NHL arena.

1. **Higher public contribution.** As we saw earlier, publicly owned arenas have the highest amount of public contribution towards capital costs. Governments provided bonds to 87 percent of publicly owned arenas, compared to only 44 percent of privately-owned arenas.
2. **Potential arena vacancy.** In NHL lease agreements, cities typically specify a length of time that a team must operate the arena. Nonetheless, as we saw earlier, relocation is possible. Team owners feel a greater sense of responsibility to keep the team in the city if they own the arena directly.

---

167. Alan Dawson, "The 23 Richest Billionaire NHL Franchise Owners - and How They Made Their Fortune," *Business Insider*, March 04, 2018, <https://www.businessinsider.com/the-23-richest-billionaire-nhl-franchise-owners-2018-3>.

168. Scott Lasley and Joel Turner, "Home Run or Strikeout: The Dynamics of Public Opinion on New Sports Facilities," *The Social Science Journal*, 47 no. 4, (2010): 853-864, <https://doi.org/10.1016/j.soscij.2010.07.004>.

3. **Opportunity Cost.** Providing funds towards a sports facility comes at an opportunity cost to the city. The city must compare the amount of funding towards the arena to the best alternative use. Economists often point out that spending towards an arena means that the city takes away spending that could go towards municipal works such as local police force or community parks. As discussed earlier, arena projects can be coupled with other municipal works or infrastructure improvements around the city. Cities must consider the economic and non-economic value of the projects.

### Popular Funding Tools

The most popular type of support for publicly owned arenas in the United States is bonds. Municipal bonds have an advantage because their interest rate is exempt from federal income taxation. This feature makes debt financing lower for cities than it would be for private entities. A disadvantage to bonds is that they indirectly cause individuals across the nation to subsidize the arena since the interest is federal income tax-exempt.<sup>169</sup> Another disadvantage to bonds stems from the federal tax code in the United States. The tax code prevents cities from using more than 10 percent of arena revenues to pay off federal tax-exempt municipal bonds. As a result, when cities provide bonds, they cannot use ticket taxes or team rent as debt revenue sources.<sup>170</sup>

The most popular type of support for publicly owned arenas in Canada is direct government appropriation. Appropriation often comes in the form of grants or subsidies, which the government does not expect teams to repay. From 1980 to 2009, the three levels of government spent approximately \$684 billion on subsidies to private industry.<sup>171</sup> On the grand

---

169. Roger D. Blair, *Sports Economics* (New York: Cambridge University Press, 2012).

170. Ted Gayer, Austin J Drukker, and Alexander K Gold, 2016, "Tax-Exempt Municipal Bonds and the Financing of Professional Sports Stadiums," Report, *The Brookings Institution*, [https://www.brookings.edu/wp-content/uploads/2016/09/gayerdrukkergold\\_stadiumsubsidies\\_090816.pdf](https://www.brookings.edu/wp-content/uploads/2016/09/gayerdrukkergold_stadiumsubsidies_090816.pdf)

171. Mark Milke, "Government Subsidies in Canada: A \$684 Billion Price Tag," *Taxpayer Subsidies to Corporations, Government Businesses, and Consumers*, June 2014.

scale, NHL arena subsidies do not make up a large part of all government appropriations. Nonetheless, citizens scrutinize appropriations to NHL teams because of media highlights. In the late 1990s and early 2000s, the Government of Canada considered providing \$2 million to \$2.5 million to NHL teams for financial assistance.<sup>172</sup> As we saw earlier, most of the Canadian teams struggled financially. The government proposed this plan help the teams. Canadian NHL teams face constraints due to currency exchange and higher taxes than in the United States. Arena revenues are in Canadian Dollar while player salaries and operating expenses are in United States Dollar. Due to the higher United States currency, Canadian teams may struggle to meet financial obligations. In 1998, the House of Commons met with NHL representatives. Team owners did not ask for operating subsidies from the government. Instead, the league asked for tax treatment that would make the industry competitive in the international market.<sup>173</sup>

### Location Matters

As we saw in Canada and the United States, the lower the MSA population size, the higher the public contribution to the arena located in that MSA. At the micro level, public funding does not strongly negatively correlate with population size. However, as shown before, there is a negative correlation between MSA groupings and public contribution. We also saw that most NHL arenas are in a city's downtown area. Arenas located outside of the downtown area have the lowest attendance in the league. Most arenas in the United States and Canada have an average attendance of 90 to 100 percent of seating capacity. The four teams located outside of downtown have an average attendance between 79 and 87 percent.<sup>174</sup> In addition, as shown by

---

172. Richard Sandomir, "Canada Kills Subsidy Plan for 6 N.H.L. Teams," *The New York Times*, January 22, 2000, <https://www.nytimes.com/2000/01/22/sports/hockey-canada-kills-subsidy-plan-for-6-nhl-teams.html>.

173. Canada, Government of Canada, House of Commons, *Sub-Committee On The Study Of Sport In Canada Of The Standing Committee On Canadian Heritage*, Ottawa, ON: 1998.

174. The four teams whose arenas are not downtown are the Florida Panthers, Arizona Coyotes, Carolina Hurricanes, and Ottawa Senators.

former NHL teams, locating an arena in a small town outside of a major city is an inefficient use of resources. Median size population markets can successfully host an NHL team. However, an arena distant from the core population has difficulties attracting a fan base. Typically, the NHL considers placing teams in areas rated high on Nielsen television rankings. Most United States teams are in locations ranked among the top 27 highest in Nielsen ranking. The NHL uses Nielsen's designated market areas as indicators for how financially successful a team will be on its own.<sup>175</sup> As discussed previously, Nielsen ratings indicate how many televisions are in the area. Larger MSAs rank higher.

### Arena Purpose Considerations

If a city acquires a new team, we can expect total real cost of capital around a median of \$252 million, with a public contribution of 76 percent. If a city does not already have a team or arena, acquiring a new team is the best option for a city. Arenas built for new teams had the lowest total capital cost and public contribution. However, cities cannot look only at arena cost. Cities must also consider the current NHL expansion fee of \$650 million. It may be lower cost to attract a team through a relocation bid instead.

In the United States, arenas built to prevent team relocation are the most expensive and most publicly funded. If an NHL team does leave, it creates a stigma that the community is subpar and incompetent.<sup>176</sup> Before deciding on funding, cities can assess the credibility of the relocation threat. Cities can analyze credibility of threats by speaking directly with Commissioner Bettman. Commissioner Bettman says that he is transparent with any city interested in a team. For example, Commissioner Bettman warned Quebec City that building a

---

175. *Collective Bargaining Agreement Between National Hockey League and National Hockey League Players' Association September 16, 2012 – September 15, 2022*, January 12, 2013.

176. John Crompton, "Beyond Economic Impact: An Alternative Rationale for the Public Subsidy of Major League Sports Facilities," *Journal of Sport Management* 18, no. 1 (2004), doi:10.1123/jsm.18.1.40.

new arena would not guarantee the city a team.<sup>177</sup> If the threat is credible, then the city should determine if private investors have interest in keeping the team in the city. Assessing the threat helps determine the need for city intervention and citizens' willingness to pay. Some economists have conducted contingent valuation surveys to assess citizens' willingness to pay for a new arena. The results of a study by Aju J. Fenn and John R. Crooker show three reasons why respondents have a high willingness to pay. If the arena will bring prestige to the city, prevent team relocation, or improve team performance, then residents will consider public funding.<sup>178</sup>

## Conclusion

### Policy Recommendations

Public financing NHL arenas is a popular practice that yields a complex discussion over the type and amount of support. As supported in this paper, cities cannot ignore the requests for funding by NHL teams. As teams continue to look for replacement facilities, cities must decide whether to keep the team or seek relocation. The NHL prefers to keep teams in their original cities and forge relationships with policy makers. In larger markets with wealthy investors, private entities provide a greater amount of upfront capital costs. Nonetheless, direct and indirect supports are both a key component of agreements between the NHL and cities.

The following recommendations assume that the NHL structure will remain the same. The Board of Directors and Commissioner have authority to decide the relocation and expansion

---

177. Nicholas J. Cotsonika, "Commissioner: NHL Cautious about Expansion, Relocating Franchises," *NHL.com*, November 18, 2017, <https://www.nhl.com/news/gary-bettman-cautious-about-nhl-expansion-relocation/c-293103190>.

178. Aju J. Fenn and John R. Crooker, "Estimating Local Welfare Generated by an NFL Team under Credible Threat of Relocation," *Southern Economic Journal* 76, no. 1 (2009), doi:10.4284/sej.2009.76.1.198.



of NHL franchise teams. Based on my analysis of public financing towards NHL arenas, I present four recommendations for policy makers in the United States and Canada:

1. **At the city level, policy makers should consider a city's market size and population.** The smallest MSA population size in Canada is approximately 800,000 people (Winnipeg, Appendix E). The smallest MSA population size in the United States is approximately 1.1 million people (Buffalo, Appendix E). Historically, cities with a population size smaller than these two markets do not fare well hosting an NHL team. Before constructing an arena, a city must assess if its market is large enough for the league to consider it as a viable option. As we saw in the discussion, most NHL teams exist in cities that rank high in number of televisions per household. If a city finds that its population is ideal to support a team, it must then consider if its funding package is competitive. Generally, the smaller the MSA population or designated market size, the greater the amount the city must contribute.
2. **Policy makers should consider the present value of public financing tools.** Public financing tools result from negotiations between the NHL and government. While some tools are more popular than other, there is no one-size-fits-all approach. To decide the best package, teams and cities must calculate the value of funding over the entire life of the project in present dollars. Opportunity cost and economic value of the public financing tools is a critical measure. Many governments ignore the value of indirect funding, such as tax exemptions or infrastructure improvements. Property tax abatements of 99 to 100 percent are especially popular in the United States and can add up to a large value.

3. **Policy makers should report the fiscal arrangements between teams and governments.** To properly assess public financing arrangements, governments must systematically track its contributions. Compiling the data in this paper came from many sources. Preferably, governments should be able to consult one source of comparable data. Governments can learn from other government practices and always improve budgeting. To do so, policy makers must track its contributions. Public contribution sometimes involves all three levels of government. Transparent and systematic data is vital for collaborating across levels of government. In addition, transparency is helpful in informing the public. We know that financing sports facilities is a controversial topic. Citizens must receive accurate and accessible information on how the government spends its money.
4. **Policy makers must consider if existing policies achieve their goals.** As highlighted throughout this paper, federal governments impose restraints on city funding decisions. In the United States, the government tried to stop public funds to sports teams by legislating the Private Activity Test. As a result, cities spend more towards NHL arenas because they cannot use private revenues to pay off tax-exempt bonds. If the government changes this policy, then cities can use more arena revenues to pay off municipal bonds. Because bonds are the most commonly used tool, this change is important to consider. In Canada, governments should consider their subsidy and property tax policies. Arena property taxes in Canada are substantially higher than those in the United States. Most often, Canadian governments provide teams direct funding through subsidies. As suggested by NHL team owners and Commissioner Bettman, teams do not need operating subsidies. Instead, teams need a

more competitive property tax assessment. Bettman pointed out that Canadian teams are at a disadvantage because of currency exchange rates and taxation.<sup>179</sup> If Canada wants to be competitive in the NHL industry, its fiscal policies must be competitive.

In this paper, I identified public financing trends to NHL arenas in the United States and Canada. To do this, I examined lease agreements between teams and their cities, city market size, and purpose of arena construction. I uncovered the impact of fiscal policies on cities who have or want an NHL franchise team. Governments must conduct economic analyses of their financing tools. Economic benefit assessments can be useful, but governments need a complete understanding of the costs. To host an NHL team and benefit from an arena, governments must assess their city characteristics and public financing tools. We can only know the price of the puck by accounting for costs every step of the way.

---

179. Canada, Government of Canada, House of Commons, *Sub-Committee On The Study Of Sport In Canada Of The Standing Committee On Canadian Heritage*, Ottawa, ON: 1998.

## Bibliography

- 2016-17 Scotiabank Centre Annual Report. Report. September 2018. [http://www.scotiabank-centre.com/sites/default/files/2018-09/Scotiabank Centre 2016-17 Annual Report WEB\\_0.pdf](http://www.scotiabank-centre.com/sites/default/files/2018-09/Scotiabank%20Centre%202016-17%20Annual%20Report%20WEB_0.pdf).
- "A Comparison of Edmonton's Proposed Downtown Arena and Five Other Arena Deals." Edmonton Journal. Accessed May 30, 2019. <http://www.edmontonjournal.com/sports/arena/arenacomparison/index.html>.
- "About Us." Enterprise Center. May 23, 2019. <http://www.enterprisecenter.com/about-us>.
- "About Us." STAPLES Center. Accessed June 3, 2019. <https://www.staplescenter.com/about-us>.
- Alexander, Chip. "Proposed PNC Arena Renovations Could Cost \$200 Million." *Raleigh News & Observer*. March 8, 2019. <https://www.newsobserver.com/sports/article227302779.html>.
- Anderson, Ty. "Teens Discover That Bruins Have Been Stiffing Boston for 24 Years." *WEEI Sports Radio Network*. July 14, 2017. <https://weei.radio.com/blogs/ty-anderson/teens-discover-bruins-have-been-stiffing-boston-24-years>.
- "Arena Coming, but Is Hockey?" *WRAL.com. Capitol Broadcasting Company, Inc.* April 22, 1997. <https://www.wral.com/news/local/story/162234/>.
- Associated Press. "Majority of Calgary Voters Say 'no Thanks' to 2026 Olympics." *AP NEWS*. November 14, 2018. <https://www.apnews.com/cf51ec9f0c5a4e82b64dae89079270f1>.
- Astorian, Laura. "Memorabilia Memories: The St. Louis Arena." *St. Louis Game Time*. November 15, 2014. <https://www.stlouisgametime.com/2014/11/15/7225213/memorabilia-memories-the-st-louis-arena>.
- Bagli, Charles V. "Madison Square Garden Is Told to Move." *The New York Times*. July 24, 2013. <https://www.nytimes.com/2013/07/25/nyregion/madison-square-garden-is-told-to-move.html>.
- . "So Many Seats, So Many Tax Breaks." *The New York Times*. July 11, 2018. <https://www.nytimes.com/2018/07/11/nyregion/stadiums-arenas-funding-nyc.html>.
- Bakx, Kyle. "Canadian Cities Increasingly Turning to Levies to Fix Blight." *CBC News*. May 22, 2015. <https://www.cbc.ca/news/business/risky-business-as-canadian-cities-turn-to-neighbourhood-levies-1.3079392>.
- Beacon, Bill. "Revenue, Rules and Realignment: Gary Bettman Marks 25 Years as NHL Commissioner." *The Globe and Mail*. The Canadian Press. February 1, 2018.

- <https://www.theglobeandmail.com/sports/hockey/revenue-rules-and-realignment-gary-bettman-marks-25-years-as-nhl-commissioner/article37813632/>.
- Bhasin, Anoop K. 2000. "Tax-Exempt Bond Financing of Sports Stadiums: Is the Price Right." *Villanova Sports and Entertainment Law Journal* 7 (2): 181–208.  
<http://digitalcommons.law.villanova.edu/mslj/vol7/iss2/1>.
- Blair, Roger D. *Sports Economics* (New York: Cambridge University Press, 2012).
- "Blake Shelton Coming to KeyBank Center." *WGRZ*. October 31, 2018.  
<https://www.wgrz.com/article/entertainment/blake-shelton-coming-to-keybank-center/71-609749548>.
- Bloom, David. "Edmonton Oilers' New Arena Living up to the Hype." *Edmonton Journal*. May 30, 2016. <https://edmontonjournal.com/sports/hockey/nhl/edmonton-oilers/oilers-new-arena-is-nice>.
- Booton, Jen. "Boston's TD Garden Announces \$100 Million Expansion." *SportTechie*. November 09, 2018. <https://www.sporttechie.com/bostons-td-garden-announces-100-million-expansion/>.
- "Boston Arena Plan Unveiled," *The Gazette*, August 6, 1981,  
<https://news.google.com/newspapers?id=z2IGAAAIBAJ&sjid=EukMAAAAIBAJ&pg=1022,1842305&dq>.
- Bott, Celeste. "Battle between Blues, Comptroller Ends with Settlement over Upgrades at Scottrade Center." *St. Louis Today*. January 5, 2018.  
[https://www.stltoday.com/news/local/govt-and-politics/battle-between-blues-comptroller-ends-with-settlement-over-upgrades-at/article\\_670c6012-177f-5485-a3f1-6e669df87a76.html](https://www.stltoday.com/news/local/govt-and-politics/battle-between-blues-comptroller-ends-with-settlement-over-upgrades-at/article_670c6012-177f-5485-a3f1-6e669df87a76.html).
- Boudevin, Jessica. "Pepsi Center Installs Tech Upgrades." *VenuesNow*. September 17, 2013.  
<https://www.venuesnow.com/pepsi-center-installs-tech-upgrades/>.
- British Columbia. Office of the Auditor General. *The 2010 Olympic and Paralympic Winter Games: A Review of Estimates Related to the Provinces Commitments*. Victoria, B.C.: Office of the Auditor General, 2006.
- Brown, Clyde and David M. Paul. "The Political Scorecard of Professional Sports Facility Referendums in the United States, 1984-2000." *Journal of Sport and Social Issues* 26, no. 3 (2002): 248-67. doi: 10.1177/0193723502263003.
- Brown, Matthew T. 2010. *Financial Management in the Sport Industry*. Scottsdale, AZ: Holcomb Hathaway Publishers.
- Buckshon, Mark. "Mark Buckshon." *Chicago Construction News*. December 22, 2015.  
<https://chicagoconstructionnews.com/300-million-building-permit-issued-for-united-center-expansion/>.

- "Buffalo Memorial Auditorium." Accessed June 19, 2019.  
[http://www.demcoinc.com/Tools/Portfolio/frontend/item.asp?jPageNumber=5&ItemID=0&projflag=0&type=2&size=0&lngDisplay=0&strMetaTag=.](http://www.demcoinc.com/Tools/Portfolio/frontend/item.asp?jPageNumber=5&ItemID=0&projflag=0&type=2&size=0&lngDisplay=0&strMetaTag=)
- Burnside, Scott. "Owners to Blame for Thrashers' Failure." *ESPN*. May 31, 2011.  
[https://www.espn.com/nhl/columns/story?columnist=burnside\\_scott&id=6611534](https://www.espn.com/nhl/columns/story?columnist=burnside_scott&id=6611534).
- Butterfield, Fox. "After Long Wait, New Boston Garden Planned." *The New York Times*. May 8, 1992. <https://www.nytimes.com/1992/05/08/us/after-long-wait-new-boston-garden-planned.html>.
- . "Hopes for a New Boston Garden Dim with Political Quarreling." *The New York Times*. February 17, 1993. <https://www.nytimes.com/1993/02/17/us/hopes-for-a-new-boston-garden-dim-with-political-quarreling.html?src=pm>.
- Byrnes, Mark. "The Arena That Helped Revitalize Downtown Atlanta." *CityLab*. April 24, 2015.  
<https://www.citylab.com/design/2015/04/remembering-the-omni-the-arena-that-helped-revitalize-downtown-atlanta/391349/>.
- Caggiano, Greg. "Turnin' Back the NHL Clock: Kansas City Scouts." *Bleacher Report*. June 25, 2008. <https://bleacherreport.com/articles/32553-turnin-back-the-nhl-clock-kansas-city-scouts>.
- "CalgaryNEXT: The Concept." *The City of Calgary*. January 13, 2016.  
[https://www.calgary.ca/General/Pages/CalgaryNEXT\\_TheConcept.aspx](https://www.calgary.ca/General/Pages/CalgaryNEXT_TheConcept.aspx).
- Campbell, Clarence. "Standings: 1990-1991." *NHL.com*. Accessed December 3, 2018,  
<https://www.nhl.com/standings/1990/division>.
- Canada. City of Calgary. "Study Assesses Economic Impact of Revitalization of Rivers District." Calgary: Calgary Economic Development, 2019.  
<https://www.calgaryeconomicdevelopment.com/newsroom/study-assesses-economic-impact-of-revitalization-of-rivers-district/>.
- . *Facilities Update C2019-0964 Combined Meeting of Council*. By Glenda Cole, Carla Male, Barry Munro, and Michael Brown. July 22, 2019.  
<https://www.calgary.ca/PDA/pd/Documents/Facility-Update-Presentation.pdf>.
- . "New Event Centre Overview Infographic." Digital image. The City of Calgary. July 22, 2019. [https://content.presspage.com/uploads/1485/1920\\_eventcentreoverview-graphic--239102.jpg?10000](https://content.presspage.com/uploads/1485/1920_eventcentreoverview-graphic--239102.jpg?10000).
- . "Victoria Park Event Centre FAQs." The City of Calgary. July 27, 2019.  
<https://www.calgary.ca/PDA/pd/Pages/Event-Centre-FAQs.aspx>.
- . "Official Results of the Vote of the Electors." *Elections Calgary*. Calgary: City of Calgary, 2018. <https://www.calgary.ca/vote2018/Pages/Vote-2018-results.aspx>.

- Canada. City of Edmonton. "The Agreement." Edmonton: City of Edmonton, Accessed June 8, 2019. [https://www.edmonton.ca/attractions\\_events/rogers\\_place/the-agreement.aspx](https://www.edmonton.ca/attractions_events/rogers_place/the-agreement.aspx).  
---. *Ticket Surcharge Agreement*. February 10, 2014. [https://www.edmonton.ca/attractions\\_events/documents/PDF/Arena\\_Ticket\\_Surcharge\\_Agreement.pdf](https://www.edmonton.ca/attractions_events/documents/PDF/Arena_Ticket_Surcharge_Agreement.pdf).
- Canada. City of Ottawa. Audit Budget and Finance Committee. *Property Specific Agreements*. February 5, 2010. [http://ottawa.ca/calendar/ottawa/citycouncil/abfc/2010/02-16/02-ACS2010-CMR-FIN-0009-Tax\\_Agreements.htm](http://ottawa.ca/calendar/ottawa/citycouncil/abfc/2010/02-16/02-ACS2010-CMR-FIN-0009-Tax_Agreements.htm).
- Canada. Government of Canada. House of Commons. *Sub-Committee On The Study Of Sport In Canada Of The Standing Committee On Canadian Heritage*. Ottawa, ON: 1998.
- Canada. Government of Canada. Infrastructure Canada. "Building Canada Fund." Ottawa: Infrastructure Canada. 2011. <https://www.infrastructure.gc.ca/prog/bcf-fcc-eng.html>
- Canada. *The Constitution Act, 1867 (UK), 30 & 31 Victoria, c 3, section 92*.
- Canada. Province of Manitoba. Office of the Minister of Finance. *Province Of Manitoba Annual Report For The Year Ended March 31, 2004*. By Greg Selinger. Ottawa, 2004. <https://www.gov.mb.ca/finance/publications/pubs/annualreports/annreport2004.pdf>.
- "Canadian Tire Centre - Ottawa: Tickets, Schedule, Seating Chart, Directions." *Ticketmaster Canada*. [https://www.ticketmaster.ca/Canadian-Tire-Centre-tickets-Kanata/venue/401524?\\_ga=2.86911320.192072074.1566766802-1398537364.1566766802](https://www.ticketmaster.ca/Canadian-Tire-Centre-tickets-Kanata/venue/401524?_ga=2.86911320.192072074.1566766802-1398537364.1566766802).
- Cara Spencer, Jeanette Oxford and James Wilson v. The City of St. Louis, Land Clearance for Redevelopment Authority, St. Louis Blues Hockey Club, L.P. Kiel Center Partners, L.P.* (Circuit Court Of The City Of St. Louis State Of Missouri).
- CBS Sports. "Habs Get Tax Relief on Molson Centre." *CBC News*. February 1, 2001. <https://www.cbc.ca/sports/hockey/habs-get-tax-relief-on-molson-centre-1.278994>.
- Chakerian, Peter. "Remembering the Richfield Coliseum: From 1974 to 1994, 'The Palace on the Prairie' Was Northeast Ohio's Sports, Entertainment Mecca (Photo Gallery)." *Cleveland.com*. September 24, 2014. [https://www.cleveland.com/entertainment/2014/09/remembering\\_the\\_coliseum\\_at\\_ri.html](https://www.cleveland.com/entertainment/2014/09/remembering_the_coliseum_at_ri.html).
- Charest, Al and Aryn Toombs. "'CalgaryNEXT, the West Village Project, Is Dead,' Says Mayor Nenshi." *Calgary Herald*. April 3, 2017. <https://calgaryherald.com/news/local-news/calgarynext-the-west-village-project-is-dead-says-mayor-nenshi>.
- Chin, Falice. "Arena Funding Debate: A Play That Always Unfolds over Several Acts." *CBC News*. October 6, 2017. <https://www.cbc.ca/news/canada/calgary/calgary-election-2017-arena-funding-debate-explainer-eyeopener-extra-podcast-1.4342529>.

- "City and Province to Provide Winnipeg Pro Sports with \$16.6M This Year." *CBC News*. March 6, 2019. <https://www.cbc.ca/news/canada/manitoba/winnipeg-manitoba-pro-sports-subsidies-1.5041908>.
- Clabaugh, Jeff. "Capital One Arena Getting Devils Backbone Lounge, 'gravity-defying SkyRing Display'." *WTOP*. February 21, 2019. <https://wtop.com/business-finance/2019/02/capital-one-arena-getting-devils-backbone-loung-gravity-defying-skyring-display/slide/1/>.
- Coates, Dennis and Brad R. Humphreys. "Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?" *Econ Journal Watch*, 5, no. 3. September 2008. pp 294-315.
- Collective Bargaining Agreement Between National Hockey League and National Hockey League Players' Association September 16, 2012 – September 15, 2022*. January 12, 2013.
- "Community Revitalization Levy Program." *Alberta.ca*. Accessed July 10, 2019. <https://www.alberta.ca/community-revitalization-levy.aspx>.
- Constantineau, Bruce. "Rogers Arena Still Rockin' 20 Years Later." *Vancouver Sun*. August 28, 2015. <http://www.vancouversun.com/sports/rogers+arena+still+rockin+years+later/11325281/story.html>.
- Contorno, Steve. "Hold on to Your Bolts: Lightning in Talks to Stay in Tampa through 2037." *Tampa Bay Times*. December 5, 2017. [http://www.tampabay.com/news/business/tourism/Hold-on-to-your-Bolts-Lightning-in-talks-to-stay-in-Tampa-through-2037\\_163300197](http://www.tampabay.com/news/business/tourism/Hold-on-to-your-Bolts-Lightning-in-talks-to-stay-in-Tampa-through-2037_163300197).
- "Cost-Benefit Analysis of the Calgary 2026 Draft Hosting Plan Concept." *Ernst and Young*. November 6, 2018. <https://www.calgary.ca/CSPS/Recreation/Documents/2026%20Olympic%20Bid/Earnst%20and%20Young%20report.pdf>.
- Cotsonika, Nicholas J. "Commissioner: NHL Cautious about Expansion, Relocating Franchises." *NHL.com*. November 18, 2017. <https://www.nhl.com/news/gary-bettman-cautious-about-nhl-expansion-relocation/c-293103190>.
- Crompton, John. "Beyond Economic Impact: An Alternative Rationale for the Public Subsidy of Major League Sports Facilities." *Journal of Sport Management* 18, no. 1 (2004): 40-58. doi:10.1123/jsm.18.1.40.
- Crompton, John L. and Dennis R. Howard. 2013. "Costs: The Rest of the Economic Impact Story." *Journal of Sport Management* 27 (5): 379–92. <https://doi.org/10.1123/jsm.27.5.379>.



- "Dallas Stars Team History." *Sports Team History*. April 5, 2019.  
<https://sportsteamhistory.com/dallas-stars>.
- Dawson, Alan. "The 23 Richest Billionaire NHL Franchise Owners - and How They Made Their Fortune." *Business Insider*. March 04, 2018. <https://www.businessinsider.com/the-23-richest-billionaire-nhl-franchise-owners-2018-3>.
- DeCock, Luke. "Hurricanes on PNC Arena Lease Negotiations: 'The Economics of the Deal Have to Change in Our Favor'." *Raleigh News & Observer*. February 7, 2019.  
<https://www.newsobserver.com/sports/spt-columns-blogs/luke-decock/article225942760.html>.
- Development Case Studies: Arena District in Columbus, Ohio*. Report. Accessed May 20, 2019.  
<https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.
- Dhillon, Bipin. "Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations." *MPA Major Research Papers*, 178. July 1, 2018.
- Dinces, Sean. "Nothing but Net Profit." *Radical History Review*, no. 125 (May 2016). doi: 10.1215/01636545-3451712.
- Ecker, Danny. "Shedding More Light on the United Center Tax Break." *Crain's Chicago Business*. January 7, 2013.  
<https://www.chicagobusiness.com/article/20130107/BLOGS04/130109869/report-details-united-center-s-tax-savings-during-last-decade>.
- Eltman, Frank and Associated Press. "Taxes Already High, NYers to Vote on Arena Plan." *San Diego Union-Tribune*. July 29, 2011. <https://www.sandiegouniontribune.com/sdut-taxes-already-high-nyers-to-vote-on-arena-plan-2011jul29-story.html>.
- Everson, Mark. "Devils Sign Newark Lease." *The New York Post*. February 3, 2005.  
<https://nypost.com/2005/02/03/devils-sign-newark-lease/>.
- Fallstrom, R.b. "Following a Checkered Past, the Arena to Close." *AP NEWS*. May 7, 1994.  
<https://www.apnews.com/0cd6a98080c04384c433a973e6e21389>.
- Farag, Joe and Len Brittain. "Sports in the Public-Private Arena City of Toronto." *Government Finance Review*. June 2009. [https://gfoa.org/sites/default/files/GFR\\_JUN\\_09\\_73.pdf](https://gfoa.org/sites/default/files/GFR_JUN_09_73.pdf)
- Farren, Michael. "The Hidden Costs of Stadium Subsidies." *Medium, Concentrated Benefits*. May 18, 2017. <https://medium.com/concentrated-benefits/the-hidden-costs-of-stadium-subsidies-fbc079f335f3>.
- Faulk, Mike, and Koran Addo. "City, Business Leaders Want \$138 Million in Renovations for Scottrade Center." *St. Louis Post-Dispatch*. January 4, 2017.

[https://www.stltoday.com/news/local/metro/city-business-leaders-want-million-in-renovations-for-scottrade-center/article\\_5ed239cf-48b5-51ce-9016-ce069693eef7.html](https://www.stltoday.com/news/local/metro/city-business-leaders-want-million-in-renovations-for-scottrade-center/article_5ed239cf-48b5-51ce-9016-ce069693eef7.html).

Fenn, Aju J., and John R. Crooker. "Estimating Local Welfare Generated by an NFL Team under Credible Threat of Relocation." *Southern Economic Journal* 76, no. 1 (2009): 198-223. doi:10.4284/sej.2009.76.1.198.

Fifield, Jen. "Coyotes Arena Management Agreement Extended until 2026." *Arizona Central*. August 1, 2018. <https://www.azcentral.com/story/news/local/glendale/2018/08/01/glendale-extends-contract-company-managing-gila-river-arena-arizona-coyotes/882373002/>.

Firestone, Bruce. "Opinion: Why Scotiabank Place Is in Kanata." *Ottawa Business Journal*. April 27, 2009. <https://obj.ca/article/opinion-why-scotiabank-place-kanata>.

Fitzpatrick, Jamie. "How to Read and Understand the NHL Standings." *LiveAbout*. May 24, 2019. <https://www.liveabout.com/nhl-standings-explained-2778913>.

"Flames Set to Unveil New Scoreboard." *Calgary Herald*. December 12, 2006. <https://www.pressreader.com/canada/calgary-herald/20061212/page/1>.

Flanagan, Thomas. *Game Theory and Canadian Politics*. Toronto: University of Toronto Press, 1998. <http://www.jstor.org/stable/10.3138/j.ctt2ttjxs>.

"Forbes Releases 20th Annual List of NHL Team Valuations." *Forbes*. December 5, 2018. <https://www.forbes.com/sites/forbespr/2018/12/05/forbes-releases-20th-annual-list-of-nhl-team-valuations/#63b6fd9c7b76>.

Fox, Steve. "The MCI Arena Timeline: 1993-1997." *The Washington Post*. November 25, 1997. <https://www.washingtonpost.com/wp-srv/sports/longterm/general/mciarticles/launch/timeline.htm>.

Fried, Gil. 2015. *Managing Sport Facilities*, Champaign: Human Kinetics Books.

Futterman, Matthew. "NHL, Team in Bankruptcy Showdown." *The Wall Street Journal*. May 7, 2009. Accessed July 27, 2019. <https://www.wsj.com/articles/SB124165359524593827>.

Gaist, Thomas. "Joe Louis Arena Facing Closure, Demolition as Part of Stadium Deal with Ilitch." March 19, 2014. <https://www.wsws.org/en/articles/2014/03/19/joel-m19.html>.

Gayer, Ted, Austin J Drukker, and Alexander K Gold. 2016. "Tax-Exempt Municipal Bonds and the Financing of Professional Sports Stadiums." Report. *The Brookings Institution*. [https://www.brookings.edu/wp-content/uploads/2016/09/gayerdrukkergold\\_stadiumsubsidies\\_090816.pdf](https://www.brookings.edu/wp-content/uploads/2016/09/gayerdrukkergold_stadiumsubsidies_090816.pdf).

Gill, Joey. "New 30-year-lease Announced between City and Nashville Predators at Bridgestone Arena." *WSMV Nashville*. May 17, 2019. [https://www.wsmv.com/news/new--year-lease-announced-between-city-and-nashville-predators/article\\_23aa3904-77f6-11e9-963f-d34dc2276bed.html](https://www.wsmv.com/news/new--year-lease-announced-between-city-and-nashville-predators/article_23aa3904-77f6-11e9-963f-d34dc2276bed.html).

- Giovannetti, Justin. "Calgary Strikes Deal for New Flames Arena, Agrees to Pay Half." *The Globe and Mail*. July 23, 2019. <https://www.theglobeandmail.com/sports/hockey/article-calgary-strikes-deal-for-new-flames-arena-agrees-to-pay-half/>.
- Godfrey, Michael W. "A Short History of the NHL Franchises." *Carnegie Mellon School of Computer Science*. Accessed November 9, 2018. <http://www.cs.cmu.edu/~./clamen/misc/Sports/NHL-history.html.gz>.
- "Government Subsidies to Private Industry." *CQ Researcher by CQ Press*. April 26, 1933. <https://library.cqpress.com/cqresearcher/document.php?id=cqresre1933042600>.
- Graham, Mark Wallace. "The Quebec Coyotes? A Potential Move from the Desert." *The Hockey Writers*. April 15, 2013. <https://thehockeywriters.com/the-quebec-coyotes-a-potential-move-from-the-desert/>.
- Green, Norm. "The North Stars Move to Dallas." *D Magazine Partners, Inc*. January 2010. <https://www.dmagazine.com/publications/d-magazine/2010/january/the-north-stars-move-to-dallas/>.
- Greenberg, Martin J. 1999. "Stadium Financing and Franchise Relocation Act of 1999." *Marquette Sports Law Review* 10, no. 2. <http://scholarship.law.marquette.edu/sportslaw/vol10/iss2/12>.
- Gretz, Adam. "Lost Franchises: Remembering the NHL's Cleveland Barons." *CBS Sports*. June 19, 2013. <https://www.cbssports.com/nhl/news/lost-franchises-remembering-the-nhls-cleveland-barons/>.
- Gretz, Adam. "Remembering the Oakland Seals." *SBNation.com*. September 11, 2014. <https://www.sbnation.com/nhl/2014/9/11/6130229/oakland-seals-history-california-hockey-nhl>.
- Grow, Nathaniel. *Regulating Professional Sports Leagues*. 72 Wash. & Lee L. Rev. 573 (2015). <https://scholarlycommons.law.wlu.edu/wlulr/vol72/iss2/4>
- Gurovits, András A. *The Sports Law Review*, 3rd ed. London: Law Business Research. 2017.
- "Habs Get Tax Relief on Molson Centre." *CBC News*. February 1, 2001. <https://www.cbc.ca/sports/hockey/habs-get-tax-relief-on-molson-centre-1.278994>.
- Hager, Mike. "Vancouver City Council Approves Aquilini's Three New Highrise Towers beside Rogers Arena." *Vancouver Sun*. July 20, 2012. <http://www.vancouver.sun.com/business/Vancouver-city-council-approves-Aquilini-three-highrise-towers-beside-Rogers-Arena/6961948/story.html>.

- Hansen, Alicia. "Are Lottery Taxes Regressive? (And What Does "Regressive" Mean Anyway?)" *Tax Foundation*. June 16, 2006. <https://taxfoundation.org/are-lottery-taxes-regressive-and-what-does-regressive-mean-anyway/>
- Harris, Craig. "Glendale: Coyotes, Not City, to Blame for Financial Mess." *Arizona Central*. March 10, 2017. <https://www.azcentral.com/story/news/politics/legislature/2017/03/09/glendale-fires-back-arizona-coyotes-glendale-arena/98967020/>.
- Harvey, Randy. "On Time and Under Budget: A Winter Olympics Success Story." *Los Angeles Times*. March 16, 1987. <https://www.latimes.com/archives/la-xpm-1987-03-16-sp-6435-story.html>.
- Hickey, Pat. "Molson Brothers Buy Montreal Canadiens for \$500M." *Montreal Gazette*. Accessed July 18, 2019. <http://www.montrealgazette.com/life/MolsonbrothersMontrealCanadiens500M/1717280/story.html>.
- Hinton, Kevin, and Ryan Mckenzie. "VIDEO: Behind the Scenes of Rogers Arena's Changes." *BC Business*. September 5, 2014. <https://www.bcbusiness.ca/video-behind-the-scenes-of-rogers-arenas-changes>.
- "History." *Centennial Authority*. Accessed May 27, 2019. <http://centennialauthority.com/history/>.
- Holt, Nancy D. "Denver's Pepsi Center Scores with Owners' Fancy Financing." *The Wall Street Journal*. March 3, 1999. <https://www.wsj.com/articles/SB920423066468102500>.
- "Honda Center: The Next 25 Years: Anaheim, CA - Official Website." *Anaheim NHL*. Accessed June 7, 2019. <https://www.anaheim.net/5157/Honda-Center-The-Next-25-Years>.
- "Howl About That: Coyotes Land Arena Deal In Glendale." *Sports Business Daily*. April 12, 2001. <https://www.sportsbusinessdaily.com/Daily/Issues/2001/04/12/Facilities-Venues/Howl-About-That-Coyotes-Land-Arena-Deal-In-Glendale.aspx>.
- Hudes, Sammy. "Ticket Tax for New Arena Would Be a Fraction of Edmonton's Fee - But Why?" *Calgary Herald*. July 26, 2019. <https://calgaryherald.com/news/local-news/ticket-tax-for-new-arena-would-be-a-fraction-of-edmontons-fee-but-why>.
- Hughes, Travis. "You're Still Paying to save the Penguins." *Vox Media, Inc*. July 17, 2014. <https://www.broadstreethockey.com/2014/7/17/5912315/penguins-arena-construction-cost-pennsylvania-taxes-flyers>.
- Infrastructure Canada. "Building Canada Fund." *Infrastructure Canada*. October 26, 2011. <https://www.infrastructure.gc.ca/prog/bcf-fcc-eng.html>.
- Jackson, Darrell. "Glendale Releases Fact Sheet on Arizona Coyotes." *The Glendale Star*. February 07, 2017. [http://www.glendalestar.com/news/article\\_89d7c07c-ecbe-11e6-9ae7-2b457319a0f5.html](http://www.glendalestar.com/news/article_89d7c07c-ecbe-11e6-9ae7-2b457319a0f5.html).

- Jensen, Scott A. 2000. "Financing Professional Sports Facilities with Federal Tax Subsidies: Is It Sound Tax Policy?" *Marquette Sports Law Review* 10, no. 2. <http://scholarship.law.marquette.edu/sportslaw/vol10/iss2/15>.
- "Jets Fans Get First Look at Bell MTS Place Renovations." *CBC News*. September 18, 2017. <https://www.cbc.ca/news/canada/manitoba/winnipeg-jets-true-north-mts-bell-place-renovations-1.4295870>.
- Jones, Richard G. "For Former Newark Mayor, Arena's Opening Is Tough to Savor." *The New York Times*. October 26, 2007. <https://www.nytimes.com/2007/10/26/nyregion/26arena.html>.
- Judd, Dennis R. *The Infrastructure of Play: Building the Tourist City*. Oxfordshire: Routledge, 2015.
- Kagan, Julia. "Sales Tax Definition." *Investopedia*. June 29, 2019. <https://www.investopedia.com/terms/s/salestax.asp>.
- Kass, John. "Chicago Stadium Replacement Urged." *Chicago Tribune*. September 13, 1988. <https://www.chicagotribune.com/news/ct-xpm-1988-09-13-8801290946-story.html>.
- Katz Group Canadian Private Arena Funding*. Report. July 2010. <https://doniveson.ca/wp-content/uploads/2010/07/Katz-Group-Canadian-Private-Arena-Funding.pdf>.
- Keese, Parton. "Rockies Request N.H.L. Approval For Move To New Jersey." *The New York Times*. February 9, 1982. <https://www.nytimes.com/1982/02/09/sports/rockies-request-nhl-approval-for-move-to-new-jersey.html>.
- Kenton, Will. "Subsidy." *Investopedia*. March 28, 2019. <https://www.investopedia.com/terms/s/subsidy.asp>.
- . "Deadweight Loss." *Investopedia*. March 12, 2019. <https://www.investopedia.com/terms/d/deadweightloss.asp>.
- . "Subsidies for Positive Externalities." *Economics Help*, Accessed June 16, 2019, <https://www.economicshelp.org/micro-economic-essays/marketfailure/subsidy-positive-ext/>.
- Kenton, Will and Chris B. Murphy. "Appropriation Definition." *Investopedia*. April 18, 2019. <https://www.investopedia.com/terms/a/appropriation.asp>.
- Kimelman, Adam. *The Good, the Bad, and the Ugly: Philadelphia Flyers: Heart-pounding, Jaw-dropping, and Gut-wrenching Moments from Philadelphia Flyers History*. Chicago, IL: Triumph Books, 2013.
- Kives, Bartley. "City and Province to Provide Winnipeg pro Sports with \$16.6M This Year." *CBC News*. March 6, 2019. <https://www.cbc.ca/news/canada/manitoba/winnipeg-manitoba-pro-sports-subsidies-1.5041908>.

- . "Winnipeg Pro Sports Clubs to Collect \$16.3M in Public Assistance in 2018." *CBC News*. November 29, 2017. <https://www.cbc.ca/news/canada/manitoba/budget-pro-sports-contributions-1.4423605>.
- Klein, Cutler. "From Six Teams to 31: History of NHL Expansion." *NHL.com*. June 22, 2016. <https://www.nhl.com/news/nhl-expansion-history/c-281005106>
- Kofsky, Jared. "NJ Devils Partner with City Hall to Renovate Newark Ice Rink." *Jersey Digs*. July 2, 2018. <https://jerseydigs.com/nj-devils-city-hall-renovate-ice-rink-ironbound-newark/>.
- Komisarchik, Mayya and Aju J. Fenn. "Trends in Stadium and Arena Construction, 1995-2016." *SSRN Electronic Journal*. September 30, 2016. <https://doi.org/10.2139/ssrn.2844807>.
- Lasley, Scott, and Joel Turner. "Home Run or Strikeout: The Dynamics of Public Opinion on New Sports Facilities." *The Social Science Journal* 47, no. 4 (2010): 853–64. <https://doi.org/10.1016/j.soscij.2010.07.004>.
- "League Index." *Hockey Reference*. August 5, 2019. <https://www.hockey-reference.com/leagues/>.
- LeBrun, Pierre. "Gary Bettman Refutes Relocation Reports." *ESPN*. May 13, 2011. <https://www.espn.com/nhl/news/story?id=6536272>.
- Leu, Melissa. "Phoenix Coyotes Referendum Effort Falls Short." *USA Today*. December 28, 2012. <https://www.usatoday.com/story/sports/nhl/coyotes/2012/12/28/coyotes-referendum-effort-falls-short/1797621/>.
- Lioudis, Nick K. 2019. "The Basics of Municipal Bonds." *Investopedia*. May 17, 2019. <https://www.investopedia.com/investing/basics-of-municipal-bonds/>
- Long, Judith Grant. *Public/private Partnerships for Major League Sports Facilities*. London: Routledge, 2013.
- Luna, Nancy. "\$20 Million Honda Center Expansion Begins." *Orange County Register*. February 09, 2012. <https://www.ocregister.com/2012/02/09/20-million-honda-center-expansion-begins/>.
- Mackie, John, and Lionel Wild. "Pacific Coliseum at 50: The Rink on Renfrew in Photos." *Vancouver Sun*. January 20, 2018. Accessed July 19, 2019. <https://vancouversun.com/news/local-news/pacific-coliseum-at-50-the-rink-on-renfrew-in-photos>.
- Madison Square Garden, L.P. v. National Hockey League*, 270 Fed. App'x. 56, 59 (2nd Cir. 2008).

- “Major League Sport Stadium/Arena Referenda (1990 – 2016).” *National Sports Law Institute of Marquette University Law School* 7, 2016.
- "Majority Oppose Use of Public Funds in Arenas or Stadiums: Poll." *The Star*. February 3, 2011. [https://www.thestar.com/sports/hockey/2011/02/03/majority\\_oppose\\_use\\_of\\_public\\_funds\\_in\\_arenas\\_or\\_stadiums\\_poll.html](https://www.thestar.com/sports/hockey/2011/02/03/majority_oppose_use_of_public_funds_in_arenas_or_stadiums_poll.html).
- "Manitoba Boosts Funding for MTS Centre." *CBC News*. June 2, 2011. <https://www.cbc.ca/news/canada/manitoba/manitoba-boosts-funding-for-mts-centre-1.1026604>.
- Mankiw, Gregory N. and Michael D. Whimton. “Free Entry and Social Inefficiency.” *Rand Journal of Economics* 17, no. 1 (1986): 48-58.
- Marsh, James H. “National Hockey League (NHL).” *The Canadian Encyclopedia*. December 19, 2012. <https://www.thecanadianencyclopedia.ca/en/article/national-hockey-league>.
- Mayeda, Andrew. "Secret Memo: Federal Cash for Arena in Quebec City Would be 'rare' Exception." *IPolitics*. January 16, 2011. <https://ipolitics.ca/2011/01/15/secret-memo-federal-cash-for-quebec-city-arena-would-be-rare-exception/>.
- Mayeda, Andrew. "Quebec City Will Have to Play up Potential Olympic Bid to Get NHL Arena." *Global News*. February 9, 2011. <https://globalnews.ca/news/108845/quebec-city-will-have-to-play-up-potential-olympic-bid-to-get-nhl-arena/>.
- McCaffrey, Mark, Shawn Panson, Michael Keenan, Greg Peterson, Andy Rey, Archie Fagot, Christopher Vollmer, Greg Pepitone, and Peter Schwartz. *At the Gate and Beyond: Outlook for the Sports Market in North America through 2022*. Report. PwC Sports Outlook. 2018. <https://www.pwc.com/us/en/industry/entertainment-media/assets/2018-sports-outlook.pdf>.
- McConnell et al., Appellees, v. Hunt Sports Enterprises et al., Appellants. (Court of Appeals of Ohio, Tenth District. Franklin County. August 31, 1999). United States FindLaw 98AP-1386, 98AP-1459.
- Melo, Frederick. "Xcel Energy Center Dusts off Fix-it Wish List after Legislature Frees up Money for Arena." *Twin Cities*. November 6, 2015. <https://www.twincities.com/2013/05/23/xcel-energy-center-dusts-off-fix-it-wish-list-after-legislature-frees-up-money-for-arena/>.
- Mendez, Deborah. "Ground-breaking on \$160 Million Pepsi Center May Come in October." *AP NEWS*. August 13, 1997. <https://www.apnews.com/389122ff7cf6b92abd031790b056ff29>.
- McGran, Kevin. “NHL's Secret Constitution Revealed.” *The Star*. June 6, 2009. [https://www.thestar.com/sports/2009/06/06/nhls\\_secret\\_constitution\\_revealed.html](https://www.thestar.com/sports/2009/06/06/nhls_secret_constitution_revealed.html).
- "MGM Resorts International & AEG Enter Into Definitive Joint Venture Agreement To Develop New Las Vegas Arena." *Newsroom*. June 18, 2013.

- <http://newsroom.mgmresorts.com/mgm-resorts-international-aeg-enter-into-definitive-joint-venture-agreement-to-develop-new-las-vegas-arena.htm>.
- Milke, Mark. "Government Subsidies in Canada: A \$684 Billion Price Tag." *Taxpayer Subsidies to Corporations, Government Businesses, and Consumers*, June 2014.
- "Minnesota Issues Resource Guides Professional Hockey in Minnesota." *NHL Hockey in Minnesota - Minnesota Issues Resources Guides*. June 2018.  
<https://www.leg.state.mn.us/lrl/guides/guides?issue=hockey>.
- Minnesota Wild. "Wild, City of St. Paul Announce Lease Extension for Xcel Energy Center." *NHL.com*. April 16, 2019. <https://www.nhl.com/wild/news/saint-paul-wild-lease-extension-041619/c-306788130>.
- Mirtle, James. "Thrashers Failure Rests with Owners (and the NHL)." *The Globe and Mail*. May 3, 2018. <https://www.theglobeandmail.com/sports/hockey/globe-on-hockey/thrashers-failure-rests-with-owners-and-the-nhl/article614543/>.
- Muller, David. "\$650 Million Detroit Red Wings Arena Project Clears Another Public Financing Hurdle." *Michigan Live*. July 24, 2013.  
[https://www.mlive.com/business/detroit/2013/07/650\\_million\\_detroit\\_red\\_wings.html](https://www.mlive.com/business/detroit/2013/07/650_million_detroit_red_wings.html).
- Munsey, Paul and Cory Suppes. *Ballparks.com*. May 25, 2019. <http://hockey.ballparks.com/---.Ballparks.com>, Accessed July 1, 2019, <http://hockey.ballparks.com/NHL/misc/pastindex.html>
- Muret, Don. "Ducks Unveil \$10 Million Video Board at Honda Center." *Sporting News*. September 29, 2015. <https://www.sportingnews.com/us/other-sports/news/anaheim-ducks-honda-center-new-video-board-nhl-daktronics-capacity-ticket-prices/1a2hbhdgabdcn1o4qmt1u4s5ia>.
- Murnan, Alexandria. "Verizon Center Economic Impact." *DowntownDC*. January 31, 2014.  
<https://www.downtowndc.org/report/verizon-center-economic-impact/>.
- "Nationwide Arena Facts & Figures." *Sports Business Journal*. October 2, 2000.  
<https://www.sportsbusinessdaily.com/Journal/Issues/2000/10/02/No-Topic-Name/NATIONWIDE-ARENA-FACTS-Amp-FIGURES.aspx>.
- Naylor, David. "Bryden Turns Attention to Loan from Government." *The Globe and Mail*. August 17, 2018. <https://www.theglobeandmail.com/sports/bryden-turns-attention-to-loan-from-government/article25279928/>.
- "New Arena at Seattle Center." *Oak View Group*. Accessed August 13, 2019.  
[http://newarenaatseattlecenter.com/#quick\\_facts](http://newarenaatseattlecenter.com/#quick_facts).
- "NHL Constitution." *SportsDocuments*. May 12, 2017. <http://sportsdocuments.com/2013/11/nhl-constitution/>.
- "NHL Hockey Standings." *NHL.com*. Accessed August 01, 2019.  
<https://www.nhl.com/standings/2018/wildcard>.



- "NHL Team Valuations." *Forbes*. Accessed May 27, 2019.  
[https://www.forbes.com/lists/2009/31/hockey-values-09\\_NHL-Team-Valuations\\_Rank.html](https://www.forbes.com/lists/2009/31/hockey-values-09_NHL-Team-Valuations_Rank.html).
- "NHL Ticket Prices 2018-2019." *Vivid Seats*. October 9, 2018.  
<https://www.vividseats.com/blog/nhl-ticket-prices>.
- "Nielsen DMA Rankings 2019." *MediaTracks Communications*. Accessed July 18, 2019.  
<https://mediatracks.com/resources/nielsen-dma-rankings-2019/>.
- Noll, Roger G. and Andrew Zimbalist. *Sports, Jobs and Taxes: The Economic Impact of Sports Teams and Stadiums*. Washington, D.C.: Brookings Institution, 1997.
- Northlands Annual Report 2008*. Report. January 2014. [https://www.northlands.com/wp-content/uploads/2014/01/2008\\_Annual\\_Report.pdf](https://www.northlands.com/wp-content/uploads/2014/01/2008_Annual_Report.pdf).
- "Northlands Coliseum Will Close Permanently at End of This Year." *CBC News*. September 13, 2017. <https://www.cbc.ca/news/canada/edmonton/northlands-coliseum-city-horse-racing-1.4287527>.
- O'Brien, Sarah. "Americans Spend \$56 Billion on Sporting Events." *CNBC*. September 12, 2017.  
<https://www.cbc.com/2017/09/11/americans-spend-56-billion-on-sporting-events.html>.
- O'Connor, Meg. "Phoenix Police Union Takes Aim at Councilman Carlos Garcia." *Phoenix New Times*. July 11, 2019. <https://www.phoenixnewtimes.com/news/phoenix-police-union-takes-aim-at-councilman-carlos-garcia-11321393>.
- O'Neill, Dan. "Blues' Ownership: A Colorful History." *St. Louis Today*. May 10, 2012.  
[https://www.stltoday.com/sports/hockey/professional/blues-ownership-a-colorful-history/article\\_4eabfab3-209f-5844-84bf-ee24a4341ac2.html](https://www.stltoday.com/sports/hockey/professional/blues-ownership-a-colorful-history/article_4eabfab3-209f-5844-84bf-ee24a4341ac2.html).
- "Ontario Kills Tax Break for Pro Teams." *CBC News*. October 09, 2002.  
<https://www.cbc.ca/sports/ontario-kills-tax-break-for-pro-teams-1.307303>.
- "Our Company." Maple Leaf Sports & Entertainment Ltd. 2018. <https://mlse.com/our-company/>.
- Pashelka, Curtis. "Sharks Spent \$5 Million to Improve Ice at SAP Center. Is It Helping?" *The Mercury News*. October 8, 2017. <https://www.mercurynews.com/2017/10/07/sharks-spend-5-million-to-improve-ice-at-sap-center-is-it-helping/>.
- Paulson, Matt. "Ellman Stopped Coyotes' Migration." *East Valley Tribune*. October 7, 2011.  
[http://www.eastvalleytribune.com/sports/ellman-stopped-coyotes-migration/article\\_a61e2bee-48ad-5c42-80cf-6f00334c68c2.html](http://www.eastvalleytribune.com/sports/ellman-stopped-coyotes-migration/article_a61e2bee-48ad-5c42-80cf-6f00334c68c2.html).
- "Pepsi Center." *Denver Urban Renewal Authority*. Accessed June 14, 2019.  
<http://renewdenver.org/projects/pepsi-center/>.

- Potkins, Meghan. "City Likely to Retain Ownership of New Arena in Deal to Replace Saddledome." *Calgary Herald*. April 25, 2019. <https://calgaryherald.com/news/local-news/city-likely-to-retain-ownership-of-new-arena-in-deal-to-replace-saddledome>.
- Povich, Elaine S. "Why Should Public Money Be Used to Build Sports Stadiums?" *PBS*. July 13, 2016. <https://www.pbs.org/newshour/nation/public-money-used-build-sports-stadiums>.
- "PPG Paints Arena." *Sports & Exhibition Authority*. November, 21, 2018. <http://www.pgh-sea.com/PPGPaintsArena.htm>
- Press Release. "Bridgestone Arena, Metro Nashville Reveal Proposal for New 30-Year Lease." *NHL.com*. May 16, 2019. <https://www.nhl.com/predators/news/bridgestone-arena-metro-nashville-reveal-proposal-for-new-30-year-lease/c-307422426>.
- "Property Taxes." *Urban Institute*. May 6, 2019. <https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/projects/state-and-local-backgrounders/property-taxes>.
- "Prudential Center Releases Rendering For New 14,560 Square Foot Premium Club 'The Lofts'." *Prudential Center*. September 17, 2018. <https://www.prucenter.com/news/prudential-center-releases-rendering-for-new-14-560-square-foot-premium-club-the-lofts>.
- Purdy, Mark. "Purdy: Arena Vote 20 Years Ago Made San Jose a Real City." *The Mercury News*. August 14, 2016. [http://www.mercurynews.com/ci\\_9806277](http://www.mercurynews.com/ci_9806277).
- Quah, Euston and Raymond Toh. 2011. *Cost-Benefit Analysis: Cases and Materials*. New York: Routledge.
- Quenneville, Guy. "'Let's Have a Referendum': CBC Asks Panellists Call for Public Vote on New Arena." *CBC News*. October 24, 2018. <https://www.cbc.ca/news/canada/saskatoon/arena-saskatoon-referendum-1.4876643>.
- Rabinovitz, Jonathan. "Another Blow to Hartford: Whalers to Leave, Rejecting Arena Offer." *The New York Times*. March 27, 1997. <https://www.nytimes.com/1997/03/27/nyregion/another-blow-to-hartford-whalers-to-leave-rejecting-arena-offer.html>.
- Raij, Irwin P. and Alexander Chester. 2017. "Public Development for Professional Sports Stadiums." *Oxford Handbooks Online*. <https://doi.org/10.1093/oxfordhb/9780190465957.013.34>.
- Rau, Nate. "New Predators Lease Deal a 'great Moment for the City,' Briley Says." *The Tennessean*. May 16, 2019. <https://www.tennessean.com/story/money/2019/05/16/nashville-predators-lease-agreement-bridgestone-arena-david-briley/3679035002/>.
- "Ratings for Game 1 of Stanley Cup Final Set Market Records." *NHL.com*. May 29, 2018. <https://www.nhl.com/news/stanley-cup-final-game-1-set-market-records/c-298834348>.

- Rawluk, Jessica. "True North Announces New Renovations for the MTS Centre." *Bell MTS Place*. February 24, 2017. <https://www.bellmtsplace.ca/news/true-north-announces-new-renovations-mts-centre/>.
- Reindl, JC. "Ilitch Organization to Get \$74M Bonus for Hitting Arena District Goal." *Detroit Free Press*. May 11, 2019. <https://www.freep.com/story/money/business/2019/05/11/ilitch-organization-arena-detroit-district-goal-bonus/1157439001/>.
- Robbins, Liz. "In Brooklyn, Bracing for Hurricane Barclays." *The New York Times*. September 22, 2012. <https://www.nytimes.com/2012/09/23/nyregion/with-barclays-center-arena-set-to-open-brooklyn-braces-for-the-storm.html>.
- "Rogers Place and the ICE District." *HOK*. Accessed June 7, 2019. <https://www.hok.com/design/type/sports-recreation-entertainment/rogers-place/>.
- Rosen, Dan. "Las Vegas Awarded NHL Franchise." *NHL.com*. June 22, 2016. <https://www.nhl.com/news/nhl-expands-to-las-vegas/c-281010682>.
- Rosen, Harvey S., Jean-François Wen, and Tracy Snoddon. 2016. *Public Finance in Canada*. Whitby, ON: McGraw-Hill Education.
- Rovell, Darren. "Coyotes' Strike a Real Deal." *ESPN*. December 23, 2003. <https://www.espn.com/nhl/news/story?id=1693100>.
- Sandomir, Richard. "Canada Kills Subsidy Plan for 6 N.H.L. Teams." *The New York Times*. January 22, 2000. <https://www.nytimes.com/2000/01/22/sports/hockey-canada-kills-subsidy-plan-for-6-nhl-teams.html>.
- Santo, Charles A. "Beyond the Economic Catalyst Debate: Can Public Consumption Benefits Justify a Municipal Stadium Investment?" *Journal of Urban Affairs* 29, no. 5 (2007): 455-79. doi:10.1111/j.1467-9906.2007.00360.x.
- Scanlan, Wayne. "Senators Reveal \$15M Upgrade to Canadian Tire Centre." *Ottawa Citizen*. September 15, 2015. <https://ottawacitizen.com/sports/hockey/nhl/senators-extra/senators-detail-major-upgrade-to-canadian-tire-centre>.
- Schein, David, James Phillips, and Caroline Rider. 2017. "American Cities Held Hostage: Public Stadiums and Pro Sports Franchises." *Richmond Public Interest Law Review* 20, no. 1. [scholarship.richmond.edu/pilr/vol20/iss1/6](http://scholarship.richmond.edu/pilr/vol20/iss1/6).
- Schoonmaker, Aaron. "Canes, NC State Come to Agreement over PNC Arena Scheduling." *WRALSportsFan.com*. October 4, 2013. <https://www.wralsportsfan.com/canes-nc-state-come-to-agreement-over-pnc-arena-scheduling/12961889/>.
- "Scotiabank Arena - Toronto: Tickets, Schedule, Seating Chart, Directions." *Ticketmaster Canada*. Accessed August 23, 2019. <https://www.ticketmaster.ca/Scotiabank-Arena-tickets-Toronto/venue/131157?brand=sba>.

- Sewalk, Stephen, Yulin Wang, Katelin Knox, and Yu Fang. "Financing Construction Projects Using the EB-5 Program." *Proceedings of 49th ASC Annual International Conference*, California Polytechnic State University, San Luis Obispo. Associated Schools of Construction, 2013.
- Siegfried, John and Andrew Zimbalist. "The Economics of Sports Facilities and Their Communities." *Journal of Economic Perspectives* 14, no. 3. (2000): 95-144
- Shea, Bill. "Latest Little Caesars Arena Project Construction Cost: \$862.9 Million." *Crain's Detroit Business*. May 23, 2017.  
<https://www.crainsdetroit.com/article/20170523/news/629041/latest-little-caesars-arena-construction-cost-8629-million>.
- Smothers, Ronald. "Newark and Devils Sign Lease and Agree to Build an Arena." *The New York Times*. February 3, 2005. <https://www.nytimes.com/2005/02/03/nyregion/newark-and-devils-sign-lease-and-agree-to-build-an-arena.html>.
- Spedden, Zach. "Madison Square Garden Special Operating Permit Hits Halfway Point." *Arena Digest*. September 7, 2018. <https://arenadigest.com/2018/09/07/madison-square-garden-special-operating-permit-hits-halfway-point/>.
- Spedden, Zach. "Olympia to Pay Off, Refinance Little Caesars Arena Bonds." *Arena Digest*. November 2, 2017. <https://arenadigest.com/2017/11/02/2017110220171102olympia-to-pay-off-refinance-little-caesars-arena-bonds/>.
- "Sports Facilities Report: National Basketball Association." *National Sports Law Institute of Marquette University Law School* 10, Appendix 2 (2009).  
<https://law.marquette.edu/assets/sports-law/pdf/sports-facility-reports/sfr-v10-nba.pdf>.
- "Sports Facilities Report: National Hockey League." *National Sports Law Institute of Marquette University Law School* 19, Appendix 2 (2018). <https://law.marquette.edu/assets/sports-law/NHL.2018.pdf>.
- Staff. Investopedia. "Joint Venture." *Investopedia*. October 19, 2018.  
<https://www.investopedia.com/terms/j/jointventure.asp>.
- Staff Writer. "Saying Goodbye to the Aud." *NHL.com*. September 5, 2008.  
<https://www.nhl.com/sabres/news/saying-goodbye-to-the-aud/c-438116>.
- "STAPLES Center Completes Final Piece of Its Three Year, \$20 Million Upgrade Project." *STAPLES Center*. Accessed July 19, 2019.  
<https://www.staplescenter.com/news/detail/staples-center-completes-final-piece-of-its-three-year-20-million-upgrade-project>.
- Star-Ledger Staff. "Newark paid out \$10.8M for Police at Prudential Center." *Nj.com*. April 11, 2012. [https://www.nj.com/news/2012/04/newark\\_paid\\_out\\_108\\_million\\_fo.html](https://www.nj.com/news/2012/04/newark_paid_out_108_million_fo.html).

- Steimer, Jacob. "Predators Unveil Ambitious Expansion Ideas for Bridgestone Arena (with Slideshow)." *Nashville Business Journals*. August 18, 2016. <https://www.bizjournals.com/nashville/news/2016/08/18/predators-unveil-ambitious-expansion-plans-for.html>.
- Stittsville Central Staff. "Here's How Much the Sens Pay in Property Taxes Each Year." *Stittsville Central Canada*. April 11, 2017. <https://stittvillecentral.ca/heres-how-much-the-sens-pay-in-property-taxes-each-year/>.
- Stubbs, Dave. "NHL Has Grown Stronger in Bettman's 25 Years as Commissioner." *NHL.com*. February 1, 2018. <https://www.nhl.com/news/nhl-growth-in-bettmans-25-years-as-commissioner/c-295493542>.
- Tampa Sports Authority: Financial Statements, Supplementary Information and Regulatory Reports*. Report. Florida Auditor General. September 30, 2016. [https://flauditor.gov/pages/specialdistricts\\_efile%20rpts/2016%20tampa%20sports%20authority.pdf](https://flauditor.gov/pages/specialdistricts_efile%20rpts/2016%20tampa%20sports%20authority.pdf)
- "Teams," *NHL.com*, accessed May 30, 2019, <https://www.nhl.com/>
- Time to Get Moving: Improving Commuter and Intercity Rail Facilities and Services on Manhattan's West Side*. Report. Rudin Center for Transportation, Robert F. Wagner School of Public Service, New York University. April 19, 2016. <https://wagner.nyu.edu/files/faculty/publications/Penn-Station.pdf>.
- "The Business of Hockey." *Forbes Magazine*. Accessed May 27, 2019. <https://www.forbes.com/nhl-valuations/list/>
- "The Texas Politics Project." *Texas Politics - Contesting the Political Arena*. Accessed May 19, 2019. [https://texaspolitics.utexas.edu/archive/html/ig/features/0402\\_01/slide4b.html](https://texaspolitics.utexas.edu/archive/html/ig/features/0402_01/slide4b.html)
- Tolley, Erin and William Young. *Municipalities, the Constitution and the Canadian Federal System (BP-276E)*. February 2001. <http://publications.gc.ca/Collection-R/LoPBdP/BP/bp276-e.htm>
- Toneguzzi, Mario. "Calgary Flames Announce New Name for Arena: 'Scotiabank' Saddledome." *Global News*. October 8, 2010. <https://globalnews.ca/news/99029/calgary-flames-announce-new-name-for-arena-scotiabank-saddledome/>.
- Tulloch, Gordon, Gordon L. Brady, and Arthur Seldon. 2005. *Government Failure: A Primer in Public Choice*. Washington, DC: Cato Institute.
- Twin, Alexandra. "Surcharge." *Investopedia*. June 25, 2019. <https://www.investopedia.com/terms/s/surcharge.asp>
- Tyne, Bethany. "Hillsborough Commissioners Approve \$61 Million For Amalie Arena." *WUSF News*. February 23, 2018. <https://wusfnews.wusf.usf.edu/post/hillsborough-commissioners-approve-61-million-amalie-arena-0>.

- United States. Census Bureau. "U.S. Census Bureau QuickFacts: United States." *Census Bureau QuickFacts*. July 1, 2018. <https://www.census.gov/quickfacts/fact/table/US/PST045218>.
- United States. City of Nashville. Metropolitan Council Office. *Memorandum To: All Members of the Metropolitan Council, RE: Analysis Report*. By Donald W. Jones. April 15, 2008. <https://www.nashville.gov/portals/0/SiteContent/Council/docs/analysis/080415.pdf>.
- United States. City of Anaheim, Department of Finance. *Comprehensive Annual Financial Report*. By William G. Sweeney, June 30, 2002.
- United States. City of Dallas. "Sports Arena TIF District." Dallas: Office of Economic Development. Accessed August 5, 2019. <https://www.dallasecodev.org/369/Sports-Arena-TIF-District>.
- United States, City of Glendale. "City of Glendale and Coyotes Fact Sheet." January 18, 2017. <https://www.glendaleaz.com/pressroom/documents/CityofGlendaleandCoyotesFactSheet.pdf>.
- United States. City of Glendale. *Comparison of Operating Costs for Similar Arenas*. By Tom Hocking. January 2012. Accessed May 25, 2019. <https://www.glendaleaz.com/documents/Study-ComparisonofOperatingCostsforSimilarArenas.pdf>.
- United States. City of Las Angeles. City Controllers. *Los Angeles City Controllers Report on Economic Impact: Staples Center*. By Robert A. Baade. 2003.
- United States. City of Nevada. Nevada's Governor. Office of Energy. *Green Building Tax Abatement Projects*. July 13, 2018. [http://energy.nv.gov/uploadedFiles/energynvgov/content/Programs/Public List 13July2018.pdf](http://energy.nv.gov/uploadedFiles/energynvgov/content/Programs/Public%20List%20July2018.pdf).
- United States. City of Pittsburgh. *Memorandum of Understanding*. Accessed June 12, 2019. <http://www.pgh-sea.com/images/MOUCommonwealthSEALemieuxGroup.pdf>.
- United States. City of San Jose, *Memorandum: Authorize The City Manager To Negotiate And Execute The Amendment Of Agreements Between The City Of San Jose And Sharks Sports & Entertainment Entities Related To The Extension Of The Management Of Sap Center And The Ice Centre And Related Appropriation Adjustments*. May 8, 2015. <http://sanjoseca.gov/DocumentCenter/View/43476>.
- United States. City of Seattle. *KeyArena Renovation Summary of Proposed Agreement between the City and Oak View Group (OVG)*. Seattle, WA: City of Seattle, 2018. 1-4.
- United States. Department of Transportation. *Report to Congress on Public-Private Partnerships*. 2004. Washington, D.C.: Department of Transportation.
- United States. Director for Development Review. *Nashua Street Residences Project Located On Parcel 2B of the North Station Urban Renewal Area And In The New Boston Garden Development Area Of The North Station Economic Development Area*. By Heather

- Campisano, David Carlson, and Geoffrey Lewis. February 14, 2013.  
<http://www.bostonplans.org/getattachment/528d8bb9-981f-4799-9067-62e37da21f24>
- United States. New York City. City Planning Commission. *In the Matter of an Application Submitted by MSG Holdings, L.P. Pursuant to Sections 197–c and 201 of the New York City Charter*. May 22, 2013.  
<https://www1.nyc.gov/assets/planning/download/pdf/about/cpc/130139.pdf>.
- United States. Securities and Exchange Commission. *Form 10-Q for MGM Resorts International*. By Daniel J. D’Arrigo. 2016.
- United States. Tampa Bay Sports Authority. *Financial Statements, Supplementary Information and Regulatory Reports*. Accessed September 30, 2017.  
[https://flauditor.gov/pages/specialdistricts\\_efile\\_rpts/2017\\_tampa\\_sports\\_authority.pdf](https://flauditor.gov/pages/specialdistricts_efile_rpts/2017_tampa_sports_authority.pdf)
- United States. The Metropolitan Government of Nashville and Davidson County. *Comprehensive Annual Financial Report For the Year Ended June 30, 2018*. June 30, 2018.  
[https://www.nashville.gov/Portals/0/SiteContent/Finance/docs/CAFR/CAFR\\_2018.pdf](https://www.nashville.gov/Portals/0/SiteContent/Finance/docs/CAFR/CAFR_2018.pdf)
- Urban Land Institute. *Development Case Studies: Arena District in Columbus, Ohio*. Report. Accessed May 20, 2019. <https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.
- “United States Census Bureau QuickFacts: United States.” *Census Bureau QuickFacts*. Accessed May 25, 2019. <https://www.census.gov/quickfacts/fact/table/US/PST045218#>.
- VanWynsberghe, Rob, Trisha Bischel, Mariana Gatzeva, Meredith Hambrock, Brenda Kwan, and Clark Lim. *Olympic Games Impact (OGI) Study for the 2010 Olympic and Paralympic Winter Games*. Report. OGI-UBC Research Team, University of British Columbia. Vancouver, B.C., 2011.
- "Verizon Center Economic Impact." *DowntownDC*. January 31, 2014.  
<https://www.downtowndc.org/report/verizon-center-economic-impact/>.
- Vettel, Phil. "Bulls, Blackhawks and ... Crab Cakes?" *Chicago Tribune*. August 25, 2018.  
[http://articles.chicagotribune.com/2009-11-19/entertainment/0911170224\\_1\\_levy-restaurants-crab-cakes-concessions](http://articles.chicagotribune.com/2009-11-19/entertainment/0911170224_1_levy-restaurants-crab-cakes-concessions).
- "Wells Fargo Center to Introduce the World's First Kinetic 4K Center-Hung Scoreboard." *Wells Fargo Center*. February 11, 2019.  
<https://www.wellsfargocenterphilly.com/news/detail/wells-fargo-center-to-introduce-the-worlds-first-kinetic-4k-center-hung-scoreboard>
- “WHA vs NHL,” *WHAhockey.com*, Accessed December 3, 2018,  
<http://www.whahockey.com/whavsnhl.html>.

- Williams, Candice. "State Approves \$10M Loan for Joe Louis Arena Demolition." *Detroit News*. December 18, 2018. Accessed July 19, 2019. <https://www.detroitnews.com/story/news/local/detroit-city/2018/12/18/state-approves-10-million-loan-joe-louis-arena-demolition/2348900002/>
- "Winnipeg Jets Deal: The Investors Who Made It Happen." *CBC News*. May 31, 2011. <https://www.cbc.ca/news/canada/manitoba/winnipeg-jets-deal-the-investors-who-made-it-happen-1.1054220>.
- Winnipeg Jets Staff Writer. "True North Recognizes 10th Anniversary of MTS Centre." *NHL.com*. November 14, 2014. <https://www.nhl.com/jets/news/true-north-recognizes-10th-anniversary-of-mts-centre/c-739177>.
- Wise, Aaron N. and Bruce S. Meyer. *International Sports Law and Business*. The Hague: Kluwer Law International, 1997.
- Witt, Karen De. "Arena Plan Brightens Spirits in Washington." *The New York Times*. December 30, 1994. <https://www.nytimes.com/1994/12/30/us/arena-plan-brightens-spirits-in-washington.html?searchResultPosition=4>.
- Wolla, Scott A. "The Economics of Subsidizing Sports Stadiums." *Economic Research - Federal Reserve Bank of St. Louis*. May 2017. <https://research.stlouisfed.org/publications/page1-econ/2017-05-01/the-economics-of-subsidizing-sports-stadiums/>.
- World Heritage Encyclopedia. "Marine Midland Arena." *World Library Foundation*. Accessed July 2, 2019. [http://self.gutenberg.org/articles/eng/Marine\\_Midland\\_Arena](http://self.gutenberg.org/articles/eng/Marine_Midland_Arena).
- Xcel Energy Center Timeline Fact Sheet*. Report. Accessed May 2, 2019. [https://www.xcelenergycenter.com/assets/doc/XEC\\_FactSheet\\_ArenaHistory\\_2018-cbe7529215.pdf](https://www.xcelenergycenter.com/assets/doc/XEC_FactSheet_ArenaHistory_2018-cbe7529215.pdf).
- Zimbalist, Andrew and Roger G. Noll. "Sports, Jobs, and Taxes: Are New Stadiums worth the Cost?" *Brookings*. July 28, 2016. <https://www.brookings.edu/articles/sports-jobs-taxes-are-new-stadiums-worth-the-cost/>



## Appendix A: USA Teams Fact Summary<sup>180</sup>

| Team                  | Year Est. | City Median Household Income | Poverty Rate <sup>181</sup> | Stanley Cup Wins |              | Arena Name               | Year Open | Nominal Cost (million) | Real Cost 2019 (million) | Public Share |
|-----------------------|-----------|------------------------------|-----------------------------|------------------|--------------|--------------------------|-----------|------------------------|--------------------------|--------------|
|                       |           |                              |                             | Total            | In New Arena |                          |           |                        |                          |              |
| Anaheim Ducks         | 1993      | 65,313                       | 16.0%                       | 1                | 1            | Honda Center             | 1993      | 123                    | 217.5                    | 100%         |
| Arizona Coyotes       | 1996      | 52,080                       | 20.9%                       | 0                | 0            | Gila River Arena         | 2003      | 180                    | 250                      | 100%         |
| Boston Bruins         | 1924      | 62,021                       | 20.5%                       | 6                | 1            | TD Garden                | 1995      | 160                    | 268                      | 10%          |
| Buffalo Sabres        | 1970      | 34,268                       | 30.9%                       | 0                | 0            | KeyBank Center           | 1996      | 127.5                  | 207.6                    | 49%          |
| Carolina Hurricanes   | 1997      | 61,505                       | 14.0%                       | 1                | 1            | PNC Arena                | 1999      | 158                    | 239                      | 87%          |
| Chicago Blackhawks    | 1926      | 52,497                       | 20.6%                       | 6                | 3            | United Center            | 1994      | 175                    | 258.7                    | 0%           |
| Colorado Avalanche    | 1995      | 60,098                       | 15.1%                       | 2                | 1            | Pepsi Center             | 1999      | 180                    | 270                      | 23%          |
| Columbus Blue Jackets | 2000      | 49,478                       | 20.8%                       | 0                | 0            | Nationwide Arena         | 2000      | 150                    | 219                      | 0%           |
| Dallas Stars          | 1993      | 47,285                       | 21.8%                       | 1                | 0            | American Airlines Center | 2001      | 420                    | 606                      | 30%          |
| Detroit Red Wings     | 1942      | 27,838                       | 37.9%                       | 11               | 0            | Little Caesars Arena     | 2017      | 862.9                  | 886                      | 46%          |
| Florida Panthers      | 1993      | 53,237                       | 13.7%                       | 0                | 0            | BB&T Center              | 1998      | 212                    | 332.4                    | 87%          |
| Los Angeles Kings     | 1967      | 61,015                       | 20.4%                       | 2                | 2            | STAPLES Center           | 1999      | 375                    | 575.2                    | 19%          |
| Minnesota Wild        | 2000      | 52,841                       | 20.4%                       | 0                | 0            | Xcel Energy Center       | 2000      | 170                    | 252.3                    | 76%          |
| Nashville Predators   | 1998      | 52,858                       | 17.2%                       | 0                | 0            | Bridgestone Arena        | 1996      | 144                    | 234.5                    | 100%         |
| New Jersey Devils     | 1982      | 34,826                       | 28.3%                       | 3                | 0            | Prudential Center        | 2007      | 375                    | 462                      | 56%          |
| New York Islanders    | 1972      | 57,782                       | 19.6%                       | 4                | 0            | Barclays Center          | 2012      | 1,000                  | 1,100                    | 77%          |
| New York Rangers      | 1942      | 57,782                       | 19.6%                       | 4                | 1            | Madison Square Garden    | 1968      | 43                     | 311                      | 0%           |
| Philadelphia Flyers   | 1967      | 40,649                       | 25.8%                       | 2                | 0            | Wells Fargo Center       | 1996      | 210                    | 342                      | 17%          |
| Pittsburgh Penguins   | 1967      | 44,092                       | 22.0%                       | 5                | 2            | PPG Paints Arena         | 2010      | 321                    | 376                      | 95%          |
| San Jose Sharks       | 1991      | 96,662                       |                             | 0                | 0            | SAP Center at San Jose   | 1993      | 162.5                  | 287.4                    | 82%          |
| St. Louis Blues       | 1967      | 38,664                       | 25.0%                       | 0                | 0            | Enterprise Center        | 1994      | 170                    | 293                      | 37%          |
| Tampa Bay Lightning   | 1992      | 48,245                       | 20.0%                       | 1                | 1            | Amalie Arena             | 1996      | 139                    | 226.4                    | 62%          |
| Vegas Golden Knights  | 2017      | 53,159                       | 16.2%                       | 0                | 0            | T-Mobile Arena           | 2016      | 375                    | 399.3                    | 0%           |
| Washington Capitals   | 1974      | 77,649                       | 17.4%                       | 1                | 1            | Capital One Arena        | 1997      | 260                    | 414                      | 23%          |

180. For data sources, see Appendix E: Team Fact Sheets by Division.

181. United States, Census Bureau, "U.S. Census Bureau QuickFacts: United States," *Census Bureau QuickFacts*, July 1, 2018, <https://www.census.gov/quickfacts/fact/table/US/PST045218>.

## Appendix B: Canadian Teams Fact Summary

| Team                       | Year Est. | City Median Household Income | Poverty Rate <sup>182</sup> | Stanley Cup Wins |              | Current Arena Name           | Year Open | Nominal Cost (million) | Real Cost 2019 (million) | Public Share |
|----------------------------|-----------|------------------------------|-----------------------------|------------------|--------------|------------------------------|-----------|------------------------|--------------------------|--------------|
|                            |           |                              |                             | Total            | In New Arena |                              |           |                        |                          |              |
| <b>Calgary Flames</b>      | 1980      | 99,388                       | 8.1%                        | 1                | 1            | <b>Scotiabank Saddledome</b> | 1983      | 97.7                   | 220.2                    | 100%         |
| <b>Edmonton Oilers</b>     | 1971      | 41,836                       | 8%                          | 5                | 0            | <b>Rogers Place Arena</b>    | 2016      | 613.7                  | 637.6                    | 50.9%        |
| <b>Montreal Canadiens</b>  | 1917      | 50,227                       | 12%                         | 24               | 0            | <b>Bell Centre</b>           | 1996      | 198.2                  | 294.8                    | 0.0%         |
| <b>Ottawa Senators</b>     | 1992      | 85,981                       | 10%                         | 0                | 0            | <b>Canadian Tire Centre</b>  | 1996      | 170.0                  | 253.0                    | 3.5%         |
| <b>Toronto Maple Leafs</b> | 1917      | 65,829                       | 12.8%                       | 13               | 0            | <b>Scotiabank Arena</b>      | 1999      | 265.0                  | 377.3                    | 0.0%         |
| <b>Vancouver Canucks</b>   | 1970      | 72,662                       | 15.2%                       | 0                | 0            | <b>Rogers Arena</b>          | 1995      | 160.0                  | 243.0                    | 0.0%         |
| <b>Winnipeg Jets</b>       | 2011      | 70,795                       | 12.3%                       | 0                | 0            | <b>Bell MTS Place</b>        | 2004      | 133.5                  | 167.0                    | 30.0%        |

## Appendix C: Team Average Game Attendance from 1970 to 2019

Teams in sets of 10 to 11, organized by team establishment date from oldest to most recent, to keep consistent formatting.

| Team                 | Boston Bruins                  | Chicago Blackhawks | New York Rangers | Detroit Red Wings | Montreal Canadiens | Toronto Maple Leafs | Los Angeles Kings | St. Louis Blues | Philadelphia Flyers | Pittsburgh Penguins |
|----------------------|--------------------------------|--------------------|------------------|-------------------|--------------------|---------------------|-------------------|-----------------|---------------------|---------------------|
| <b>Arena Year</b>    | 1995                           | 1994               | 1968             | 2017              | 1996               | 1999                | 1999              | 1994            | 1996                | 2010                |
| <b>Avg. Capacity</b> | 95%                            | 101%               | 97%              | 99%               | 99%                | 103%                | 97%               | 98%             | 101%                | 101%                |
| <b>Capacity</b>      | 17,565                         | 19,717             | 18,007           | 19,515            | 21,273             | 18,819              | 18,230            | 18,832          | 19,315              | 18,387              |
| <b>2018-19</b>       | 17,565                         | 22,734             | 17,318           | 19,120            | 21,046             | 19,276              | 18,000            | 17,361          | 20,371              | 18,565              |
| <b>2017-18</b>       | 17,565                         | 21,653             | 17,851           | 19,515            | 21,299             | 19,187              | 18,240            | 18,356          | 19,517              | 18,579              |
| <b>2016-17</b>       | 17,565                         | 21,751             | 18,020           | 20,027            | 21,288             | 19,744              | 18,240            | 19,539          | 19,644              | 19,762              |
| <b>2015-16</b>       | 18,776                         | 21,859             | 18,006           | 20,027            | 21,288             | 19,158              | 18,274            | 18,450          | 19,227              | 18,550              |
| <b>2014-15</b>       | 17,565                         | 21,769             | 18,006           | 20,027            | 21,286             | 19,062              | 18,265            | 18,545          | 19,270              | 18,617              |
| <b>2013-14</b>       | 17,565                         | 22,623             | 18,006           | 22,149            | 21,273             | 19,446              | 19,017            | 17,025          | 19,839              | 18,618              |
| <b>2012-13</b>       | 17,565                         | 17,558             | 17,200           | 20,066            | 21,273             | 19,426              | 18,178            | 17,263          | 19,786              | 18,648              |
| <b>2011-12</b>       | 17,564                         | 21,533             | 18,191           | 20,114            | 21,273             | 19,506              | 17,920            | 18,809          | 20,433              | 18,566              |
| <b>2010-11</b>       | 17,565                         | 21,423             | 18,108           | 19,680            | 21,273             | 19,354              | 18,083            | 19,150          | 19,715              | 18,240              |
| <b>2009-10</b>       | 17,388                         | 21,356             | 18,076           | 19,546            | 21,273             | 19,260              | 17,313            | 18,883          | 19,535              | 17,078              |
| <b>2008-09</b>       | 17,039                         | 22,247             | 18,172           | 19,865            | 21,273             | 19,312              | 16,488            | 18,554          | 19,545              | 16,975              |
| <b>2007-08</b>       | 15,384                         | 16,814             | 18,200           | 18,870            | 21,273             | 19,434              | 16,606            | 17,610          | 19,556              | 17,076              |
| <b>2006-07</b>       | 14,764                         | 12,727             | 18,200           | 20,066            | 21,273             | 19,487              | 16,859            | 12,520          | 19,282              | 16,424              |
| <b>2005-06</b>       | 16,211                         | 13,318             | 18,142           | 20,064            | 21,273             | 19,408              | 17,839            | 14,213          | 19,653              | 15,804              |
| <b>2004-05</b>       | Season Canceled Due to Lockout |                    |                  |                   |                    |                     |                   |                 |                     |                     |

182. Low-income cut-offs, after tax (LICO-AT) for Metropolitan Statistical Area. Using 1992 expenditure data, the LICO-AT measures households or persons that “would spend 20 percentage points or more of their after-tax income than average on food, shelter and clothing. These thresholds have been adjusted to current dollars using the all-items Consumer Price Index (CPI).” Canada, Statistics Canada, "Census Profile, 2016 Census," Government of Canada, Statistics Canada, July 17, 2019, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>.

|                      |                                |                  |             |                   |                 |                |               |             |              |                 |
|----------------------|--------------------------------|------------------|-------------|-------------------|-----------------|----------------|---------------|-------------|--------------|-----------------|
| 2003-04              | 15,133                         | 13,253           | 18,080      | 20,066            | 20,555          | 19,376         | 17,889        | 18,560      | 19,375       | 11,877          |
| 2002-03              | 15,029                         | 14,794           | 18,148      | 20,058            | 20,672          | 19,240         | 17,569        | 18,570      | 19,325       | 14,750          |
| 2001-02              | 15,403                         | 15,568           | 18,038      | 20,058            | 20,027          | 19,279         | 16,756        | 18,968      | 19,569       | 15,649          |
| 2000-01              | 15,432                         | 14,996           | 18,200      | 19,995            | 20,105          | 19,257         | 16,057        | 19,519      | 19,575       | 16,277          |
| 1999-00              | 16,322                         | 16,274           | 18,200      | 19,983            | 20,205          | 19,158         | 16,518        | 18,590      | 19,634       | 15,443          |
| 1998-99              | 16,299                         | 17,329           | 18,200      | 19,983            | 20,740          | 16,765         | 12,795        | 18,276      | 19,612       | 14,824          |
| 1997-98              | 15,097                         | 18,350           | 18,189      | 19,983            | 20,771          | 15,707         | 13,019        | 18,414      | 19,518       | 15,070          |
| 1996-97              | 15,550                         | 19,396           | 18,188      | 19,978            | 21,001          | 15,703         | 12,297        | 16,806      | 19,311       | 16,691          |
| 1995-96              | 17,474                         | 20,390           | 18,200      | 19,923            | 18,233          | 15,729         | 13,551        | 18,805      | 17,344       | 16,238          |
| 1994-95              | 14,300                         | 20,832           | 18,200      | 19,779            | 16,964          | 15,744         | 15,397        | 19,469      | 17,160       | 16,108          |
| 1993-94              | 13,998                         | 17,683           | 17,761      | 19,625            | 16,979          | 15,764         | 15,529        | 17,313      | 17,020       | 16,741          |
| 1992-93              | 14,233                         | 17,776           | 17,585      | 19,707            | 17,018          | 15,676         | 15,833        | 16,737      | 17,281       | 16,105          |
| 1991-92              | 14,274                         | 17,509           | 16,904      | 19,723            | 17,005          | 15,586         | 16,005        | 17,518      | 17,140       | 15,993          |
| 1990-91              | 14,340                         | 17,920           | 15,889      | 19,664            | 17,000          | 16,254         | 15,674        | 17,157      | 17,342       | 15,927          |
| 1989-90              | 14,314                         | 17,546           | 16,238      | 19,531            | 17,117          | 16,197         | 15,707        | 15,813      | 17,407       | 16,018          |
| 1988-89              | 14,093                         | N/A              | 17,412      | 19,703            | 18,437          | 16,100         | 14,875        | 15,138      | 17,405       | 15,734          |
| 1987-88              | 13,707                         | 16,813           | 17,174      | 19,637            | 17,237          | 16,358         | 11,667        | 14,505      | 17,405       | 15,116          |
| 1986-87              | 12,128                         | 16,853           | 17,152      | 18,755            | 17,240          | 16,177         | 10,644        | 13,240      | 17,212       | 14,965          |
| 1985-86              | 12,431                         | 17,169           | 17,342      | 17,028            | 17,184          | 15,619         | 10,231        | 12,230      | 17,184       | 12,576          |
| 1984-85              | 13,257                         | 16,927           | 17,401      | 17,409            | 17,179          | 16,182         | 12,165        | 13,397      | 16,951       | 10,018          |
| 1983-84              | 13,588                         | 16,821           | 17,394      | 16,727            | 16,727          | 16,362         | 10,495        | 12,987      | 16,636       | 6,839           |
| 1982-83              | 13,271                         | 17,099           | 17,490      | 12,994            | 16,621          | 16,396         | 11,546        | 12,612      | 16,847       | 8408            |
| 1981-82              | 12,024                         | 12,698           | 17,399      | 12,496            | 16,587          | 16,322         | 10,742        | 14,433      | 17,044       | 11,299          |
| 1980-81              | 11,148                         | 12,090           | 17,293      | 13,325            | 16,699          | 16,478         | 11,219        | 14,605      | 17,077       | 10,336          |
| 1979-80              | 12,365                         | 11,700           | 17,400      | 15,104            | 16,891          | 16,480         | 10,444        | 12,259      | 17,077       | 10,653          |
| 1978-79              | 12,986                         | 10,392           | 17,277      | 13,861            | 16,713          | 16,477         | 9,992         | 10,130      | 17,077       | 11,430          |
| 1977-78              | 12,368                         | 10,871           | 17,444      | 9,635             | 16,622          | 16,485         | 11,796        | 10,633      | 17,077       | 10,548          |
| 1976-77              | 11,745                         | N/A              | 17,500      | 10,908            | 16,702          | 16,461         | 12,436        | 14,649      | 17,077       | 10,040          |
| 1975-76              | 14,257                         | N/A              | 17,500      | 12,463            | 16,487          | 16,441         | 12,365        | 17,321      | 17,077       | 11,455          |
| 1974-75              | 14,637                         | N/A              | 17,500      | 13,068            | 17,041          | 16,435         | 12,620        | 18,076      | 17,077       | 11,224          |
| 1973-74              | 14,842                         | N/A              | 17,435      | 13,068            | 17,131          | 16,480         | 11,113        | 18,009      | 17,007       | 10,159          |
| 1972-73              | 15,003                         | N/A              | 17,494      | 13,872            | 17,078          | 16,384         | 10,833        | 18,601      | 16,063       | 11,195          |
| 1971-72              | 14,995                         | N/A              | 17,250      | 13,305            | 17,417          | 16,451         | 8,676         | 18,376      | 14,379       | 9,634           |
| 1970-71              | 14,993                         | N/A              | 17,242      | 13,132            | 17,055          | 16,453         | 8,221         | 18,238      | 14,131       | 9,671           |
|                      |                                |                  | <b>New</b>  | <b>Washington</b> | <b>Edmonton</b> | <b>Calgary</b> | <b>New</b>    | <b>San</b>  | <b>Tampa</b> | <b>Ottawa</b>   |
| <b>Team</b>          | <b>Buffalo</b>                 | <b>Vancouver</b> | <b>York</b> | <b>Capitals</b>   | <b>Oilers</b>   | <b>Flames</b>  | <b>Jersey</b> | <b>Jose</b> | <b>Bay</b>   | <b>Senators</b> |
| <b>Arena Year</b>    | 1996                           | 1995             | 1972        | 1997              | 2016            | 1983           | 2007          | 1993        | 1996         | 1996            |
| <b>Avg. Capacity</b> | 96%                            | 96%              | 84%         | 96%               | 100%            | 95%            | 92%           | 99%         | 95%          | 105%            |
| <b>Capacity</b>      | 19,070                         | 18,870           | 15,795      | 18,506            | 18,347          | 19,289         | 16,514        | 17,562      | 19,092       | 17,000          |
| <b>2018-19</b>       | 17,908                         | 18,022           | 12,442      | 18,508            | 18,347          | 18,501         | 14,834        | 17,266      | 19,092       | 14,553          |
| <b>2017-18</b>       | 18,563                         | 18,078           | 12,002      | 18,774            | 18,347          | 18,905         | 15,200        | 17,365      | 19,092       | 15,829          |
| <b>2016-17</b>       | 18,141                         | 18,509           | 13,101      | 18,506            | 18,347          | 18,727         | 14,567        | 17,508      | 19,092       | 16,744          |
| <b>2015-16</b>       | 18,590                         | 18,431           | 13,626      | 18,510            | 16,841          | 19,145         | 15,073        | 16,746      | 19,092       | 18,084          |
| <b>2014-15</b>       | 18,580                         | 18,710           | 15,334      | 19,099            | 16,839          | 19,097         | 15,189        | 18,707      | 18,823       | 18,246          |
| <b>2013-14</b>       | 18,579                         | 19,770           | 14,740      | 18,054            | 16,828          | 19,302         | 15,257        | 17,133      | 18,612       | 18,108          |
| <b>2012-13</b>       | 18,970                         | 18,947           | 13,306      | 17,734            | 16,839          | 19,289         | 17,114        | 17,561      | 19,055       | 19,408          |
| <b>2011-12</b>       | 18,550                         | 18,884           | 13,191      | 18,506            | 16,839          | 19,289         | 15,396        | 17,562      | 18,468       | 19,356          |
| <b>2010-11</b>       | 18,452                         | 18,860           | 11,059      | 18,397            | 16,839          | 19,289         | 14,775        | 17,562      | 17,268       | 18,378          |
| <b>2009-10</b>       | 18,529                         | 18,810           | 12,735      | 18,277            | 16,839          | 19,289         | 15,535        | 17,558      | 15,497       | 18,269          |
| <b>2008-09</b>       | 18,531                         | 18,630           | 13,773      | 18,097            | 16,839          | 19,289         | 15,790        | 17,488      | 16,497       | 18,949          |
| <b>2007-08</b>       | 19,950                         | 18,630           | 13,640      | 15,472            | 16,839          | 19,289         | 15,564        | 17,411      | 18,692       | 19,821          |
| <b>2006-07</b>       | 18,690                         | 18,630           | 12,886      | 13,929            | 16,839          | 19,289         | 14,176        | 17,422      | 19,876       | 19,372          |
| <b>2005-06</b>       | 16,886                         | 18,630           | 12,609      | 13,905            | 16,832          | 19,289         | 14,230        | 16,831      | 20,509       | 19,474          |
| <b>2004-05</b>       | Season Canceled Due to Lockout |                  |             |                   |                 |                |               |             |              |                 |
| <b>2003-04</b>       | 15,290                         | 18,630           | 13,693      | 14,720            | 17,677          | 16,579         | 15,059        | 15,835      | 17,820       | 17,758          |
| <b>2002-03</b>       | 13,776                         | 18,396           | 14,930      | 15,787            | 16,657          | 16,239         | 14,858        | 17,350      | 16,545       | 17,198          |

|                      |                                |                     |                      |                           |                        |                            |                            |                      |                              |                       |                             |
|----------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------|----------------------------|----------------------------|----------------------|------------------------------|-----------------------|-----------------------------|
| 2001-02              | 17,206                         | 17,712              | 14,548               | 17,341                    | 16,592                 | 15,718                     | 15,925                     | 17,422               | 15,722                       | 16,919                |                             |
| 2000-01              | 17,839                         | 17,026              | 11,332               | 15,534                    | 15,611                 | 16,622                     | 15,642                     | 17,468               | 14,906                       | 17,793                |                             |
| 1999-00              | 17,955                         | 14,641              | 9,748                | 14,485                    | 15,800                 | 15,320                     | 15,206                     | 17,290               | 13,600                       | 17,508                |                             |
| 1998-99              | 17,982                         | 15,802              | 11,299               | 17,281                    | 16,244                 | 16,010                     | 16,670                     | 16,903               | 11,510                       | 17,219                |                             |
| 1997-98              | 15,634                         | 16,957              | 12,253               | 15,275                    | 16,244                 | 16,864                     | 17,296                     | 17,111               | 13,866                       | 16,750                |                             |
| 1996-97              | 16,911                         | 17,320              | 12,494               | 15,761                    | 16,052                 | 17,088                     | 16,398                     | 17,420               | 17,442                       | 15,377                |                             |
| 1995-96              | 13,738                         | 17,796              | 11,355               | 15,155                    | 12,335                 | 17,999                     | 16,219                     | 17,190               | 18,880                       | 13,252                |                             |
| 1994-95              | 15,052                         | 13,920              | 12,573               | 14,158                    | 13,123                 | 19,035                     | 16,379                     | 17,190               | 19,932                       | 9,879                 |                             |
| 1993-94              | 14,602                         | 15,140              | 12,091               | 14,527                    | 13,413                 | 19,214                     | 14,585                     | 16,537               | 19,398                       | 10,300                |                             |
| 1992-93              | 14,981                         | 15,418              | 12,036               | 15,540                    | 14,797                 | 19,529                     | 13,658                     | 11,045               | 10,014                       | 10,485                |                             |
| 1991-92              | 15,392                         | 15,768              | 10,039               | 16,590                    | 16,179                 | 19,719                     | 12,837                     | 10,888               |                              |                       |                             |
| 1990-91              | 15,654                         | 15,150              | 10,462               | 16,608                    | 16,843                 | 19,986                     | 13,148                     |                      |                              |                       |                             |
| 1989-90              | 15,867                         | 15,417              | 12,710               | 17,251                    | 17,008                 | 19,861                     | 14,505                     |                      |                              |                       |                             |
| 1988-89              | 14,316                         | 13,772              | 13,925               | 17,013                    | 16,845                 | 19,458                     | N/A                        |                      |                              |                       |                             |
| 1987-88              | 14,277                         | 11,002              | 14,589               | 15,955                    | 16,957                 | 18,881                     | 13,402                     |                      |                              |                       |                             |
| 1986-87              | 13,181                         | 10,406              | 14,859               | 15,289                    | 17,297                 | 16,798                     | 11,049                     |                      |                              |                       |                             |
| 1985-86              | 14,691                         | 10,446              | 15,810               | 14,997                    | 17,319                 | 16,762                     | 11,812                     |                      |                              |                       |                             |
| 1984-85              | 15,336                         | 11,147              | 15,717               | 14,008                    | 17,498                 | 16,683                     | 12,261                     |                      |                              |                       |                             |
| 1983-84              | 14,164                         | 13,626              | 15,614               | 11,837                    | 17,498                 | 16,674                     | 11,451                     |                      |                              |                       |                             |
| 1982-83              | 12,894                         | 14,206              | 15,137               | 12,376                    | 17,498                 | 7,242                      | 12,489                     |                      |                              |                       |                             |
| 1981-82              | 15,585                         | 12,858              | 15,049               | 11,377                    | 17,490                 | 7231                       |                            |                      |                              |                       |                             |
| 1980-81              | 16,408                         | 14,846              | 14,822               | 11,927                    | 17,436                 | 7218                       |                            |                      |                              |                       |                             |
| 1979-80              | 16,433                         | 14,293              | 15,111               | 11,062                    | 15,417                 |                            |                            |                      |                              |                       |                             |
| 1978-79              | 16,433                         | 13,622              | 14,713               | 9,925                     |                        |                            |                            |                      |                              |                       |                             |
| 1977-78              | 16,433                         | 15,123              | 15,100               | 10,872                    |                        |                            |                            |                      |                              |                       |                             |
| 1976-77              | 16,433                         | 15,547              | 14,965               | 10,931                    |                        |                            |                            |                      |                              |                       |                             |
| 1975-76              | 16,433                         | 15,798              | 14,762               | 9,835                     |                        |                            |                            |                      |                              |                       |                             |
| 1974-75              | 15,668                         | 15,630              | 13,885               | 10,004                    |                        |                            |                            |                      |                              |                       |                             |
| 1973-74              | 15,668                         | 15,729              | 12,727               |                           |                        |                            |                            |                      |                              |                       |                             |
| 1972-73              | 15,632                         | 15,890              | 11,966               |                           |                        |                            |                            |                      |                              |                       |                             |
| 1971-72              | 15,324                         | 15,284              |                      |                           |                        |                            |                            |                      |                              |                       |                             |
| 1970-71              | 9,721                          | 15,577              |                      |                           |                        |                            |                            |                      |                              |                       |                             |
| <b>Team</b>          | <b>Florida Panthers</b>        | <b>Dallas Stars</b> | <b>Anaheim Ducks</b> | <b>Colorado Avalanche</b> | <b>Arizona Coyotes</b> | <b>Carolina Hurricanes</b> | <b>Nashville Predators</b> | <b>Winnipeg Jets</b> | <b>Columbus Blue Jackets</b> | <b>Minnesota Wild</b> | <b>Vegas Golden Knights</b> |
| <b>Arena Year</b>    | 1998                           | 2001                | 1993                 | 1999                      | 2003                   | 1999                       | 1996                       | 2004                 | 2000                         | 2000                  | 2016                        |
| <b>Avg. Capacity</b> | 79%                            | 91%                 | 95%                  | 95%                       | 80%                    | 83%                        | 94%                        | 99%                  | 87%                          | 100%                  | 105%                        |
| <b>Capacity</b>      | 19,512                         | 19,717              | 17,174               | 17,809                    | 17,125                 | 18,680                     | 17,159                     | 15,329               | 18,144                       | 18,568                | 17,367                      |
| 2018-19              | 13,261                         | 18,178              | 16,814               | 17,132                    | 13,989                 | 14,322                     | 17,445                     | 15,276               | 16,658                       | 18,907                | 18,318                      |
| 2017-18              | 13,851                         | 18,110              | 16,635               | 15,586                    | 13,040                 | 13,320                     | 17,307                     | 15,321               | 16,659                       | 19,036                | 18,042                      |
| 2016-17              | 14,620                         | 18,101              | 15,942               | 14,835                    | 13,094                 | 11,776                     | 17,159                     | 15,731               | 15,857                       | 19,070                |                             |
| 2015-16              | 15,384                         | 18,376              | 16,336               | 17,032                    | 13,433                 | 12,203                     | 16,971                     | 15,294               | 14,665                       | 19,827                |                             |
| 2014-15              | 11,265                         | 17,350              | 16,874               | 16,176                    | 13,345                 | 12,594                     | 16,854                     | 15,037               | 15,511                       | 19,023                |                             |
| 2013-14              | 14,177                         | 14,658              | 16,469               | 16,295                    | 13,775                 | 15,483                     | 16,600                     | 15,004               | 14,698                       | 18,505                |                             |
| 2012-13              | 16,991                         | 17,063              | 15,887               | 15,444                    | 13,923                 | 21,775                     | 16,974                     | 15,004               | 14,564                       | 18,794                |                             |
| 2011-12              | 16,628                         | 14,226              | 14,760               | 15,498                    | 12,420                 | 16,042                     | 16,690                     | 15,004               | 14,660                       | 17,772                |                             |
| 2010-11              | 15,685                         | 15,073              | 14,738               | 14,820                    | 12,188                 | 16,415                     | 16,142                     |                      | 13,658                       | 18,012                |                             |
| 2009-10              | 15,146                         | 17,215              | 15,168               | 13,947                    | 11,989                 | 15,240                     | 14,979                     |                      | 15,416                       | 18,415                |                             |
| 2008-09              | 15,621                         | 17,680              | 16,990               | 15,429                    | 14,875                 | 16,572                     | 15,010                     |                      | 15,543                       | 18,568                |                             |
| 2007-08              | 15,436                         | 18,038              | 17,193               | 16,842                    | 14,820                 | 16,633                     | 14,910                     |                      | 14,823                       | 18,568                |                             |
| 2006-07              | 15,370                         | 17,914              | 16,389               | 17,612                    | 14,988                 | 17,386                     | 15,259                     |                      | 16,401                       | 18,543                |                             |
| 2005-06              | 16,014                         | 17,828              | 15,131               | 18,007                    | 15,582                 | 15,596                     | 14,428                     |                      | 16,796                       | 18,575                |                             |
| 2004-05              | Season Canceled Due to Lockout |                     |                      |                           |                        |                            |                            |                      |                              |                       |                             |
| 2003-04              | 15,936                         | 18,355              | 14,987               | 18,007                    | 15,467                 | 12,330                     | 13,157                     |                      | 17,369                       | 18,530                |                             |
| 2002-03              | 15,428                         | 18,532              | 13,988               | 18,007                    | 13,229                 | 15,682                     | 13,228                     |                      | 17,744                       | 18,500                |                             |
| 2001-02              | 16,074                         | 18,532              | 12,002               | 18,007                    | 13,165                 | 15,508                     | 14,788                     |                      | 18,136                       | 18,455                |                             |
| 2000-01              | 14,679                         | 17,001              | 13,499               | 18,007                    | 14,224                 | 13,355                     | 15,767                     |                      | 17,457                       | 18,328                |                             |
| 1999-00              | 15,981                         | 17,001              | 14,460               | 17,889                    | 14,991                 | 12,400                     | 16,599                     |                      |                              |                       |                             |

|         |        |        |        |        |        |       |        |        |  |  |  |
|---------|--------|--------|--------|--------|--------|-------|--------|--------|--|--|--|
| 1998-99 | 18,493 | 16,907 | 15,804 | 16,059 | 15,547 | 8,187 | 16,194 |        |  |  |  |
| 1997-98 | 14,703 | 16,489 | 16,908 | 16,061 | 15,404 | 9,106 |        |        |  |  |  |
| 1996-97 | 14,703 | 15,997 | 16,972 | 16,061 | 15,585 |       |        |        |  |  |  |
| 1995-96 | 13,278 | 15,572 | 17,154 | 16,017 |        |       |        | 11,355 |  |  |  |
| 1994-95 | 14,192 | 16,729 | 17,174 |        |        |       |        | 13,012 |  |  |  |
| 1993-94 | 14,190 | 16,070 | 16,728 |        |        |       |        | 13,130 |  |  |  |
| 1992-93 |        |        |        |        |        |       |        | 13,550 |  |  |  |
| 1991-92 |        |        |        |        |        |       |        | 12,931 |  |  |  |
| 1990-91 |        |        |        |        |        |       |        | 12,931 |  |  |  |
| 1989-90 |        |        |        |        |        |       |        | 13,106 |  |  |  |
| 1988-89 |        |        |        |        |        |       |        | 12,816 |  |  |  |
| 1987-88 |        |        |        |        |        |       |        | 12,681 |  |  |  |
| 1986-87 |        |        |        |        |        |       |        | 13,594 |  |  |  |
| 1985-86 |        |        |        |        |        |       |        | 13,620 |  |  |  |
| 1984-85 |        |        |        |        |        |       |        | 12,994 |  |  |  |
| 1983-84 |        |        |        |        |        |       |        | 12,400 |  |  |  |
| 1982-83 |        |        |        |        |        |       |        | 12,889 |  |  |  |
| 1981-82 |        |        |        |        |        |       |        | 13,382 |  |  |  |
| 1980-81 |        |        |        |        |        |       |        | 13,263 |  |  |  |
| 1979-80 |        |        |        |        |        |       |        | 13,284 |  |  |  |
| 1978-79 |        |        |        |        |        |       |        |        |  |  |  |
| 1977-78 |        |        |        |        |        |       |        |        |  |  |  |
| 1976-77 |        |        |        |        |        |       |        |        |  |  |  |
| 1975-76 |        |        |        |        |        |       |        |        |  |  |  |
| 1974-75 |        |        |        |        |        |       |        |        |  |  |  |
| 1973-74 |        |        |        |        |        |       |        |        |  |  |  |
| 1972-73 |        |        |        |        |        |       |        |        |  |  |  |
| 1971-72 |        |        |        |        |        |       |        |        |  |  |  |
| 1970-71 |        |        |        |        |        |       |        |        |  |  |  |

Data Sources: *ESPN.com* and *hockeydb.com*

## Appendix D: Team Overall Rank from 1970 to 2019

Each year, the NHL ranks teams based on the amount of points the team gains over the regular season. Teams earn two points for every game won, one point for every overtime or shootout loss, and one point for every game tied.<sup>183</sup> Every team receives a standing number, with one being the team with the most points. If two or more teams earn the same amount of points during the season, then the league ranks those teams based on which had the fewer number of games played. If they still tie, then the league looks at which team had the greatest number of wins.<sup>184</sup>

183. Jamie Fitzpatrick, "How to Read and Understand the NHL Standings," *LiveAbout*, May 24, 2019, <https://www.liveabout.com/nhl-standings-explained-2778913>.

184. "NHL Hockey Standings," *NHL.com*, Accessed August 1, 2019, <https://www.nhl.com/standings/2018/wildcard>.

In the following table, I divided teams into the same groups of 10 to 11 as the league attendance table for formatting. Again, the league canceled the 2004-2005 season.

| Team       | Boston Bruins                  | Chicago Blackhawks | New York Rangers | Detroit Red Wings | Montreal Canadiens | Toronto Maple Leafs | Los Angeles Kings | St. Louis Blues | Philadelphia Flyers | Pittsburgh Penguins |
|------------|--------------------------------|--------------------|------------------|-------------------|--------------------|---------------------|-------------------|-----------------|---------------------|---------------------|
| Arena Year | 1995                           | 1994               | 1968             | 2017              | 1996               | 1999                | 1999              | 1994            | 1996                | 2010                |
| 2018-19    | 3                              | 20                 | 26               | 28                | 14                 | 7                   | 30                | 12              | 22                  | 9                   |
| 2017-18    | 4                              | 25                 | 24               | 27                | 28                 | 7                   | 12                | 18              | 13                  | 10                  |
| 2016-17    | 13                             | 3                  | 9                | 25                | 7                  | 14                  | 22                | 10              | 19                  | 2                   |
| 2015-16    | 16                             | 5                  | 9                | 15                | 22                 | 30                  | 8                 | 3               | 13                  | 4                   |
| 2014-15    | 17                             | 7                  | 1                | 12                | 2                  | 27                  | 18                | 4               | 24                  | 15                  |
| 2013-14    | 1                              | 7                  | 12               | 15                | 9                  | 23                  | 10                | 4               | 13                  | 6                   |
| 2012-13    | 5                              | 1                  | 12               | 13                | 4                  | 9                   | 7                 | 6               | 20                  | 2                   |
| 2011-12    | 7                              | 10                 | 2                | 8                 | 28                 | 26                  | 13                | 3               | 6                   | 4                   |
| 2010-11    | 7                              | 13                 | 18               | 6                 | 14                 | 22                  | 12                | 20              | 3                   | 4                   |
| 2009-10    | 14                             | 3                  | 21               | 7                 | 19                 | 29                  | 9                 | 16              | 18                  | 8                   |
| 2008-09    | 2                              | 6                  | 12               | 3                 | 14                 | 24                  | 26                | 15              | 8                   | 9                   |
| 2007-08    | 15                             | 19                 | 9                | 1                 | 3                  | 24                  | 30                | 26              | 10                  | 4                   |
| 2006-07    | 23                             | 26                 | 15               | 1                 | 19                 | 18                  | 28                | 22              | 30                  | 10                  |
| 2005-06    | 25                             | 28                 | 10               | 1                 | 15                 | 18                  | 20                | 30              | 8                   | 29                  |
| 2004-05    | Season Canceled Due to Lockout |                    |                  |                   |                    |                     |                   |                 |                     |                     |
| 2003-04    | 4                              | 29                 | 25               | 1                 | 13                 | 5                   | 20                | 14              | 8                   | 30                  |
| 2002-03    | 15                             | 18                 | 19               | 3                 | 21                 | 9                   | 17                | 8               | 5                   | 29                  |
| 2001-02    | 2                              | 9                  | 21               | 1                 | 18                 | 3                   | 11                | 6               | 7                   | 26                  |
| 2000-01    | 18                             | 22                 | 21               | 2                 | 24                 | 14                  | 13                | 6               | 7                   | 9                   |
| 1999-00    | 24                             | 21                 | 23               | 2                 | 19                 | 7                   | 11                | 1               | 3                   | 13                  |
| 1998-99    | 8                              | 21                 | 18               | 6                 | 19                 | 5                   | 22                | 12              | 7                   | 11                  |
| 1997-98    | 9                              | 18                 | 21               | 3                 | 12                 | 20                  | 11                | 4               | 6                   | 5                   |
| 1996-97    | 26                             | 14                 | 8                | 5                 | 17                 | 23                  | 24                | 12              | 4                   | 10                  |
| 1995-96    | 8                              | 6                  | 5                | 1                 | 9                  | 13                  | 23                | 14              | 3                   | 4                   |
| 1994-95    | 6                              | 8                  | 14               | 1                 | 17                 | 12                  | 20                | 4               | 5                   | 3                   |
| 1993-94    | 7                              | 13                 | 1                | 4                 | 9                  | 5                   | 22                | 11              | 18                  | 3                   |
| 1992-93    | 2                              | 3                  | 19               | 5                 | 6                  | 8                   | 11                | 16              | 17                  | 1                   |
| 1991-92    | 9                              | 8                  | 1                | 3                 | 5                  | 19                  | 10                | 11              | 15                  | 6                   |
| 1990-91    | 5                              | 1                  | 8                | 13                | 6                  | 20                  | 3                 | 2               | 14                  | 7                   |
| 1989-90    | 1                              | 6                  | 9                | 19                | 4                  | 12                  | 15                | 11              | 18                  | 17                  |
| 1988-89    | 5                              | 16                 | 9                | 11                | 2                  | 19                  | 4                 | 13              | 10                  | 6                   |
| 1987-88    | 4                              | 17                 | 11               | 5                 | 2                  | 20                  | 18                | 15              | 8                   | 12                  |
| 1986-87    | 8                              | 15                 | 12               | 11                | 5                  | 16                  | 17                | 10              | 2                   | 14                  |
| 1985-86    | 9                              | 8                  | 14               | 21                | 7                  | 19                  | 20                | 12              | 2                   | 15                  |
| 1984-85    | 12                             | 11                 | 16               | 15                | 6                  | 21                  | 13                | 10              | 1                   | 20                  |
| 1983-84    | 3                              | 16                 | 8                | 15                | 11                 | 18                  | 19                | 14              | 6                   | 21                  |
| 1982-83    | 1                              | 4                  | 10               | 18                | 5                  | 15                  | 16                | 17              | 2                   | 21                  |
| 1981-82    | 4                              | 15                 | 7                | 20                | 3                  | 19                  | 17                | 14              | 8                   | 12                  |
| 1980-81    | 8                              | 10                 | 13               | 20                | 3                  | 16                  | 4                 | 2               | 6                   | 15                  |
| 1979-80    | 4                              | 7                  | 8                | 18                | 3                  | 11                  | 12                | 10              | 1                   | 13                  |
| 1978-79    | 3                              | 11                 | 5                | 15                | 2                  | 9                   | 10                | 16              | 4                   | 8                   |
| 1977-78    | 2                              | 8                  | 11               | 9                 | 1                  | 6                   | 10                | 16              | 4                   | 12                  |
| 1976-77    | 3                              | 13                 | 11               | 18                | 1                  | 8                   | 6                 | 10              | 2                   | 7                   |
| 1975-76    | 3                              | 10                 | 13               | 15                | 1                  | 7                   | 6                 | 12              | 2                   | 9                   |
| 1974-75    | 5                              | 12                 | 7                | 14                | 3                  | 13                  | 4                 | 10              | 1                   | 6                   |
| 1973-74    | 1                              | 3                  | 5                | 10                | 4                  | 6                   | 7                 | 12              | 2                   | 11                  |
| 1972-73    | 2                              | 4                  | 3                | 6                 | 1                  | 13                  | 11                | 9               | 8                   | 10                  |
| 1971-72    | 1                              | 4                  | 2                | 7                 | 3                  | 6                   | 13                | 8               | 10                  | 9                   |
| 1970-71    | 1                              | 3                  | 2                | 13                | 4                  | 6                   | 9                 | 5               | 7                   | 11                  |

| Team       | Buffalo Sabres                 | Vancouver Canucks | New York Islanders | Washington Capitals | Edmonton Oilers | Calgary Flames      | New Jersey Devils   | San Jose Sharks | Tampa Bay Lightning   | Ottawa Senators |                      |
|------------|--------------------------------|-------------------|--------------------|---------------------|-----------------|---------------------|---------------------|-----------------|-----------------------|-----------------|----------------------|
| Arena Year | 1996                           | 1995              | 1972               | 1997                | 2016            | 1983                | 2007                | 1993            | 1996                  | 1996            |                      |
| 2018-19    | 27                             | 23                | 5                  | 4                   | 25              | 2                   | 29                  | 6               | 1                     | 31              |                      |
| 2017-18    | 31                             | 26                | 22                 | 6                   | 23              | 20                  | 15                  | 11              | 3                     | 30              |                      |
| 2016-17    | 26                             | 29                | 17                 | 1                   | 8               | 15                  | 27                  | 11              | 18                    | 12              |                      |
| 2015-16    | 23                             | 28                | 10                 | 1                   | 29              | 26                  | 20                  | 11              | 12                    | 19              |                      |
| 2014-15    | 30                             | 8                 | 10                 | 9                   | 28              | 16                  | 25                  | 22              | 5                     | 13              |                      |
| 2013-14    | 30                             | 25                | 26                 | 17                  | 28              | 27                  | 20                  | 5               | 8                     | 21              |                      |
| 2012-13    | 23                             | 8                 | 16                 | 10                  | 24              | 25                  | 22                  | 11              | 28                    | 14              |                      |
| 2011-12    | 19                             | 1                 | 27                 | 15                  | 29              | 17                  | 9                   | 12              | 21                    | 16              |                      |
| 2010-11    | 15                             | 1                 | 27                 | 2                   | 30              | 17                  | 23                  | 5               | 8                     | 26              |                      |
| 2009-10    | 10                             | 5                 | 27                 | 1                   | 30              | 15                  | 6                   | 2               | 25                    | 13              |                      |
| 2008-09    | 18                             | 7                 | 30                 | 4                   | 21              | 10                  | 5                   | 1               | 29                    | 22              |                      |
| 2007-08    | 18                             | 20                | 27                 | 13                  | 21              | 14                  | 6                   | 2               | 29                    | 12              |                      |
| 2006-07    | 2                              | 9                 | 17                 | 27                  | 25              | 12                  | 7                   | 5               | 16                    | 8               |                      |
| 2005-06    | 5                              | 16                | 24                 | 27                  | 14              | 7                   | 9                   | 11              | 17                    | 2               |                      |
| 2004-05    | Season Canceled Due to Lockout |                   |                    |                     |                 |                     |                     |                 |                       |                 |                      |
| 2003-04    | 18                             | 7                 | 15                 | 28                  | 17              | 12                  | 9                   | 3               | 2                     | 6               |                      |
| 2002-03    | 26                             | 7                 | 16                 | 13                  | 14              | 22                  | 4                   | 25              | 12                    | 1               |                      |
| 2001-02    | 20                             | 13                | 8                  | 19                  | 15              | 22                  | 10                  | 5               | 27                    | 14              |                      |
| 2000-01    | 8                              | 15                | 30                 | 10                  | 12              | 20                  | 3                   | 11              | 29                    | 4               |                      |
| 1999-00    | 16                             | 18                | 26                 | 5                   | 14              | 22                  | 4                   | 15              | 27                    | 10              |                      |
| 1998-99    | 9                              | 26                | 25                 | 23                  | 16              | 20                  | 2                   | 15              | 27                    | 3               |                      |
| 1997-98    | 10                             | 24                | 19                 | 8                   | 15              | 22                  | 2                   | 16              | 26                    | 13              |                      |
| 1996-97    | 6                              | 15                | 22                 | 18                  | 13              | 21                  | 3                   | 25              | 20                    | 16              |                      |
| 1995-96    | 20                             | 16                | 24                 | 10                  | 21              | 15                  | 12                  | 25              | 11                    | 26              |                      |
| 1994-95    | 11                             | 13                | 25                 | 9                   | 22              | 7                   | 10                  | 18              | 23                    | 26              |                      |
| 1993-94    | 10                             | 14                | 15                 | 12                  | 23              | 7                   | 2                   | 17              | 21                    | 26              |                      |
| 1992-93    | 15                             | 7                 | 12                 | 10                  | 20              | 9                   | 13                  | 23              | 22                    | 24              |                      |
| 1991-92    | 17                             | 4                 | 14                 | 2                   | 12              | 17                  | 7                   | 22              |                       |                 |                      |
| 1990-91    | 10                             | 17                | 19                 | 9                   | 11              | 4                   | 12                  |                 |                       |                 |                      |
| 1989-90    | 3                              | 20                | 16                 | 13                  | 5               | 2                   | 10                  |                 |                       |                 |                      |
| 1988-89    | 8                              | 14                | 20                 | 3                   | 7               | 1                   | 17                  |                 |                       |                 |                      |
| 1987-88    | 9                              | 19                | 6                  | 7                   | 3               | 1                   | 10                  |                 |                       |                 |                      |
| 1986-87    | 21                             | 19                | 9                  | 7                   | 1               | 3                   | 20                  |                 |                       |                 |                      |
| 1985-86    | 13                             | 18                | 5                  | 3                   | 1               | 6                   | 16                  |                 |                       |                 |                      |
| 1984-85    | 8                              | 18                | 9                  | 3                   | 2               | 5                   | 19                  |                 |                       |                 |                      |
| 1983-84    | 4                              | 12                | 2                  | 5                   | 1               | 10                  | 20                  |                 |                       |                 |                      |
| 1982-83    | 9                              | 13                | 6                  | 8                   | 3               | 12                  | 19                  |                 |                       |                 |                      |
| 1981-82    | 6                              | 11                | 1                  | 16                  | 2               | 13                  |                     |                 |                       |                 |                      |
| 1980-81    | 5                              | 12                | 1                  | 17                  | 14              | 7                   |                     |                 |                       |                 |                      |
| 1979-80    | 2                              | 15                | 5                  | 17                  | 16              |                     |                     |                 |                       |                 |                      |
| 1978-79    | 7                              | 13                | 1                  | 14                  |                 |                     |                     |                 |                       |                 |                      |
| 1977-78    | 5                              | 15                | 3                  | 17                  |                 |                     |                     |                 |                       |                 |                      |
| 1976-77    | 5                              | 15                | 4                  | 16                  |                 |                     |                     |                 |                       |                 |                      |
| 1975-76    | 4                              | 11                | 5                  | 18                  |                 |                     |                     |                 |                       |                 |                      |
| 1974-75    | 2                              | 9                 | 8                  | 18                  |                 |                     |                     |                 |                       |                 |                      |
| 1973-74    | 8                              | 14                | 15                 |                     |                 |                     |                     |                 |                       |                 |                      |
| 1972-73    | 5                              | 14                | 16                 |                     |                 |                     |                     |                 |                       |                 |                      |
| 1971-72    | 12                             | 14                |                    |                     |                 |                     |                     |                 |                       |                 |                      |
| 1970-71    | 10                             | 12                |                    |                     |                 |                     |                     |                 |                       |                 |                      |
| Team       | Florida Panthers               | Dallas Stars      | Anaheim Ducks      | Colorado Avalanche  | Arizona Coyotes | Carolina Hurricanes | Nashville Predators | Winnipeg Jets   | Columbus Blue Jackets | Minnesota Wild  | Vegas Golden Knights |
| Arena Year | 1998                           | 2001              | 1993               | 1999                | 2003            | 1999                | 1996                | 2004            | 2000                  | 2000            | 2016                 |
| 2018-19    | 19                             | 15                | 24                 | 17                  | 18              | 11                  | 8                   | 10              | 13                    | 21              | 16                   |
| 2017-18    | 16                             | 19                | 9                  | 17                  | 29              | 21                  | 1                   | 2               | 14                    | 8               | 5                    |
| 2016-17    | 23                             | 24                | 6                  | 30                  | 28              | 21                  | 16                  | 20              | 4                     | 5               |                      |
| 2015-16    | 7                              | 2                 | 6                  | 21                  | 24              | 18                  | 14                  | 25              | 27                    | 17              |                      |
| 2014-15    | 20                             | 19                | 3                  | 21                  | 29              | 26                  | 6                   | 14              | 23                    | 11              |                      |

|         |                                |    |    |    |    |    |    |    |    |    |  |
|---------|--------------------------------|----|----|----|----|----|----|----|----|----|--|
| 2013-14 | 29                             | 16 | 2  | 3  | 18 | 24 | 19 | 22 | 14 | 11 |  |
| 2012-13 | 30                             | 21 | 3  | 29 | 19 | 26 | 27 | 18 | 17 | 15 |  |
| 2011-12 | 14                             | 18 | 25 | 20 | 11 | 23 | 5  | 22 | 30 | 24 |  |
| 2010-11 | 28                             | 16 | 9  | 29 | 11 | 19 | 10 |    | 24 | 21 |  |
| 2009-10 | 28                             | 20 | 17 | 12 | 4  | 24 | 11 |    | 26 | 22 |  |
| 2008-09 | 13                             | 23 | 17 | 28 | 25 | 11 | 20 |    | 16 | 19 |  |
| 2007-08 | 22                             | 8  | 5  | 11 | 23 | 16 | 17 |    | 25 | 7  |  |
| 2006-07 | 21                             | 6  | 4  | 14 | 29 | 20 | 3  |    | 24 | 11 |  |
| 2005-06 | 21                             | 4  | 12 | 13 | 23 | 3  | 6  |    | 26 | 22 |  |
| 2004-05 | Season Canceled Due to Lockout |    |    |    |    |    |    |    |    |    |  |
| 2003-04 | 24                             | 11 | 22 | 10 | 26 | 23 | 16 |    | 27 | 19 |  |
| 2002-03 | 27                             | 2  | 11 | 6  | 20 | 30 | 24 |    | 28 | 10 |  |
| 2001-02 | 28                             | 17 | 24 | 4  | 12 | 16 | 25 |    | 29 | 23 |  |
| 2000-01 | 27                             | 5  | 26 | 1  | 16 | 17 | 19 |    | 23 | 25 |  |
| 1999-00 | 8                              | 6  | 20 | 9  | 12 | 17 | 25 |    |    |    |  |
| 1998-99 | 17                             | 1  | 14 | 4  | 10 | 13 | 24 |    |    |    |  |
| 1997-98 | 25                             | 1  | 23 | 7  | 14 | 17 |    |    |    |    |  |
| 1996-97 | 7                              | 2  | 9  | 1  | 11 |    |    |    |    |    |  |
| 1995-96 | 7                              | 22 | 18 | 2  |    |    |    | 17 |    |    |  |
| 1994-95 | 15                             | 19 | 24 |    |    |    |    | 21 |    |    |  |
| 1993-94 | 16                             | 8  | 20 |    |    |    |    | 25 |    |    |  |
| 1992-93 |                                |    |    |    |    |    |    | 14 |    |    |  |
| 1991-92 |                                |    |    |    |    |    |    | 13 |    |    |  |
| 1990-91 |                                |    |    |    |    |    |    | 18 |    |    |  |
| 1989-90 |                                |    |    |    |    |    |    | 8  |    |    |  |
| 1988-89 |                                |    |    |    |    |    |    | 18 |    |    |  |
| 1987-88 |                                |    |    |    |    |    |    | 14 |    |    |  |
| 1986-87 |                                |    |    |    |    |    |    | 6  |    |    |  |
| 1985-86 |                                |    |    |    |    |    |    | 17 |    |    |  |
| 1984-85 |                                |    |    |    |    |    |    | 4  |    |    |  |
| 1983-84 |                                |    |    |    |    |    |    | 13 |    |    |  |
| 1982-83 |                                |    |    |    |    |    |    | 14 |    |    |  |
| 1981-82 |                                |    |    |    |    |    |    | 10 |    |    |  |
| 1980-81 |                                |    |    |    |    |    |    | 21 |    |    |  |
| 1979-80 |                                |    |    |    |    |    |    | 20 |    |    |  |
| 1978-79 |                                |    |    |    |    |    |    |    |    |    |  |
| 1977-78 |                                |    |    |    |    |    |    |    |    |    |  |
| 1976-77 |                                |    |    |    |    |    |    |    |    |    |  |
| 1975-76 |                                |    |    |    |    |    |    |    |    |    |  |
| 1974-75 |                                |    |    |    |    |    |    |    |    |    |  |
| 1973-74 |                                |    |    |    |    |    |    |    |    |    |  |
| 1972-73 |                                |    |    |    |    |    |    |    |    |    |  |
| 1971-72 |                                |    |    |    |    |    |    |    |    |    |  |
| 1970-71 |                                |    |    |    |    |    |    |    |    |    |  |

Data Source: Hockey Reference.com and ESPN.com

## Appendix E: Teams Fact Sheets by Division

Sources used for all teams:

- **City population and household income in United States:** United States, Census Bureau, "U.S. Census Bureau QuickFacts: United States," *Census Bureau QuickFacts*, July 1, 2018, <https://www.census.gov/quickfacts/fact/table/US/PST045218>
- **City population and household income in Canada:** Canada, Statistics Canada, "Census Profile, 2016 Census," Government of Canada, Statistics Canada, July 17, 2019, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>.



- **Team valuation, ticket prices, and media partnerships for 2018:** "The Business of Hockey," *Forbes*, Accessed May 27, 2019, <https://www.forbes.com/nhl-valuations/list/#tab:overall>.
- **Ticket prices for 2008:** Mayya Komisarchik and Aju J. Fenn, "Trends in Stadium and Arena Construction, 1995-2015," *SSRN Electronic Journal*, 2010, doi:10.2139/ssrn.1584733.
- **Construction financing:** "Sports Facilities Report: National Hockey League," *National Sports Law Institute of Marquette University Law School* 19, Appendix 2 (2018), <https://law.marquette.edu/assets/sports-law/NHL.2018.pdf>.

## Eastern Atlantic Division

### *Boston Bruins*

#### Team Facts

- **Year Established:** 1924
- **Location:** Boston, Massachusetts, USA
- **Metro Area Population:** 4.6M
- **City Median Household Income (2017):** \$62,021
- **Stanley Cup Championships:** 6 (2011, 1972, 1970, 1941, 1939, 1929)
  - **Coaches:** Claude Julien (2007 - 2017), Tom Johnson (1970 - 1973), Harry Sinden (1966 - 1970), Cooney Weiland (1939 – 1941), Art Ross (1936 – 1939) Cy Denneny (1928 – 1929)
- **Media Partners:** NESN (TV); 98.5 The Sports Hub (Radio)

#### Team Valuation: \$925M (December 2018)

- **Operating Income:** \$37M
- **Debt/Value** (including arena debt): 0%
- **Player Expenses:** \$83M
- **Gate Receipts:** \$80M
- **Revenue Per Fan:** \$38
- **Average Ticket Price:** \$152 (2018), \$61 (2008)

#### Arena Facts

- **Name:** TD Garden
- **Date Opened:** 1995
- **Location:** Downtown
- **NHL Seat Capacity:** 17,565
- **Size:** 755,000 sq. feet
- **Owner:** Delaware North – Boston; the CEO also owns the Bruins
  - **Industry:** Hospitality management
- **Operator:** Delaware North – Boston

#### Arena Financing

- **Nominal Cost (\$/Million):** \$160
- **Real Cost 2019 (\$/Million):** \$268
- **Direct Funds**

- \$120 million contributed from Delaware North in the form of loans split evenly among Federal Reserve Bank of Boston (25%), Fleet Bank of Massachusetts (25%), and Shawmut National Corporation (25%).<sup>185</sup>
- \$16 million worth of city bonds and public land from a settlement between the New Boston Garden Corporation and the Commonwealth of Massachusetts (10%)
- \$25.6 million approximate equity commitments by Delaware North Companies Chairman Jeremy Jacobs<sup>186</sup>
- **Indirect Funds**
  - TD Garden must host charity events three times a year to benefit the commission that oversees state recreation facilities\*
  - \$10 million contributed by Delaware North to help build the adjacent train station
- **Land**
  - Built on M.G.L. Chapter 121A air rights over the North Station commuter rail station and the MBTA's underground garage<sup>187</sup> (Publicly funded)

**Renovations (as of May 2019):** In 2014, Delaware North renovated the arena by redesigning concourses and upgrading technology; it cost \$70 million. In 2018, Delaware North announced a \$100 million investment that will add 50,000 square feet to the arena, increasing capacity by 400 people and adding a party deck, concourses, restrooms, and concessions.<sup>188</sup>

**Lease agreement:** TD Garden is also home to the Boston Celtics of the National Basketball Association. To pay for the arena, Delaware North secured funding of \$120 million in private loans in 1992. However, the Massachusetts Senate blocked the bill allowing arena construction. The legislature wanted Delaware North to pay \$3.5 million in linkage payments, in which the company would pay for public Boston area parks with ice skating.<sup>189</sup> Delaware North denied this request and threatened to abandon the arena plans so the legislature agreed to pass the bill.

### Previously Used Arena

- **Name:** Boston Garden
- **Date Opened:** November 17, 1928
- **NHL Seat Capacity:** 14,448
- **Size:** N/A

---

185. In 2017, reports revealed that TD Garden had not been hosting charity events for the prior 24 years. Fox Butterfield, "After Long Wait, New Boston Garden Planned," *The New York Times*, May 8, 1992, <https://www.nytimes.com/1992/05/08/us/after-long-wait-new-boston-garden-planned.html>; Ty Anderson, "Teens Discover That Bruins Have Been Stiffing Boston for 24 Years," *WEEI Sports Radio Network*, July 14, 2017, <https://weei.radio.com/blogs/ty-anderson/teens-discover-bruins-have-been-stiffing-boston-24-years>

186. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>; "Sports Facilities Report," *National Sports Law Institute of Marquette University Law School* 10, Appendix 2 (2009), <https://law.marquette.edu/assets/sports-law/pdf/sports-facility-reports/sfr-v10-nba.pdf>.

187. United States, Director for Development Review, *Nashua Street Residences Project Located On Parcel 2B of the North Station Urban Renewal Area and In the New Boston Garden Development Area of the North Station Economic Development Area*. By Heather Campisano, David Carlson, and Geoffrey Lewis, February 14, 2013, <http://www.bostonplans.org/getattachment/528d8bb9-981f-4799-9067-62e37da21f24>.

188. Jen Booton, "Boston's TD Garden Announces \$100 Million Expansion," *SportTechie*, November 9, 2018, <https://www.sporttechie.com/bostons-td-garden-announces-100-million-expansion/>.

189. Fox Butterfield, "Hopes for a New Boston Garden Dim with Political Quarreling," *The New York Times*, February 17, 1993, <https://www.nytimes.com/1993/02/17/us/hopes-for-a-new-boston-garden-dim-with-political-quarreling.html?src=pm>.

- **Owner:** Boston and Maine Corporation (1928–1965), Linnell & Cox (1965–1973), Storer Broadcasting (1973–1975), Delaware North (1975–1997)
- **Operator:** Madison Square Garden Corporation (1928–1934), Boston Garden-Arena Corporation (1934–1973), Storer Broadcasting (1973–1975), Delaware North (1975–1997)

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$4
- **Real Cost 2019 (\$/Million):** \$59.8

The Boston & Maine Railroad proposed constructing a sports arena on North Station. Tex Rickard, who built the third Madison Square Garden, and other Boston businessmen signed a 25-year lease for the arena. A Boston & Maine shareholder challenged the railroad being able to construct a non-railroad building, but the Massachusetts General Court passed legislation that expanded the company's powers.

**Why did the team move?** The Boston Garden hockey rink was undersized because, at the time of construction, there was no standard NHL rink size. The Boston Garden had no air conditioning, no luxury suites, and it was one of the smallest capacity arenas in the United States. In 1972, the Boston Mayor announced a new \$28-million arena to be built near South Station; however, the owner of the Boston Garden said they would not be able to provide the finances. The Boston Celtics considered two different plans for a new arena. The team considered a \$20 million, 18,000-seat arena with Ogden Corp. and a \$40 million, 15,000-seat arena paid with state-bonds as agreed with the Boston Redevelopment Authority. At the same time, the Boston Bruins considered moving to Salem, New Hampshire and constructing a \$50 million sports complex there. The New Hampshire General Court shut down that arena plan.

To keep the Bruins in Boston, a Massachusetts senate committee formed to plan a new arena in Boston. The committee proposed a \$56.8 million, 16,000-seat arena. An Arena Authority would provide tax-exempt bonds for the arena; in addition, the committee proposed to raise the commonwealth's hotel tax from 5.7% to 8%.<sup>190</sup> Although naming rights were sold to Sheraton for \$2 million, the committee's proposal was shut down. In 1998, the old Boston Garden rink was demolished.

### ***Buffalo Sabres***

#### **Team Facts**

- **Year Established:** 1970
- **Location:** Buffalo, New York, USA
- **Metro Area Population:** 1.1M
- **City Median Household Income (2017):** \$34,268
- **Stanley Cup Championships:** 0
- **Media Partners:** MSG (TV); WGR (Radio)

**Team Valuation:** \$375M (December 2018)

- **Operating Income:** \$5.3M
- **Debt/Value** (including arena debt): 21%
- **Player Expenses:** \$70M

---

<sup>190</sup> "Boston Arena Plan Unveiled," *The Gazette*, August 6, 1981, <https://news.google.com/newspapers?id=z2lGAAAAIABAJ&sjid=EukMAAAAIAAJ&pg=1022,1842305&dq>

- **Gate Receipts:** \$42M
- **Revenue Per Fan:** \$85
- **Average Ticket Price:** \$78 (2018), \$33 (2008)

#### Arena Facts

- **Name:** KeyBank Center (formerly, Marine Midland Arena, HSBC Arena and First Niagara Center)
- **Date Opened:** 1996
- **Location:** Downtown Canalside District
- **NHL Seat Capacity:** 19,070
- **Size:** 700,000 sq. feet
- **Owner:** City of Buffalo, Erie County & State of New York
  - **Industry:** Government
- **Operator:** Pegula Sports and Entertainment (as Hockey Western New York, LLC)

#### Arena Financing

- **Nominal Cost (\$/Million):** \$127.5
- **Real Cost 2019 (\$/Million):** \$207.6
- **Direct Funds**
  - \$25.5 million contributed from State of New York loan
  - \$20.4 million contributed from Erie County bonds backed by a ticket surcharge
    - The ticket surcharge is currently \$4.50 per ticket.<sup>191</sup>
  - \$10.2 million contributed from City of Buffalo bonds
  - \$71.4 million contributed by private bank loans
- **Indirect Funds**
  - \$7 million contributed by Erie County for a public parking structure<sup>192</sup>

**Renovations (as of May 2019):** In 1997, the \$3 million Sony Jumbotron fell while being moved; it was replaced that evening. In 1999, 95 new seats were added. In 2003, the glass boards were replaced by plastic stanchions and an LED ribbon was added to the arena. In 2008, a new HD scoreboard was installed. In 2011, \$6 million was spent on new locker rooms, a player's lounge, new HD televisions, and upgraded concessions. In addition, the ice rink received a multimillion-dollar upgrade with a dehumidifier system and cooling tower. The Zamboni machines were upgraded to include laser beam leveling and improve the ice surface. In 2012, an Alumni Plaza was created. In 2013, a multimillion-dollar project was announced to renovate all 80 luxury suites with 50" televisions and new furniture and carpeting.<sup>193</sup>

Also, in 2013, Pegula Sports and Entertainment financed construction of the HarborCenter. HarborCenter contains 750 parking spaces and two NHL regulation sized indoor ice rinks. The

---

191. "Blake Shelton Coming to KeyBank Center," *WGRZ*, October 31, 2018, <https://www.wgrz.com/article/entertainment/blake-shelton-coming-to-keybank-center/71-609749548>.

192. United States, City of Glendale, *Comparison of Operating Costs for Similar Arenas*, by Tom Hocking, January 2012, accessed May 25, 2019, <https://www.glendaleaz.com/documents/Study-ComparisonofOperatingCostsforSimilarArenas.pdf>.

193. World Heritage Encyclopedia, "Marine Midland Arena," *World Library Foundation*, Accessed July 2, 2019, [http://self.gutenberg.org/articles/eng/Marine\\_Midland\\_Arena](http://self.gutenberg.org/articles/eng/Marine_Midland_Arena).

land was purchased for \$2.2 million from the City of Buffalo and the construction cost \$172 million.

**Lease agreement:** The arena lease expires Sept. 30, 2025. The Buffalo Sabres pay \$500,000 annual ground lease payments each year to the City of Buffalo.<sup>194</sup> KeyBank Center is also home to the Buffalo Bandits of the National Lacrosse League. The arena was home to the Buffalo Destroyers of the Arena Football League, the Buffalo Blizzard of the National Professional Soccer League II and the Buffalo Wings of Roller Hockey International. The arena occasionally hosts Rochester Americans games.

#### **Previously Used Arena<sup>195</sup>**

- **Name:** Buffalo Memorial Auditorium
- **Date Opened:** 1940
- **Location:** Downtown Buffalo
- **NHL Seat Capacity:** 12,280 (1940 – 1974) 15,863 (1974 – 2009)
- **Size:** 150,000 sq. feet
- **Owner:** City of Buffalo (1940 – 2007), Erie Canal Harbor Development Corporation (2007–2009)
  - **Industry:** Government
- **Operator:** City of Buffalo

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$2.7
- **Real Cost 2019 (\$/Million):** \$49.4
- **Direct Funds**
  - Grant and loan from the federal Works Progress Administration<sup>196</sup>

**Why did the team move?** The Buffalo Memorial Auditorium had no air conditioning and a non-regulation ice surface. It was built in 1939 as part of President Franklin Delano Roosevelt's Work Project Act to alleviate unemployment during the Great Depression.<sup>196</sup>

### ***Detroit Red Wings***

#### **Team Facts**

- **Year Established:** 1942
- **Location:** Detroit, Michigan, USA
- **Metro Area Population:** 4.3M
- **City Median Household Income (2017):** \$27,838
- **Stanley Cup Championships:** 11 (2008, 2002, 1998, 1997, 1955, 1954, 1952, 1950, 1943, 1937, 1936)

---

194. Judith Grant Long, *Public/private Partnerships for Major League Sports Facilities*, London: Routledge, 2013.

195. "Buffalo Memorial Auditorium," Accessed June 19, 2019, <http://www.demcoinc.com/Tools/Portfolio/frontend/item.asp?jPageNumber=5&ItemID=0&projflag=0&type=2&size=0&lngDisplay=0&strMetaTag=>.

196. Buffalo Sabres Staff Writer, "Saying Goodbye to the Aud," *NHL.com*, September 5, 2008, <https://www.nhl.com/sabres/news/saying-goodbye-to-the-aud/c-438116>.

- **Coaches:** Mike Babcock (2005–2015), Scotty Bowman (1993–2002), Jimmy Skinner (1954–1958), Tommy Ivan (1947–1954), Jack Adams (1927–1947)
- **Media Partners:** FSN Detroit (TV); 97.1 The Ticket (Radio)

**Team Valuation:** \$775M (December 2018)

- **Operating Income:** \$33M
- **Debt/Value** (including arena debt): 0%
- **Player Expenses:** \$73M
- **Gate Receipts:** \$66M
- **Revenue Per Fan:** \$35
- **Average Ticket Price:** \$92 (2018), \$57 (2008)

#### **Arena Facts**

- **Name:** Little Caesars Arena
- **Date Opened:** 2017
- **Location:** Downtown
- **NHL Seat Capacity:** 19,515
- **Size:** 885,000 sq. feet
- **Owner:** Downtown Development Authority
  - **Industry:** Government
- **Operator:** Olympia Entertainment, a subsidiary of the Red Wings' parent company, Ilitch Holdings

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$862.9
- **Real Cost 2019 (\$/Million):** \$886
- **Direct Funds**
  - \$538.8 million contributed by Olympia Development of Michigan, subsidiary of Ilitch Holdings, Inc. (private)
  - \$284.75 million in tax-exempt bonds backed by property taxes and issued by the Detroit Downtown Development Authority
    - In 2017, Olympia Entertainment privately refinanced to pay off \$200 million of public bonds
  - \$4.85 million cost to service the bonds
  - \$34.75 million captured taxes to pay off arena bonds
- **Indirect Funds**
  - \$40 million taxpayer-financed funding for Detroit Pistons to relocate to the arena<sup>197</sup>
  - \$74 million promised taxpayer-subsidized reimbursement to Olympia Development for fulfilling contractual obligations in the commercial district surrounding the arena; announced in May 2019 to be provided once construction bonds are paid off<sup>198</sup>

---

197. Bill Shea, "Latest Little Caesars Arena Project Construction Cost: \$862.9 Million," *Crain's Detroit Business*, May 23, 2017, <https://www.crainsdetroit.com/article/20170523/news/629041/latest-little-caesars-arena-construction-cost-8629-million>.

198. JC Reindl, "Ilitch Organization to Get \$74M Bonus for Hitting Arena District Goal," *Detroit Free Press*, May 11, 2019, <https://www.freep.com/story/money/business/2019/05/11/ilitch-organization-arena-detroit-district-goal-bonus/1157439001/>.

- \$6 million demolition of the previously used arena financed in bonds from the state of Michigan
- \$600,000 annual in holding costs for the arena site to cover security and utilities paid by the City<sup>199</sup>

**Lease Agreement:** Little Caesars Arena is also home to the Detroit Pistons of the National Basketball Association. Olympia Entertainment keeps all arena revenue under its venue management deal with the Downtown Development Authority.<sup>200</sup> “The authority will own the arena and lease it—rent free—to the Red Wings for up to 95 years”<sup>201</sup>

### Previously Used Arena

- **Name:** Joe Louis Arena
- **Date Opened:** December 12, 1979
- **Location:** Downtown Detroit adjacent to Cobo Center on the bank of the Detroit River
- **NHL Seat Capacity:** 20,027
- **Size:** 440,000 sq. feet
- **Owner:** City of Detroit
- **Operator:** Olympia Entertainment, Inc.

### Arena Financing

- **Nominal Cost (\$/Million):** \$57
- **Real Cost 2019 (\$/Million):** \$200
- **Direct Funds**
  - \$57 million publicly funded by the state with municipal bonds

**Lease Agreement:** Detroit Red Wings had to pay \$25,000 in monthly rent and a \$252,000 annual usage tax. In addition, Detroit collected a 10% ticket tax for events at the arena, a 10% surcharge on concessions, and 7% tax on suite sales. The city paid for the construction of the arena and provided a discount on rent because the Red Wings had threatened to move to an arena in Pontiac, a suburb approximately 30 miles away from downtown Detroit.

**Why did the team move?** The Joe Louis Arena was outdated. There were only two main entrances to the building, which was a safety hazard because it was preventing easy exit. In addition, the outside of the area was breaking apart and there were no club seats. The arena was in a back corner of downtown Detroit, which resulted in heavy traffic congestion. Finally, there were only two concession areas and two bathrooms in the entire building. In 2014, the city agreed to demolish the Joe Louis Arena for site redevelopment as a part of Detroit’s agreement to exit from municipal bankruptcy. Although Detroit filed for bankruptcy under Chapter 9 of the

---

199. Candice Williams, "State Approves \$10M Loan for Joe Louis Arena Demolition," *Detroit News*, December 18, 2018, <https://www.detroitnews.com/story/news/local/detroit-city/2018/12/18/state-approves-10-million-loan-joe-louis-arena-demolition/2348900002/>.

200. Zach Spedden, "Olympia to Pay Off, Refinance Little Caesars Arena Bonds," *Arena Digest*, November 02, 2017, <https://arenadigest.com/2017/11/02/2017110220171102olympia-to-pay-off-refinance-little-caesars-arena-bonds/>.

201. Thomas Gaist, "Joe Louis Arena Facing Closure, Demolition as Part of Stadium Deal with Ilitch," March 19, 2014, <https://www.wsws.org/en/articles/2014/03/19/joel-m19.html>.

United States Bankruptcy code, Detroit's Downtown Development Authority approved the use of special tax increment revenues to fund the new arena.<sup>202</sup>

### *Florida Panthers*

#### **Team Facts**

- **Year Established:** 1993
- **Location:** Sunrise, Florida, USA
- **Metro Area Population:** 5.6M
- **City Median Household Income (2017):** \$53,237
- **Stanley Cup Championships:** 0
- **Media Partners:** FSN Florida (TV); Sports Radio 560 WQAM (Radio)

**Team Valuation:** \$295M (December 2018)

- **Operating Income:** -\$21M
- **Debt/Value** (including arena debt): 39%
- **Player Expenses:** \$75M
- **Gate Receipts:** \$16M
- **Revenue Per Fan:** \$10
- **Average Ticket Price:** \$68 (2018), \$50 (2008)

#### **Arena Facts**

- **Name:** BB&T Center, (formerly National Car Rental Center, Office Depot Center, and BankAtlantic Center)
- **Date Opened:** 1998
- **Location:** Approximately 17 miles west of Fort Lauderdale, 36 miles north of Miami, and 53 miles south of West Palm Beach
- **NHL Seat Capacity:** 19,512
- **Size:** 872,000 sq. feet
- **Owner:** Broward County
  - **Industry:** government entity
- **Operator:** Arena Operating Company, Ltd. (an Affiliate of the Panthers and a subsidiary of Sunrise Sports & Entertainment)

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$212
- **Real Cost 2019 (\$/Million):** \$332.4
- **Direct Funds**
  - \$184.7 million contributed by Broward County, with \$137 million of tax-free bonds and \$47 million in taxable bonds
  - \$27.3 million privately funded by the Panthers
- **Indirect Funds**
  - Developer agreed to cover any costs in excess of these bonds
  - 2% county hotel bed tax and a state sales tax rebate cover \$10 million of the annual \$14 million debt service payment<sup>203</sup>

---

202. David Muller, "\$650 Million Detroit Red Wings Arena Project Clears another Public Financing Hurdle," *Michigan Live*, July 24, 2013, [https://www.mlive.com/business/detroit/2013/07/650\\_million\\_detroit\\_red\\_wings.html](https://www.mlive.com/business/detroit/2013/07/650_million_detroit_red_wings.html).

203. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>



### **Renovations (as of May 2019):**

The Panthers announced in June 2011 that they want a multimillion-dollar renovation of Broward County's BankAtlantic Center to attract more fans and more concerts to the arena. Since its opening, the county has paid over \$90 million for the arena and has only received \$331,000 from profit sharing while the company running the arena, Arena Operating Co., has earned \$117.4 million in profits. The county's commissioners approved a \$7.7 million loan to the Panthers to renovate the BankAtlantic Center in February 2012. Arena Operating Co. plans to put the money back into the arena by creating a new club and mini-suites.

**Lease Agreement:** The arena is governed by the 1996 Operating Agreement with Broward County that expires in 2028. The Florida Panthers pay rent of \$7,500 per game up to \$307,500 per hockey season. The Arena Operating Company pays \$4.6 million of the arena's annual debt and the debt on the Sawgrass Expressway ramps adjacent to the arena. SSE is responsible for operating, maintenance, and capital costs on the arena. Broward County is responsible for \$10 million of the debt. This debt is paid off with \$8 million in Tourist Development Tax proceeds and \$2 million of an annual state sales tax rebate for professional sports facilities

The Florida Panthers pay Broward County \$3 million a year on the arena's debt and \$500,000 of its advertising revenue. In addition, the Panthers pay 20% of any profits above \$12 million. Since 1998, Broward County has paid over \$90 million for the arena; its profits have been \$331,000. 6% State sales tax is applied to all ticket sales; Property taxes are not applicable because the arena is publicly owned.

### ***Montreal Canadiens***

#### **Team Facts**

- **Year Established:** 1917
- **Location:** Montreal, Quebec, Canada
- **Metro Area Population:** 4.1M
- **City Median Household Income (2015):** \$50,227
- **Stanley Cup Championships:** 24 (1993, 1986, 1979, 1978, 1977, 1976, 1973, 1971, 1969, 1968, 1966, 1965, 1960, 1959, 1958, 1957, 1956, 1953, 1946, 1944, 1931, 1930, 1924, 1916)
  - Coaches: Jacques Demers (1992–1995), Jean Perron (1985–1988), Scotty Bowman (1971–1979), Al MacNeil (1970–1971), Claude Ruel (1968–1970), Toe Blake (1955–1968), Dick Irvin (1940–1955), Cecil Hart (1926–1932), Leo Dandurand (1922–1926)
- **Media Partners:** RDS, Sportsnet (TV); TSN Radio 1050, TSN Radio 690 & 98.5 FM (Radio)

**Team Valuation:** \$1.3B (December 2018)

- **Operating Income:** \$102M
- **Debt/Value** (including arena debt): 17%
- **Player Expenses:** \$76M
- **Gate Receipts:** \$90M
- **Revenue Per Fan:** \$56

- **Average Ticket Price:** \$105 (2018), \$70 (2008)

#### **Arena Facts**

- **Name:** Bell Centre
- **Date Opened:** 1996
- **Location:** downtown Montreal
- **NHL Seat Capacity:** 21,273
- **Size:** 780,000 sq. feet
- **Owner:** Molson Brothers
  - **Industry:** Brewing company; owner of the Canadiens at the time
- **Operator:** Molson Brothers

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$198.2 CAD
- **Real Cost 2019 (\$/Million):** \$294.8 CAD
- **Direct Funds**
  - Privately financed by the Molson Co., Ltd.
- **Indirect Funds**
  - In 2009, the Molson Brothers received a \$100 million loan from the Quebec Finance Minister to purchase the team and arena

**Renovations (as of May 2019):** In 2015, Montreal Canadiens principal owner Geoff Molson announced a \$100 million, three-year renovation project. Renovations included redesigning the entrance, adding new video screens and concessions, and updating lounges and the WiFi access.

**Lease Agreement:** Molson is the guarantor of 99-year lease arrangements on the Bell Centre related to the land, which began in 1993. Due to operational losses and high property taxes, the Molson Family sold the arena and the team to George Gillett Jr. in 2001. In 2009, the Molson Brothers bought the arena and team for \$500 million, with a \$100 million loan from Quebec Finance Minister Raymond Bachand.

The 2001 local property and business tax bill was estimated at \$11 million, three times the amount of taxes all 24 American teams pay combined. The arena owners were awarded a \$5.8 million refund for taxes paid between 2004 and 2010 after a judge found that the City's property evaluation was too high. Annual lease payments on the arena were \$2.4 million in 2004.<sup>204</sup>

#### **Previously Used Arena**

- **Name:** Montreal Forum
- **Date Opened:** 1924
- **Location:** Downtown Montreal
- **NHL Seat Capacity:** 16,259
- **Size:** N/A
- **Owner:** Canderel Corporation

---

204. "Habs Get Tax Relief on Molson Centre," *CBC News*, February 1, 2001, <https://www.cbc.ca/sports/hockey/habs-get-tax-relief-on-molson-centre-1.278994>.

- **Industry:** Arena management
- **Operator:** Canderel Corporation

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$1.5 CDN
- **Real Cost 2019 (\$/Million):** \$23 CDN
- **Direct Funds**
  - Privately financed

**Why did the team leave?** Many teams in the NHL received new arenas during the 1990s. The Canadiens took advantage of this trend and the new arena replaced the 71 year old arena.

### *Ottawa Senators*

#### **Team Facts**

- **Year Established:** 1992
- **Location:** Ottawa, Ontario, Canada
- **Metro Area Population:** 1.3M
- **City Median Household Income (2017):** \$85,981
- **Stanley Cup Championships:** 0
- **Media Partners:** TSN, RDS (TV); TSN 1200 AM, 94.5 Unique FM (Radio)

**Team Valuation:** \$435M (December 2018)

- **Operating Income:** \$1.6M
- **Debt/Value** (including arena debt): 27%
- **Player Expenses:** \$74M
- **Gate Receipts:** \$35M
- **Revenue Per Fan:** \$69
- **Average Ticket Price:** \$57 (2018), \$56 (2019)

#### **Arena Facts**

- **Name:** Canadian Tire Centre (formerly known as The Palladium in 1996, Corel Centre from 1996 to 2006, and Scotiabank Place from 2006 to 2013)
- **Date Opened:** 1996
- **Location:** western suburb of Kanata; 25 km west of downtown Ottawa
- **NHL Seat Capacity:** 20,500
- **Size:** 600,000 sq. feet
- **Owner:** Capital Sports Properties (an Ottawa Senators subsidiary)
  - **Industry:** Sports management
- **Operator:** Capital Sports Properties

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$170 CAD
- **Real Cost 2019 (\$/Million):** \$253 CAD
- **Direct Funds**
  - \$6 million grant from the federal government
  - \$164 million through private bank loans from the United States and luxury seat sales
- **Indirect Funds**

- \$25.3 million loan from the Province of Ontario for the highway interchange that connects to the arena<sup>205</sup>
- A \$3.40 facility charge is added to each ticket.<sup>206</sup>

**Renovations (as of May 2019):** In 2015, the Senators began a \$15 million renovation. The renovation included adding a members-only club, upgrading concessions, improving parking lots, and implementing metal detectors at all points of entry.<sup>207</sup>

For the first 3.5 seasons, the Senators played in the Ottawa Civic Centre. This arena was built for minor hockey leagues and seated only 9,500 people.

**Lease agreement:** The arena site was originally farmland, requiring a rezoning approval from the City of Kanata. After opposition to the proposal, the review went to the Ontario Municipal Board. The rezoning approval was granted on August 28, 1991 with conditions that the arena scale down in capacity and Terrace Corporation pay for the highway interchange.

Terrace Corporation filed for bankruptcy in 2003; the team and arena were bought from Eugene Melnyk and his newly formed company, Capital Sports Properties. Property taxes on the arena are approximately \$1.5 - \$1.6 million per year.<sup>208</sup>

## *Tampa Bay Lightning*

### **Team Facts**

- **Year Established:** 1992
- **Location:** Tampa, Florida, USA
- **Metro Area Population:** 3.1M
- **City Median Household Income (2017):** \$48,245
- **Stanley Cup Championships:** 1 (2004)
  - **Coach:** John Tortorella (2001–2008)
- **Media Partners:** Fox Sports Sun (TV); 970 WFLA (Radio)

**Team Valuation:** \$445M (December 2018)

- **Operating Income:** \$7.3M
- **Debt/Value** (including arena debt): 0%
- **Player Expenses:** \$79M
- **Gate Receipts:** \$56M
- **Revenue Per Fan:** \$37

---

205. David Naylor, "Bryden Turns Attention to Loan from Government," *The Globe and Mail*, April 17, 2018, <https://www.theglobeandmail.com/sports/bryden-turns-attention-to-loan-from-government/article25279928/>.

206. "Canadian Tire Centre - Ottawa: Tickets, Schedule, Seating Chart, Directions," *Ticketmaster Canada*, [https://www.ticketmaster.ca/Canadian-Tire-Centre-tickets-Kanata/venue/401524?\\_ga=2.86911320.192072074.1566766802-1398537364.1566766802](https://www.ticketmaster.ca/Canadian-Tire-Centre-tickets-Kanata/venue/401524?_ga=2.86911320.192072074.1566766802-1398537364.1566766802).

207. Wayne Scanlan, "Senators Reveal \$15M Upgrade to Canadian Tire Centre," *Ottawa Citizen*, September 15, 2015, accessed July 19, 2019, <https://ottawacitizen.com/sports/hockey/nhl/senators-extra/senators-detail-major-upgrade-to-canadian-tire-centre>.

208. Canada, City of Ottawa, Audit Budget and Finance Committee, *Property Specific Agreements*, February 5, 2010, <http://ottawa.ca/calendar/ottawa/citycouncil/abfc/2010/02-16/02-ACS2010-CMR-FIN-0009-Tax-Agreements.htm>; Stittsville Central Staff, "Here's How Much the Sens Pay in Property Taxes Each Year," *Stittsville Central Canada*, April 11, 2017, <https://stittsvillecentral.ca/heres-how-much-the-sens-pay-in-property-taxes-each-year/>.

- **Average Ticket Price:** \$95 (2018), \$44 (2008)

#### **Arena Facts**

- **Name:** Amalie Arena (formerly known as the Ice Palace and the Tampa Bay Times Forum)
- **Date Opened:** 1996
- **Location:** downtown Tampa
- **NHL Seat Capacity:** 19,092
- **Size:** 670,000 sq. feet
- **Owner:** Hillsborough County
  - **Industry:** Government
- **Operator:** Tampa Bay Sports and Entertainment

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$139
- **Real Cost 2019 (\$/Million):** \$226.4
- **Direct Funds**
  - \$86 million from the City of Tampa
    - Bond repaid through the County’s 5<sup>th</sup> Cent of the Tourist Development Tax
    - A 1996 referendum resulted in approving a half-cent local option sales tax to generate revenue towards both building new schools and the arena debt.<sup>209</sup>
  - \$53 million from the Tampa Bay Lightning

**Renovations** (as of May 2019): In 2010, Jeff Vinik purchased the Tampa Bay Lightning team. Vinik provided \$62 million to renovate the Arena from 2011 to 2013; Hillsborough County reimbursed him \$12.5 million.<sup>210</sup> Renovations included adding a 10,000 square foot terrace with views of downtown Tampa, updating the main entrance plaza, adding exclusive hallway restrooms, reconstructing suites, and installing a \$5 million high definition (HD), center-hung video display system.<sup>211</sup> As part of the 2018 deal with Hillsborough County, the Lightning must contribute \$25.9 million to additional renovations by June 30, 2030.

**Lease Agreement:** The arena was also home to the Tampa Bay Storm of the American Football League from 1997–2017 and the Tampa Breeze of the Legends Football League from 2009–2012. Initially, the Tampa Sports Authority—an entity created by the state Governor—owned the Arena. In 2004, ownership was transferred from the Tampa Sports Authority to Hillsborough County so that the Arena could avoid ad-valorem tax rolls of the County. Since then, the Tampa Sports Authority leases the arena from Hillsborough County. The Authority then leases the arena

---

209. *Tampa Sports Authority: Financial Statements, Supplementary Information and Regulatory Reports*, report, *Florida Auditor General*, September 30, 2016, [https://flauditor.gov/pages/specialdistricts\\_efile%20rpts/2016%20tampa%20sports%20authority.pdf](https://flauditor.gov/pages/specialdistricts_efile%20rpts/2016%20tampa%20sports%20authority.pdf)

210. Bethany Tyne, "Hillsborough Commissioners Approve \$61 Million for Amalie Arena," *WUSF News*, February 23, 2018, <https://wusfnews.wusf.usf.edu/post/hillsborough-commissioners-approve-61-million-amalie-arena-0>.

211. "Teams," *NHL.com*, accessed May 30, 2019, <https://www.nhl.com/>

to the Lightning for \$12,000 annually under a non-cancelable operating agreement for 22.5 years.<sup>212</sup>

In February 2018, the Lightning and Hillsborough County agreed to keep the Lightning in Tampa until at least 2037 in exchange for \$61 million from the County. The money will be used for maintenance and upgrades of the Arena. The funds will come from the Tourist Development Tax, a fee assessed on each night stay at a hotel or motel.<sup>213</sup>

### *Toronto Maple Leafs*

#### **Team Facts**

- **Year Established:** 1917
- **Location:** Toronto, Ontario, Canada
- **Metro Area Population:** 5.9M
- **City Median Household Income (2017):** \$65,829
- **Stanley Cup Championships:** 13 (1967, 1964, 1963, 1962, 1951, 1949, 1948, 1947, 1945, 1942, 1932, 1922, 1918)
  - Punch Imlach (1958–1969), Joe Primeau (1950–1953), Hap Day (1940–1950), Dick Irvin (1931–1940), George O'Donoghue (1921–1923), Dick Carroll (1917–1919)
- **Media Partners:** Sportsnet & TSN (TV); TSN Radio 1050, Sportsnet 590 The Fan (Radio)

#### **Team Valuation:** \$1.5B (December 2018)

- **Operating Income:** \$94M
- **Debt/Value** (including arena debt): 8%
- **Player Expenses:** \$81M
- **Gate Receipts:** \$94M
- **Revenue Per Fan:** \$37
- **Average Ticket Price:** \$120 (2018), \$114 (2008)

#### **Arena Facts**

- **Name:** Scotiabank Arena (formerly Air Canada Centre)
- **Date Opened:** 1999
- **Location:** downtown Toronto, by the Harbourfront and Entertainment District
- **NHL Seat Capacity:** 18,819
- **Size:** 665,000 sq. feet
- **Owner:** Maple Leaf Sports & Entertainment
  - **Industry:** Sports and entertainment management
- **Operator:** Maple Leaf Sports & Entertainment (owns the Leafs and Raptors)

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$265 CAD
- **Real Cost 2019 (\$/Million):** \$377.3 CAD

---

212. United States, Tampa Bay Sports Authority, *Financial Statements, Supplementary Information And Regulatory Reports*, Accessed September 30, 2017, [https://flauditor.gov/pages/specialdistricts\\_efile%20rpts/2017%20tampa%20sports%20authority.pdf](https://flauditor.gov/pages/specialdistricts_efile%20rpts/2017%20tampa%20sports%20authority.pdf)

213. Steve Contorno, "Hold on to Your Bolts: Lightning in Talks to Stay in Tampa through 2037," *Tampa Bay Times*, December 5, 2017, [http://www.tampabay.com/news/business/tourism/Hold-on-to-your-Bolts-Lightning-in-talks-to-stay-in-Tampa-through-2037\\_163300197](http://www.tampabay.com/news/business/tourism/Hold-on-to-your-Bolts-Lightning-in-talks-to-stay-in-Tampa-through-2037_163300197).

- **Direct Funds**

- \$60 million from the Toronto Raptors to purchase the Canada Post Delivery Building as the construction site
- Maple Leaf Sports & Entertainment paid for the Arena

**Lease Agreement:** The Arena is also home to the Toronto Raptors of the National Basketball Association and the Toronto Rock of the National Lacrosse League. In 2007, Maple Leaf Sports & Entertainment installed a dehumidifier for the ice that cost \$4 million. In 2008, the company also added a \$7.8 million high definition, center-hung video scoreboard with 17 screens. In 2010, the Maple Leaf Sports & Entertainment Ltd. completed a \$500 million expansion including two mixed-use towers for increased fan experience.<sup>214</sup>

There is a ticket surcharge that feeds into a Capital Restoration Fund for maintenance and arena upkeep. The Arena contributes \$2 million to \$3 million to the Province of Ontario in taxes annually.<sup>215</sup>

### **Previously Used Arena**

- **Name:** Maple Leaf Gardens
- **Date Opened:** 1931-1999
- **Location:** Downtown Toronto
- **NHL Seat Capacity:** 12,473 -16,000
- **Size:** 350,000 sq. feet
- **Owner:** Maple Leaf Gardens Ltd. (1931 – 2004)
  - **Industry:** Sports management
- **Operator:** Maple Leaf Gardens Ltd. (1931 – 2004)

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$1.5
- **Real Cost 2019 (\$/Million):** \$25.3
- **Direct Funds**
  - \$350,000 to purchase the land from a major backer
- **Indirect Funds**
  - The Maple Leafs business manager offered laborers from the electrician's union 20% of their pay in Gardens stock instead of cash

In 2004, Maple Leaf Gardens was sold to Loblaw Companies for \$12 million under the condition that the arena events would not compete with the Maple Leafs' new arena.

**Why did the team move?** In 1995, the City of Toronto acquired the Toronto Raptors from the National Basketball Association expansion. The Maple Leaf Sports & Entertainment owns the Raptors and the Leafs, as well as the Major League Soccer's Toronto FC, the Canadian Football League's Toronto Argonauts and development teams with the Toronto Marlies (American Hockey League), Raptors 905 (NBA G League) and Toronto FC II (United Soccer League). Maple Leaf Sports & Entertainment built the arena with the Raptors and the Leafs in mind.

---

214. "Our Company," *Maple Leaf Sports & Entertainment Ltd.*, 2018, <https://mlse.com/our-company/>.

215. *2016-17 Scotiabank Centre Annual Report*, Report, September 2018, [http://www.scotiabank-centre.com/sites/default/files/2018-09/Scotiabank Centre 2016-17 Annual Report WEB\\_0.pdf](http://www.scotiabank-centre.com/sites/default/files/2018-09/Scotiabank%20Centre%202016-17%20Annual%20Report%20WEB_0.pdf)

## Eastern Metropolitan Division

### *Carolina Hurricanes*

#### Team Facts

- **Year Established:** 1997. Team previously was the Hartford Whalers.
- **Location:** Raleigh, North Carolina, USA
- **Metro Area Population:** 1.3M
- **City Median Household Income (2017):** \$61,505
- **Stanley Cup Championships:** 1 (2006)
  - **Coach:** Peter Laviolette (2003 - 2008)
- **Media Partners:** FS Carolinas (TV); 99.9 The Fan (Radio)

#### Team Valuation: \$420M (December 2018)

- **Operating Income:** -\$3.9M
- **Debt/Value** (including arena debt): 24%
- **Player Expenses:** \$62M
- **Gate Receipts:** \$27M
- **Revenue Per Fan:** \$50
- **Average Ticket Price:** \$81 (2018), \$37 (2008)

#### Arena Facts

- **Name:** PNC Arena (formerly Entertainment & Sports Arena and RBC Center)
- **Date Opened:** October 29, 1999
- **Location:** 7 miles west of downtown Raleigh, 20 miles southeast of downtown Durham/Chapel Hill
- **NHL Seat Capacity:** 18,680
- **Size:** 700,000 sq. feet
- **Owner:** Centennial Authority, a board established by the State of Carolina General Assembly in 1995 “to study, design, plan, construct, own and operate a regional, multi-purpose facility”
  - **Industry:** government entity (public)
- **Operator:** Gale Force Sports and Entertainment (A division of the Carolina Hurricanes)

#### Arena Financing

- **Nominal Cost (\$/Million):** \$158
- **Real Cost 2019 (\$/Million):** \$239
- **Direct Funds**
  - \$18 million contribution from North Carolina State University (NCSU)
  - \$48 million from Wake County and the City of Raleigh
  - \$22 million from the Commonwealth of Carolina
  - \$50 million from the sale of bonds
  - \$20 million from the Carolina Hurricanes

In the 1980s, city officials and NCSU discussed replacing the Reynolds Coliseum, which had become an outdated facility. The first public funds towards a new arena were provided in 1988 when the North Carolina General Assembly appropriated \$1.5 million; NCSU matched this funding. In 1991, the General Assembly allowed Wake County to levy taxes on hotel occupancy and prepared food and beverages. These taxes provided \$22 million in funding toward the arena.



In addition, the Assembly provided \$2 million for the construction site and NCSU's Wolfpack Club raised \$22 million. In 1995, the State provided \$7 million and created the Centennial Authority to plan and own the arena. In 1997, the Authority completed the plans for the arena and the NHL Hartford Whalers team announced that it would relocate to Raleigh as the Carolina Hurricanes.<sup>216</sup>

**Renovations (as of May 2019):** The team is in current talks about renovations that would cost between \$167.4 to \$201.8 million. The renovations depend on the lease renewal between Gale Force Sports & Entertainment and the Hurricanes. Financing these renovations would come from Wake County and the City of Raleigh through hospitality and prepared-food taxes.<sup>217</sup>

**Lease Agreement:** The Hurricanes pay the Centennial Authority \$2.45 million in rent for the right to manage the arena instead of property taxes (PILOT). The team earns revenue from booking events like concerts and conventions.<sup>218</sup> The Hurricanes share the arena with NCSU men's basketball, which gets priority for scheduling events.<sup>219</sup>

### *Columbus Blue Jackets*

#### **Team Facts**

- **Year Established:** 2000
- **Location:** Columbus, Ohio, USA
- **Metro Area Population:** 2.1M
- **City Median Household Income (2017):** \$49,478
- **Stanley Cup Championships:** 0
- **Media Partners:** Fox Sports Ohio (TV); 97.1 The Fan, CD 102.5 (Radio)

**Team Valuation:** \$320M (December 2018)

- **Operating Income:** -\$1.7M
- **Debt/Value** (including arena debt): 23%
- **Player Expenses:** \$70M
- **Gate Receipts:** \$38M
- **Revenue Per Fan:** \$52
- **Average Ticket Price:** \$90 (2018), \$46 (2008)

#### **Arena Facts**

- **Name:** Nationwide Arena
- **Date Opened:** 2000
- **Location:** Downtown Columbus
- **NHL Seat Capacity:** 18,144

---

216. "History," *Centennial Authority*, accessed May 27, 2019, <http://centennialauthority.com/history/>

217. Chip Alexander, "Proposed PNC Arena Renovations Could Cost \$200 Million," *Raleigh News & Observer*, March 8, 2019, <https://www.newsobserver.com/sports/article227302779.html>.

218. Luke DeCock, "Hurricanes on PNC Arena Lease Negotiations: 'The Economics of the Deal Have to Change in Our Favor'," *Raleigh News & Observer*, February 7, 2019, <https://www.newsobserver.com/sports/spt-columns-blogs/luke-decock/article225942760.html>.

219. Aaron Schoonmaker, "Canes, NC State Come to Agreement over PNC Arena Scheduling," *WRALSportsFan.com*, October 4, 2013, <https://www.wralsportsfan.com/canes-nc-state-come-to-agreement-over-pnc-arena-scheduling/12961889/>.

- **Size:** 684,000 sq. ft main arena; 110,000 sq. ft in the OhioHealth Ice Haus, the first attached practice facility in the NHL
- **Owner:** Franklin County Convention Facilities Authority
  - **Industry:** entity created by the administrative head of Franklin County government (public)
- **Operator:** Columbus Arena Management (CAM), a non-profit, board with the Blue Jackets President, Franklin County Convention Facilities Authority Executive, and a representative from Nationwide Insurance and Ohio State University.

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$150
- **Real Cost 2019 (\$/Million):** \$219
- **Direct Funds**
  - \$100 million contribution from Nationwide Insurance
  - \$10 million contribution from Dispatch Printing Co.
  - \$40 million from private investors who purchased box seats and season tickets
- **Indirect Funds**
  - \$16.6 million from the city's tax increment financing (TIF) for the Arena District and \$20 million for surrounding neighborhoods.
  - \$30 million in bonds sold from the city, which will be repaid by property TIF generated over 30 years.
- **Tax Incentives**
  - Arena District developments benefited from two downtown tax incentive programs<sup>220</sup>:
    1. 2002-2012 property tax break for new residential projects.
    2. Downtown Office Incentive Program: yearly payment of 50 percent of the income tax withholding from each new job to employers who create new jobs downtown
  - Nationwide Arena has a 99 percent property-tax abatement<sup>221</sup>
- **Land**
  - The City of Columbus sold the 23-acres Ohio Penitentiary land to Nationwide Realty Investors for \$11.7 million. The company also purchased six acres from American Electric Power Company for \$11 million. The Ohio Department of Development provided \$750,000 to help clean the land.<sup>222</sup>

**Lease Agreement:** On March 30, 2012, the arena was sold to the Franklin County Convention Facilities Authority (FCCFA). To pay for the arena, the Ohio Department of Development provided a 10-year, \$10 million loan to the FCCFA. In addition, the FCCFA will pay Nationwide Insurance \$43.3 million from casino tax revenue in the City of Columbus and Franklin County by 2039. Blue Jackets have had a rent-free lease from the Authority since 2012. Nationwide Insurance holds arena naming rights until 2022 by paying \$28 million to the Columbus Blue Jackets. The company also has 30% ownership of the franchise from paying \$58

---

220. Urban Land Institute, *Development Case Studies: Arena District in Columbus, Ohio*, Report, Accessed May 20, 2019, <https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.

221. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>

222. Urban Land Institute, *Development Case Studies: Arena District in Columbus, Ohio*, Report, Accessed May 20, 2019, <https://casestudies.uli.org/wp-content/uploads/2015/12/C037003.pdf>.

million. In return, the Blue Jackets will remain in the city until 2039 or pay \$36 million in damages.<sup>223</sup>

## *New Jersey Devils*

### **Team Facts**

- **Year Established:** 1982. Previously was the Kansas City Scouts and the Colorado Rockies.
- **Location:** Newark, New Jersey, USA
- **Metro Area Population:** 20.3M
- **City Median Household Income (2017):** \$34,826
- **Stanley Cup Championships:** 3 (2003, 2000, 1995)
  - **Coaches:** Pat Burns (2002 - 2005), Larry Robinson (2000 - 2002), Jacques Lemaire (1993 - 1998)
- **Media Partners:** MSG (TV); WFAN, The One Jersey Network (Radio)

**Team Valuation:** \$455M (December 2018)

- **Operating Income:** \$20M
- **Debt/Value** (including arena debt): 35%
- **Player Expenses:** \$76M
- **Gate Receipts:** \$41M
- **Revenue Per Fan:** \$21
- **Average Ticket Price:** \$82 (2018), \$64 (2008)

### **Arena Facts**

- **Name:** Prudential Center
- **Date Opened:** 2007
- **Location:** downtown Newark, 15 miles west of Manhattan, NY and 21 miles west of Brooklyn, NY
- **NHL Seat Capacity:** 16,514
- **Size:** 850,000 sq. feet
- **Owner:** City of Newark
  - **Industry:** government (public)
- **Operator:** Anschutz Entertainment Group

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$375
- **Real Cost 2019 (\$/Million):** \$462
- **Direct Funds**
  - \$100 million contributed from the New Jersey Devils
  - \$210 million contributed from the City of Newark's revenues from leasing the land for Newark Liberty International Airport to the Port Authority of New York and New Jersey<sup>224</sup>

---

223 "Nationwide Arena Facts & Figures," *Sports Business Journal*, October 2, 2000, <https://www.sportsbusinessdaily.com/Journal/Issues/2000/10/02/No-Topic-Name/NATIONWIDE-ARENA-FACTS-Amp-FIGURES.aspx>.

224. Richard G. Jones, "For Former Newark Mayor, Arena's Opening Is Tough to Savor," *The New York Times*, October 26, 2007, <https://www.nytimes.com/2007/10/26/nyregion/26arena.html>.

- \$105.3 million over 20 years contributed by Prudential Financial for naming rights to the stadium
- **Indirect Funds**
  - The City of Newark has spent \$10.8 million on police protection for the arena since 2007<sup>225</sup>

**Renovations/Updates (as of May 2019):** In July 2018, the New Jersey Devils partnered with the city to complete a \$5.4 million renovation of the Newark Ice Rink by the Prudential Center. Also, in 2018, renovations began on the Prudential Center. The Anschutz Entertainment Group did not disclose the costs, but these renovations involve creating a pavilion premium club located on the Infiniti Suite Level, the Lofts.<sup>226</sup>

**Lease Agreement:** In 2005, New Jersey Devils owners and Newark officials signed a 30-year lease. Under these terms, the city vowed to contribute \$210 million to construction of the arena and the New Jersey Devils said they would contribute \$100 million.<sup>227</sup> Under lease terms, the Devils earn all revenues coming from the arena. The Devils pay base rent of \$1 million per year and increases in increments of \$100,000 over 30 years. In addition, the team must pay Newark \$2 million annual rent, or 7 percent of suite revenue and 4 percent of all other revenue.<sup>228</sup> The arena is also home to the MISL New Jersey Ironmen and Seton Hall Basketball. The City of Newark pays the Devils \$2.7 million a year in parking revenue for lots surrounding the arena. The city imposed a 1.37 percent tax on tickets for tenant events and a \$1.25 facility fee per ticket for non-tenant events. In a deal between the New Jersey Devils and the city, the city can reimburse the Devils using revenue from the Newark Ice Rink for costs related to programming.<sup>229</sup>

### Previously Used Arena

- **Name:** Meadowlands Arena (formerly Brendan Byrne Arena, Continental Airlines Arena and IZOD Center)
- **Date Opened:** July 2, 1981
- **Location:** East Rutherford, New Jersey across from the MetLife Stadium and the Meadowlands Racetrack; 12 miles northeast of Newark, NJ and 10 miles west of Manhattan, NY
- **NHL Seat Capacity:** 19,040
- **Size:** N/A
- **Owner:** State of New Jersey

---

225. Star-Led Staff, "Newark Paid out \$10.8M for Police at Prudential Center," *Nj.com*, April 11, 2012, [https://www.nj.com/news/2012/04/newark\\_paid\\_out\\_108\\_million\\_fo.html](https://www.nj.com/news/2012/04/newark_paid_out_108_million_fo.html).

226. "Prudential Center Releases Rendering For New 14,560 Square Foot Premium Club 'The Lofts'," *Prudential Center*, September 17, 2018, <https://www.prucenter.com/news/prudential-center-releases-rendering-for-new-14-560-square-foot-premium-club-the-lofts>.

227. Ronald Smothers, "Newark and Devils Sign Lease and Agree to Build an Arena," *The New York Times*, February 3, 2005, <https://www.nytimes.com/2005/02/03/nyregion/newark-and-devils-sign-lease-and-agree-to-build-an-arena.html>.

228. Mark Everson, "Devils Sign Newark Lease," *New York Post*, February 3, 2005, <https://nypost.com/2005/02/03/devils-sign-newark-lease/>.

229. Jared Kofsky, "NJ Devils Partner with City Hall to Renovate Newark Ice Rink," *Jersey Digs*, July 2, 2018, <https://jerseydigs.com/nj-devils-city-hall-renovate-ice-rink-ironbound-newark/>.

- **Industry:** government (public)
- **Operator:** New Jersey Sports & Exposition Authority (NJSEA)

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$85
- **Real Cost 2019 (\$/Million):** \$239
- **Direct Funds**
  - NJSEA bond issue

**Why did the team move?** In 1995, the city of Nashville offered the Devils a \$20 million relocation bonus if they relocated. In 1999, the Devils proposed a new 18,500-seat arena in Hoboken, NJ as part of a \$270 million entertainment district. To keep the team in Newark, a Prudential Insurance led investment group promised up to \$170 million in financing for a new arena. Former New Jersey Devils owner, Jeffrey Vanderbeek, advocated for the Newark arena proposal which received initial funding from the city in 2002.

In 2015, the New Jersey Sports and Exposition Authority voted to close Izod Center. Devils Arena Entertainment LLC signed a four-year, \$2 million deal with the Authority that future events scheduled for Izod Center were moved to Prudential Center.

### *New York Islanders*

#### **Team Facts**

- **Year Established:** 1972
- **Location:** New York, New York, USA
- **Metro Area Population:** 20.3M
- **City Median Household Income (2017):** \$57,782
- **Stanley Cup Championships:** 4 (1983, 1982, 1981, 1980)
  - **Coach:** Al Arbour (1980 - 1983)
- **Media Partners:** MSG Network (TV); WFAN, AM 970 The Answer, WRHU, LI News (Radio)

**Team Valuation:** \$440M (December 2018)

- **Operating Income:** -\$13M
- **Debt/Value** (including arena debt): 45%
- **Player Expenses:** \$78M
- **Gate Receipts:** \$30M
- **Revenue Per Fan:** \$11
- **Average Ticket Price:** \$74 (2018), \$49 (2008)

#### **Arena Facts**

- **Name:** Barclays Center
- **Date Opened:** September 2012
- **Location:** Downtown Brooklyn, New York
- **NHL Seat Capacity:** 15,795
- **Size:** 675,000 sq. feet
- **Owner:** Onexim Sports and Entertainment Holding USA, Inc.
  - **Industry:** Investment & Sports management (private)

- **Operator:** BSE Global

#### Arena Financing

- **Nominal Cost (\$/Million):** \$1000
- **Real Cost 2019 (\$/Million):** \$1100
- **Direct Funds**
  - \$511 million funded through tax-exempt bonds in 2009
  - \$260.3 million from State of New York and city funding
  - \$400 million over 20 years from Barclays for naming rights
  - \$200 million Mikhail D. Prokhorov, who owns 80 percent of the Nets<sup>230</sup>
- **Indirect Funds**
  - \$266.6 million of property tax exemptions from 2004 to 2018<sup>231</sup>

**Lease Agreement:** The arena is also home to the Brooklyn Nets of the National Basketball Association. The NY Islanders moved to Barclays Center full time starting in 2015 after the team’s lease with the Nassau Coliseum expired. The Barclays Center owners do not pay property taxes; instead, they make payments known as PILOTs to help pay off construction debt. Part of the Arena was funded as a result of the EB-5 program. This program is a part of the Immigration Act of 1990, where foreign investors who contribute at least \$1 million in a United States development project can receive a green card.<sup>232</sup> The arena was a pursuit of the National Basketball Association’s Brooklyn Nets owner, who received city funding by promising to develop the area surrounding the arena.<sup>233</sup>

#### Previously Used Arena

- **Name:** Nassau Coliseum
- **Date Opened:** February 11, 1972
- **Location:** Uniondale, New York; 45 miles east of Newark, NJ and 25 miles east of Brooklyn, NY
- **NHL Seat Capacity:** 13,917
- **Size:** 44,000 sq. feet
- **Owner:** Nassau County
  - **Industry:** government entity (public)
- **Operator:** Brooklyn Sports & Entertainment

#### Arena Financing

- **Nominal Cost (\$/Million):** \$31.3
- **Real Cost 2019 (\$/Million):** \$188
- **Direct Funds**
  - Tax-exempt bond issue

---

230. Liz Robbins, "In Brooklyn, Bracing for Hurricane Barclays," *The New York Times*, September 22, 2012, <https://www.nytimes.com/2012/09/23/nyregion/with-barclays-center-arena-set-to-open-brooklyn-braces-for-the-storm.html>.

231. Charles V. Bagli, "So Many Seats, So Many Tax Breaks," *The New York Times*, July 11, 2018, <https://www.nytimes.com/2018/07/11/nyregion/stadiums-arenas-funding-nyc.html>.

232. Irwin P. Rajj and Alexander Chester, 2017, "Public Development for Professional Sports Stadiums," *Oxford Handbooks Online*, <https://doi.org/10.1093/oxfordhb/9780190465957.013.34>.

233. Paul Munsey and Cory Suppes, "Barclays Center," *Ballparks.com*, Accessed July 24, 2019, <http://basketball.ballparks.com/NBA/BrooklynNets/index.htm>.

**Why did the team move?** The lease between the NY Islanders and the Nassau Coliseum expired in 2015. Before expiration, the Islanders and Nassau County discussed a new arena that would keep the Islanders in their county until 2045. The agreement was for the county to provide a \$400 million loan for arena construction. In return, Nassau County would receive 11.5% of revenue from all events at the new arena. However, in a referendum vote on August 1st, 2011, Nassau County citizens rejected the proposal.

### *New York Rangers*

#### **Team Facts**

- **Year Established:** 1942
- **Location:** New York, New York, USA
- **Metro Area Population:** 20.3M
- **City Median Household Income (2017):** \$57,782
- **Stanley Cup Championships:** 4 (1994, 1940, 1933, 1928)
  - **Coaches:** Mike Keenan (1993 - 1994), Frank Boucher (1939 – 1948), Lester Patrick (1926 – 1939)
- **Media Partners:** MSG (TV); ESPN New York 98.7FM (Radio)

**Team Valuation:** \$1.6B (December 2018)

- **Operating Income:** \$107M
- **Debt/Value (including arena debt):** 3%
- **Player Expenses:** \$78M
- **Gate Receipts:** \$96M
- **Revenue Per Fan:** \$37
- **Average Ticket Price:** \$142 (2018), \$50 (2008)

#### **Arena Facts**

- **Name:** Madison Square Garden
- **Date Opened:** 1968
- **Location:** New York, NY on Pennsylvania Plaza
- **NHL Seat Capacity:** 18,007
- **Size:** 820,000 sq. feet
- **Owner:** The Madison Square Garden Company
  - **Industry:** Sports and entertainment holding company (private)
- **Operator:** MSG Entertainment

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$43
- **Real Cost 2019 (\$/Million):** \$311
- **Direct Funds**
  - Privately financed by bank loan and equity contribution by team ownership.
- **Indirect Funds**

- 1982 a property tax abatement was granted to Madison Square Garden. From 1982 to 2012, this tax abatement cost New York City approximately \$350 million. In 2012, the property tax bill would have been \$16.5 million<sup>234</sup>
- Penn Station Visioning team collaborated to reroute public transportation around the arena
- **Land**
  - In November 1960, Graham-Paige purchased from the rights to build at Penn Station from the Pennsylvania Railroad

**Renovations/Updates (as of May 2019):** In 1991, MSG owners spent \$200 million to renovate facilities and add 89 suites. From 2009 to 2013, the arena underwent \$1 billion renovation. The \$1 billion renovation included adding walking bridges above the arena ceiling, new video screens and a scoreboard, new concessions, and redesigned concourses.

**Lease Agreement:** Madison Square Garden is also home to the New York Knicks of the National Basketball Association (NBA), and was home to the New York Liberty (WNBA) from 1997 to 2017. The arena has a special operating permit with New York City to locate atop Penn Station. In July 2013, the New York City Council voted to limit Madison Square Garden's permit to 10 years. Some officials want the arena to move so that the subway station can be remodeled. As of 2018, there are rumors that New York City may evict the New York Rangers and New York Knicks by 2023.<sup>235</sup> To demolish Madison Square Garden and create new arenas for the teams would cost at least \$4.5 to \$5 billion (2016 dollars).<sup>236</sup>

## *Philadelphia Flyers*

### **Team Facts**

- **Year Established:** 1967
- **Location:** Philadelphia, Pennsylvania, USA
- **Metro Area Population:** 6.1M
- **City Median Household Income (2017):** \$40,649
- **Stanley Cup Championships:** 2 (1975, 1974)
  - **Coach:** Fred Shero (1971 – 1978)
- **Media Partners:** NBC Sports Philadelphia (TV); 97.5 The Fanatic, 93.3 WMMR (Radio)

**Team Valuation:** \$800M (December 2018)

- **Operating Income:** \$37M
- **Debt/Value:** 0%
- **Player Expenses:** \$77M

---

234. United States, New York City, City Planning Commission, *In the Matter of an Application Submitted by MSG Holdings, L.P. Pursuant to Sections 197–c and 201 of the New York City Charter*, May 22, 2013, <https://www1.nyc.gov/assets/planning/download/pdf/about/cpc/130139.pdf>.

235. Zach Spedden, "Madison Square Garden Special Operating Permit Hits Halfway Point," *Arena Digest*, September 7, 2018, <https://arenadigest.com/2018/09/07/madison-square-garden-special-operating-permit-hits-halfway-point/>.

236. *Time to Get Moving: Improving Commuter and Intercity Rail Facilities and Services on Manhattan's West Side*, report, Rudin Center for Transportation, Robert F. Wagner School of Public Service, New York University, April 19, 2016, <https://wagner.nyu.edu/files/faculty/publications/Penn-Station.pdf>.



- **Gate Receipts:** \$71M
- **Revenue Per Fan:** \$27
- **Average Ticket Price:** \$145 (2018), \$56 (2008)

#### Arena Facts

- **Name:** Wells Fargo Center (formerly known as Spectrum II)
- **Date Opened:** 1996
- **Location:** downtown, 6 miles south of center city Philadelphia, 6 miles east of the Philadelphia International Airport
- **NHL Seat Capacity:** 19,315
- **Size:** 892,000 sq. feet
- **Owner:** Comcast Spectacor
  - **Industry:** Sports management (private)
- **Operator:** Global Spectrum (arena-management subsidiary)

#### Arena Financing

- **Nominal Cost (\$/Million):** \$210
- **Real Cost 2019 (\$/Million):** \$342
- **Direct Funds**<sup>237</sup>
  - \$140 million financed by Prudential Power Funding Associates, a private bank
  - \$45 million from Spectacor
  - \$17 million from the State of Pennsylvania for infrastructure improvements
  - \$8.5 million loan from the City of Philadelphia for infrastructure improvements
- **Indirect funds**
  - \$10 million from state capital redevelopment assistance for general site improvements

**Renovations/Updates (as of May 2019):** In 2018, Comcast Spectacor announced its project “Transformation 2020” to renovate the arena for \$250 million. The renovations will include addition of two fan lounges, open concourses with skyline views, and redesigning the mezzanine level. In addition, suites will be added to the main level and a new 6,600 square foot, LED video technology score board will be hung.<sup>238</sup>

**Lease Agreement:** Comcast Spectacor owns and operates the Wells Fargo Center. Comcast has held majority ownership of Comcast Spectacor since 1996 and complete ownership since 2016. The arena is also home to the Philadelphia 76ers of the National Basketball Association and the Philadelphia Soul of the Arena Football League. In 1988, the 76ers owner signed a 30-year lease with Spectacor to have the 76ers play in the arena and share in arena revenues.<sup>239</sup> In the early 1990s, the city of Philadelphia was battling bankruptcy. The city offered a \$6.5 million gift to Spectacor to finance part of the arena parking garage. In addition, the city agreed

---

237. Sports Facilities Report: National Hockey League,” *National Sports Law Institute of Marquette University Law School* 19, Appendix 2 (2018), <https://law.marquette.edu/assets/sports-law/NHL.2018.pdf>.

238. "Wells Fargo Center to Introduce the World's First Kinetic 4K Center-Hung Scoreboard," *Wells Fargo Center*, February 11, 2019, <https://www.wellsfargocenterphilly.com/news/detail/wells-fargo-center-to-introduce-the-worlds-first-kinetic-4k-center-hung-scoreboard>.

239. Adam Kimelman, *The Good, the Bad, and the Ugly: Philadelphia Flyers: Heart-pounding, Jaw-dropping, and Gut-wrenching Moments from Philadelphia Flyers History* (Chicago, IL: Triumph Books, 2013).

to provide a lower-interest loan to Spectacor. In return, Spectacor agreed to lease the land from the city for \$100,000 per year, with the cost increasing by \$5,000 per year.

### Previously Used Arena

- **Name:** The Spectrum
- **Date Opened:** September 30, 1967 - October 31, 2009
- **Location:** next to the Wells Fargo Center
- **NHL Seat Capacity:** 17,500
- **Size:** approximately 450,000 to 592,000 sq. feet
- **Owner:** Comcast-Spectacor
  - **Industry:** sports and entertainment company; parent company Comcast is a telecommunications conglomerate
- **Operator:** Comcast-Spectacor

### Arena Financing

- **Nominal Cost (\$/Million):** \$6.5
- **Real Cost 2019 (\$/Million):** \$50
- **Funds**
  - The city leased the land and parking lots; the arena was privately built and owned. The owners did not pay property taxes.

**Why did the team move?** The Spectrum was older, had less capacity, and contained fewer corporate suites than other NHL arenas. In the late 1980s and early 1990s, the State of New Jersey offered to pay 67 to 80 percent of the cost of a \$100 million arena for the Flyers to move to New Jersey. However, the company and team owner preferred to remain in Philadelphia even without public funding.

Parts of the Spectrum arena have been used to create Philly Live!, a dining and entertainment facility. Construction of Philly Live! began in the summer of 2011, following the demolition of the Spectrum.

### *Pittsburgh Penguins*

#### Team Facts

- **Year Established:** 1967
- **Location:** Pittsburgh, Pennsylvania, USA
- **Metro Area Population:** 2.4M
- **City Median Household Income (2017):** \$44,092
- **Stanley Cup Championships:** 5 (2017, 2016, 2009, 1992, 1991)
  - **Coach:** Mike Sullivan (2015 – Present), Dan Blysm (2009 – 2014), Scotty Bowman (1991 – 1993), Bob Johnson (1990 – 1991)
- **Media Partners:** AT&T Sportsnet (TV); WXDX-FM 105.9 (Radio)

**Team Valuation:** \$650M (December 2018)

- **Operating Income:** \$43M
- **Debt/Value** (including arena debt): 18%
- **Player Expenses:** \$78M
- **Gate Receipts:** \$83M
- **Revenue Per Fan:** \$69

- **Average Ticket Price:** \$116 (2018), \$47 (2008)

#### **Arena Facts**

- **Name:** PPG Paints Arena (formerly known as CONSOL Energy Center from 2008 - 2016)
- **Date Opened:** 2010
- **Location:** downtown Pittsburgh, Pennsylvania
- **NHL Seat Capacity:** 18,387
- **Size:** 720,000 sq. feet
- **Owner:** Sports & Exhibition Authority of Pittsburgh and Allegheny County
  - **Industry:** Government authority
- **Operator:** Anschutz Entertainment Group

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$321
- **Real Cost 2019 (\$/Million):** \$376
- **Direct Funds<sup>240</sup>**
  - \$290 million funded by a 30-year revenue bond issue backed by:
    - \$7.5 million per year from the Pennsylvania Economic Development and Tourism Fund\*
    - \$7.5 million from the Pittsburgh casino license holder
    - \$4.1 million annual rent from Pittsburgh Penguins
  - \$15.5 million contributed from the Pittsburgh Penguins
  - \$10 million contributed from the Commonwealth of Pennsylvania
  - \$5.5 million contributed from the Sports and Exhibition Authority
- **Indirect Funds<sup>241</sup>**
  - \$15 million credit or cash from the SEA to the Penguins for redevelopment
  - Reimbursement from the city to the Penguins if there is a tax increase on admissions or tickets for arena events
  - \$2 million from the Commonwealth to reimburse the Penguins for any marketing expenses if the team creates “direct economic benefit”
  - \$6 million reimbursement to the Penguins from the Commonwealth for predevelopment expenses
  - \$8.5 million to the Penguins from the SEA for the hospital site

**Lease agreement:** In March 2007, the State of Pennsylvania, Allegheny County, City of Pittsburgh, the Sports & Exhibition Authority (SEA), and the Lemieux Group LP agreed to fund a new arena. The agreed to Memorandum of Understanding stated that the Pittsburgh Penguins would lease the arena for 29.5 years and make thirty yearly payments of \$3.6 million. The SEA could create a surcharge on parking, delineating \$400,000 of yearly revenue to a capital reserve

---

240. \*Since 2009, state taxpayers have paid an addition \$5.08 million to cover shortfalls in repaying the debt. “PPG Paints Arena,” *Sports & Exhibition Authority*, November, 21, 2018, <http://www.pgh-sea.com/PPGPaintsArena.htm>; Travis Hughes, "You're Still Paying to save the Penguins," *Vox Media, Inc.*, July 17, 2014, <https://www.broadstreethockey.com/2014/7/17/5912315/penguins-arena-construction-cost-pennsylvania-taxes-flyers>.

241. United States, City of Pittsburgh, *Memorandum of Understanding*, accessed June 12, 2019, <http://www.pgh-sea.com/images/MOUCommonwealthSEALemieuxGroup.pdf>.

fund and any excess revenue to the Penguins. Once the parking lot was created, the Penguins were expected to pay an additional \$200,000 in yearly rent. The construction budget was also outlined in the agreement.

### **Previously Used Arena**

- **Name:** The Mellon Arena (formerly known as the Civic Arena)
- **Date Opened:** 1961- 2010
- **Location:** downtown Pittsburgh
- **NHL Seat Capacity:** 12,580 to 16,940
- **Size:** 170,000 sq. feet
- **Owner:** Sports & Exhibition Authority of Pittsburgh and Allegheny County
  - **Industry:** Government entity
- **Operator:** SMG

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$22
- **Real Cost 2019 (\$/Million):** \$188
- **Funds**
  - Funded with grants from Allegheny County, the City of Pittsburgh, and the owner of Kaufmann's department store

**Why did the team move?** In 2000, the Pittsburgh Penguins began planning a new arena. By 2010, the Mellon Arena was the oldest and third smallest arena in the NHL by official capacity, following the Islanders and Oilers. The Penguins first agreed to lease with a casino developer in 2006, who offered to privately finance a \$290 million arena. The State denied the developer the gaming license needed so the plan fell through and the Penguins threatened to leave. In March 2007, the Penguins signed a deal with the City and State officials to finance a new arena. On September 16, 2010, the Sports and Exhibition Authority voted to demolish the Mellon Arena. Organizations fought to preserve the arena as a landmark, but the City council denied the requests. The former site of the arena is currently used as a parking lot for the PPG Paints Arena.

### ***Washington Capitals***

#### **Team Facts**

- **Year Established:** 1974
- **Location:** Washington, D.C., USA
- **Metro Area Population:** 6.1M
- **City Median Household Income (2017):** \$77,649
- **Stanley Cup Championships:** 1 (2018)
  - **Coach:** Barry Trotz (2014 – 2018)
- **Media Partners:** NBC Sports Washington (TV); WJFK 106.7, WFED 1500-AM, Caps Radio 24/7 (Radio)

**Team Valuation:** \$725M (December 2018)

- **Operating Income:** \$46M
- **Debt/Value** (including arena debt): 17%
- **Player Expenses:** \$85M
- **Gate Receipts:** \$90M

- **Revenue Per Fan:** \$28
- **Average Ticket Price:** \$164 (2018), \$38 (2008)

#### **Arena Facts**

- **Name:** Capital One Arena (formerly known as MCI Center and Verizon Center)
- **Date Opened:** 1997
- **Location:** Penn Quarter Chinatown neighborhood of downtown Washington, D.C., atop the Gallery Place rapid transit station of the Washington Metro
- **NHL Seat Capacity:** 18,506
- **Size:** 1,050,000 sq. feet
- **Owner:** Monumental Sports & Entertainment
  - **Industry:** Sports and entertainment management (private)
- **Operator:** Monumental Sports & Entertainment

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$260
- **Real Cost 2019 (\$/Million):** \$414
- **Direct Funds**
  - \$200 million privately funded by Abe Pollin, owner of the Washington Capitals, the Women's National Basketball Association Washington Mystics, and the National Basketball Association Washington Wizards
  - \$60 million in "Arena Bonds" financed by a gross receipts tax Washington D.C. businesses (public)
- **Indirect Funds**<sup>242</sup>
  - \$70 million contributed from the City through below-market rent for the land and a property tax exemption
  - \$50 million from the City to prepare the site for construction
- **Additional Funds**
  - \$50 million tax increment financing loan in 2007 provided by a supplemental sales tax on arena food and retail purchases<sup>243</sup>

**Renovations/Updates (as of May 2019):** In 2007, a \$50 million tax increment financing loan provided by a supplemental sales tax on arena food and retail purchases was used to upgrade the arena scoreboard. In 2018, Monumental Sports & Entertainment began a \$40 million renovation. The renovation includes adding the largest center-hung scoreboard, creating new concessions and lounges, and updating flooring and restrooms.<sup>244</sup>

**Lease agreement:** The Capital One Arena is also home to the Washington Wizards of the National Basketball Association, Washington Mystics of the Women's National Basketball Association, the Washington Valor of the American Football League, and the NCAA's Georgetown Hoyas men's basketball team. In 2016, the Washington Capitals owners said, "we

---

242. Alexandria Murnan, "Verizon Center Economic Impact," *DowntownDC*, January 31, 2014, <https://www.downtowndc.org/report/verizon-center-economic-impact/>.

243. "Verizon Center Economic Impact," *DowntownDC*, January 31, 2014, <https://www.downtowndc.org/report/verizon-center-economic-impact/>.

244. Jeff Clabaugh, "Capital One Arena Getting Devils Backbone Lounge, 'gravity-defying SkyRing Display'," *WTOP*, February 21, 2019, <https://wtop.com/business-finance/2019/02/capital-one-arena-getting-devils-backbone-lounge-gravity-defying-skyring-display/slide/1/>.

have a 99-year lease on the land, and it's been the greatest experience, so we're very, very committed to Washington, D.C."<sup>245</sup>

### Previously Used Arena

**Name:** USAir Arena (formerly known as The Capital Centre and US Airways Arena)

- **Date Opened:** 1973- 1999
- **Location:** Landover, Maryland; suburb 10 miles east of Washington, D.C.
- **NHL Seat Capacity:** 18,130
- **Size:** N/A
- **Owner:** Washington Sports & Entertainment
  - **Industry:** sports and entertainment management
- **Operator:** Washington Sports & Entertainment

### Arena Financing

- **Nominal Cost (\$/Million):** \$18
- **Real Cost 2019 (\$/Million):** \$104
- **Funds**
  - Privately provided by Abe Pollin.

**Why did the team move?** There was not enough lighting in the arena and fans were not enthusiastic about the area. The owner, Abe Pollin, wanted to move the team to Washington, D.C. to take advantage of better transportation and restaurant services.<sup>246</sup> The USAir arena was demolished on December 15, 2002 and replaced by The Boulevard at the Capital Centre, a town center-style shopping mall.

## Western Central Division

### *Chicago Blackhawks*

#### Team Facts

- **Year Established:** 1926
- **Location:** Chicago, Illinois, USA
- **Metro Area Population:** 9.5M
- **City Median Household Income (2017):** \$52,497
- **Stanley Cup Championships:** 6 (2015, 2013, 2010, 1961, 1938, 1934)
  - **Coaches:** Joel Quenneville (2008–2018), Rudy Pilous (1957–1963), Bill Stewart (1937–1939), Tommy Gorman (1933–1934)
- **Media Partners:** NBC Sports Chicago, WGN-TV (TV); WGN-AM 720 (Radio)

**Team Valuation:** \$1.1B (December 2018)

- **Operating Income:** \$57M
- **Debt/Value** (including arena debt): 0%

---

245. Steve Fox, "The MCI Arena Timeline: 1993-1997," *The Washington Post*, November 25, 1997, <https://www.washingtonpost.com/wp-srv/sports/longterm/general/mciarticles/launch/timeline.htm>.

246. Karen De Witt, "Arena Plan Brightens Spirits in Washington," *The New York Times*, December 30, 1994, <https://www.nytimes.com/1994/12/30/us/arena-plan-brightens-spirits-in-washington.html?searchResultPosition=4>.

- **Player Expenses:** \$82M
- **Gate Receipts:** \$99M
- **Revenue Per Fan:** \$20
- **Average Ticket Price:** \$144 (2018), \$35 (2008)

#### **Arena Facts**

- **Name:** United Center
- **Date Opened:** 1994
- **Location:** Near west side, 3 miles west of the downtown Chicago waterfront
- **NHL Seat Capacity:** 19,717
- **Size:** 960,000 sq. feet
- **Owner:** United Center Joint Venture (Chicago Bulls 50% & Chicago Blackhawks 50%)
  - **Industry:** Team, Recreation Facilities & Services
- **Operator:** United Center Joint Venture

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$175
- **Real Cost 2019 (\$/Million):** \$258.7
- **Direct Funds**
  - \$35 million contributed from the United Center Joint Venture
  - \$140 million funded by private bank loans
- **Indirect Funds**
  - \$30 million contributed from the City for infrastructure costs

**Renovations (as of May 2019):** In 2009 and 2010, the United Center Joint Venture renovated the United Center’s 300 level to update the concourse with 144 flat screen TVs, new concessions, and new bars.<sup>247</sup> In 2015, the Arena received a \$300 million building permit for an expansion project.<sup>248</sup>

#### **Lease agreement:**

In 1989, legislation capped the United Center’s property tax rate based on its revenue; in addition, the law allowed for the owners to deduct income taxes, maintenance costs, and mortgage interests. While the Cook County assessor typically calculated a commercial property value at 38 percent of “fair market value”, the United Center was assessed at 20 percent.<sup>249</sup> This property tax cap expired in 2016. The present value of the full length of property tax breaks amounted to between \$52.1 and \$121.7 million. In addition, the City council allowed the United Center an exemption of 40 percent of luxury suit revenue from the amusement tax. The arena owners paid 9 percent amusement tax on tickets sold.

---

247. Phil Vettel, "Bulls, Blackhawks and...Crab Cakes?" *Chicago Tribune*, November 19, 2009, [http://articles.chicagotribune.com/2009-11-19/entertainment/0911170224\\_1\\_levy-restaurants-crab-cakes-concessions](http://articles.chicagotribune.com/2009-11-19/entertainment/0911170224_1_levy-restaurants-crab-cakes-concessions).

248. Mark Buckshon, "Mark Buckshon," *Chicago Construction News*, December 22, 2015, <https://chicagoconstructionnews.com/300-million-building-permit-issued-for-united-center-expansion/>.

249. Sean Dinces, "Nothing but Net Profit," *Radical History Review*, no. 125 (May 2016), doi 10.1215/01636545-3451712.

The United Center Joint Venture has been trying to get an extension on its property tax and amusement tax cap by offering to build a \$75 million retail development by the arena.<sup>250</sup>

### Previously Used Arena

- **Name:** Chicago Stadium
- **Date Opened:** March 28, 1929 – September 9, 1994
- **Location:** Downtown Chicago
- **NHL Seat Capacity:** 17,317
- **Size:** 440,000 sq. feet
- **Owner:** Chicago Stadium Corp.
  - **Industry:** Team, sports management
- **Operator:** Chicago Stadium Corp.

### Arena Financing

- **Nominal Cost (\$/Million):** \$9.5
- **Real Cost 2019 (\$/Million):** \$142
- **Direct Funds**
  - \$9.5 million privately funded<sup>251</sup>

### Why did the team move?

The Arena had an ice surface that was shorter than the NHL regulation. In 1988, talks began about replacing the then 60-year-old stadium. The owner of the Blackhawks at the time called the Stadium “economically obsolete” as it lacked modern luxuries and suites.<sup>252</sup>

## *Colorado Avalanche*

### Team Facts

- **Year Established:** 1995; formerly the Quebec Nordiques from 1972–1979 in the World Hockey Association and 1979–1995 in the NHL
- **Location:** Denver, Colorado, USA
- **Metro Area Population:** 2.9M
- **City Median Household Income (2017):** \$60,098
- **Stanley Cup Championships:** 2 (2001, 1996)
  - Bob Hartley (1998–2002), Marc Crawford (1995–1998)
- **Media Partners:** Altitude Sports & Entertainment (TV); Mile High Sports AM 950 (Radio)

**Team Valuation:** \$430M (December 2018)

- **Operating Income:** \$7.2M
- **Debt/Value** (including arena debt): 0%
- **Player Expenses:** \$66M
- **Gate Receipts:** \$33M
- **Revenue Per Fan:** \$28

---

250. Danny Ecker, "Shedding More Light on the United Center Tax Break," *Crain's Chicago Business*, January 7, 2013, <https://www.chicagobusiness.com/article/20130107/BLOGS04/130109869/report-details-united-center-s-tax-savings-during-last-decade>.

251. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com>

252. John Kass, "Chicago Stadium Replacement Urged," *Chicago Tribune*, September 13, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-09-13-8801290946-story.html>.



- **Average Ticket Price:** \$92 (2018), \$62 (2008)

#### Arena Facts

- **Name:** Pepsi Center
- **Date Opened:** 1999
- **Location:** Downtown Denver
- **NHL Seat Capacity:** 17,809
- **Size:** 675,000 sq. feet
- **Owner:** Kroenke Sports & Entertainment
  - **Industry:** sports and entertainment management
- **Operator:** Kroenke Sports & Entertainment

#### Arena Financing

- **Nominal Cost (\$/Million):** \$180
- **Real Cost 2019 (\$/Million):** \$270
- **Direct Funds**
  - \$139.8 million from selling securities backed by corporate sponsorships, luxury suite deals, and anticipated revenues from arena naming rights
    - the first United States sports facility to be funded with asset-backed securities; interest rate was 6.94%<sup>253</sup>
  - \$36.5 million in tax increment financing (TIF) assistance (public)<sup>254</sup>
- **Indirect Funds**<sup>255</sup>
  - \$4.5 million from the City for infrastructure and upgrading surrounding streets
  - \$2.25 million for construction sales tax rebates
  - \$2.1 million annually for property tax exemptions<sup>256</sup>

**Renovations (as of May 2019):** In 2013, Kroenke Sports & Entertainment renovated Pepsi Center with \$15 million, adding the largest center-hung scoreboard in the NBA and NHL, a new loudspeaker system, and LED advertising banners.<sup>257</sup>

**Lease agreement:** the arena is also home to the Denver Nuggets of the National Basketball Association and Colorado Mammoth of the National Lacrosse League. For the first five years of operation, the Ascent Entertainment Group—who led the arena construction—had to pay \$1 million per year in sales taxes to the City. The sales tax payment was meant to make up for the fact that the arena was replacing the publicly owned arena that benefited the city in seat taxes.<sup>258</sup>

#### *Dallas Stars*

#### Team Facts

253. Nancy D. Holt, "Denver's Pepsi Center Scores With Owners' Fancy Financing," *The Wall Street Journal*, March 3, 1999, <https://www.wsj.com/articles/SB920423066468102500>.

254. "Pepsi Center," *Denver Urban Renewal Authority*, accessed June 14, 2019, <http://renewdenver.org/projects/pepsi-center/>.

255. Deborah Mendez, "Ground-breaking on \$160 Million Pepsi Center May Come in October," *AP NEWS*, August 13, 1997, <https://www.apnews.com/389122ff7cf6b92abd031790b056ff29>.

256. Dennis R. Judd, *The Infrastructure of Play: Building the Tourist City*, Oxfordshire: Routledge, 2015.

257. Jessica Boudevin, "Pepsi Center Installs Tech Upgrades," *VenuesNow*, September 17, 2013, <https://www.venuesnow.com/pepsi-center-installs-tech-upgrades/>.

258. Deborah Mendez, "Ground-breaking on \$160 Million Pepsi Center May Come in October," *AP NEWS*, August 13, 1997, <https://www.apnews.com/389122ff7cf6b92abd031790b056ff29>.

- **Year Established:** 1993
- **Location:** Dallas, Texas, USA
- **Metro Area Population:** 7.2M
- **City Median Household Income (2017):** \$47,285
- **Stanley Cup Championships:** 1 (1999)
  - **Coach:** Ken Hitchcock (1996–2002)
- **Media Partners:** Fox Sports Southwest (TV); Sportsradio 1310 , 96.7 FM The Ticket (Radio)

**Team Valuation:** \$525M (December 2018)

- **Operating Income:** \$14M
- **Debt/Value** (including arena debt): 26%
- **Player Expenses:** \$79M
- **Gate Receipts:** \$37M
- **Revenue Per Fan:** \$16
- **Average Ticket Price:** \$91 (2018), \$50 (2008)

#### Arena Facts

- **Name:** American Airlines Center
- **Date Opened:** 2001
- **Location:** Victory Park neighborhood in downtown Dallas
- **NHL Seat Capacity:** 19,717
- **Size:** 840,000 sq. feet
- **Owner:** City of Dallas
  - **Industry:** government
- **Operator:** Center Operating Company, L.P. (joint venture between the Dallas Mavericks and Dallas Stars)

#### Arena Financing

- **Nominal Cost (\$/Million):** \$420
- **Real Cost 2019 (\$/Million):** \$606
- **Direct Funds**
  - Voters approved \$125 million to be contributed from the City, financed by new 5% car rental and 2% hotel taxes<sup>259</sup>
  - \$295 million from Mark Cuban, owner of the Dallas Mavericks, and Tom Hicks, former owner of the Dallas Stars<sup>260</sup>
- **Land**
  - City of Dallas paid \$11.5 million for the construction land
  - \$30 million from the City for infrastructure

**Renovations:** In 2009, the Arena received a 1080 high definition replay system, the first of its kind in the NHL or NBA.

---

259. "The Texas Politics Project," *Texas Politics - Contesting the Political Arena*, accessed May 19, 2019, [https://texaspolitics.utexas.edu/archive/html/ig/features/0402\\_01/slide4b.html](https://texaspolitics.utexas.edu/archive/html/ig/features/0402_01/slide4b.html).

260. "Sports Facilities Report: National Hockey League," *National Sports Law Institute of Marquette University Law School* 19, Appendix 2 (2018), <https://law.marquette.edu/assets/sports-law/NHL.2018.pdf>.

**Lease Agreement:** The Arena is also home to the Dallas Mavericks of the NBA. The Center Operating Company pays the City \$3.4 million per-year for thirty years in their lease agreement. Center Operating Company, L.P. is responsible for maintenance and operating costs, but receives all revenues from the Arena.<sup>261</sup>

City of Dallas created a Sports Arena TIF district in 1998 to fund roadway system construction around the Arena. Since 2012, the City Council has amended the Sports Arena TIF criteria and budget to promote development around the city.<sup>262</sup>

### Previously Used Arena

- **Name:** Reunion Arena
- **Date Opened:** 1978
- **Location:** Downtown Dallas
- **NHL Seat Capacity:** 16,914
- **Size:** N/A
- **Owner:** City of Dallas
  - **Industry:** Government
- **Operator:** City of Dallas

### Arena Financing

- **Nominal Cost (\$/Million):** \$27
- **Real Cost 2019 (\$/Million):** \$106
- **Direct Funds**
  - Completely publicly financed

### Why did the team move?

It was the last NBA or NHL arena to be built without luxury suites. The team owners wanted a new facility to replace the old arena.<sup>263</sup>

## *Minnesota Wild*

### Team Facts

- **Year Established:** 2000
- **Location:** Saint Paul, Minnesota, USA
- **Metro Area Population:** 3.6M
- **City Median Household Income (2017):** \$52,841
- **Stanley Cup Championships:** 0
- **Media Partners:** FS North (TV); KFAN 100.3 FM (Radio)

**Team Valuation:** \$490M (December 2018)

- **Operating Income:** \$4.5M

---

261. United States, City of Glendale, *Comparison of Operating Costs for Similar Arenas*, by Tom Hocking, January 2012, accessed May 25, 2019, <https://www.glendaleaz.com/documents/Study-ComparisonofOperatingCostsforSimilarArenas.pdf>.

262. United States, City of Dallas, "Sports Arena TIF District," Dallas: Office of Economic Development, Accessed August 5, 2019. <https://www.dallasecodev.org/369/Sports-Arena-TIF-District>.

263. "Dallas Stars Team History," *Sports Team History*, April 5, 2019, <https://sportsteamhistory.com/dallas-stars>.

- **Debt/Value** (including arena debt): 23%
- **Player Expenses:** \$77M
- **Gate Receipts:** \$56M
- **Revenue Per Fan:** \$32
- **Average Ticket Price:** \$138 (2018), \$58 (2008)

#### Arena Facts

- **Name:** Xcel Energy Center
- **Date Opened:** 2000
- **Location:** downtown St. Paul, MN; former site of the St. Paul Civic Center
- **NHL Seat Capacity:** 18,568
- **Size:** 650,000 sq. feet
- **Owner:** City of Saint Paul
  - **Industry:** government
- **Operator:** Saint Paul Arena Company, an affiliate of Minnesota Sports & Entertainment

#### Arena Financing

- **Nominal Cost (\$/Million):** \$170
- **Real Cost 2019 (\$/Million):** \$252.3
- **Direct Funds**<sup>264</sup>
  - \$65 million from the State of Minnesota as an interest-free loan
    - The State forgave \$17 million when the team agreed to allow amateur and public events at the Arena
    - The State forgave the remaining balance in 2016
  - \$65 million from the City of St. Paul in the form of sales tax revenue bonds
  - \$40 million privately funded from the team

**Renovations (as of May 2019):** Up to 2019, the Minnesota Wild has spent over \$50 million on arena renovations. In 2012, the Saint Paul Arena Company added the Bud Light Top Shelf Lounge to the Arena. In 2014, the Arena got a new custom high definition LED center-hung video board. In late 2015, the Company added an upscale lounge to the arena.<sup>265</sup>

**Lease agreement:** In 2019, the Minnesota Wild and St. Paul officials renewed the team's lease, keeping the team at the Arena until 2035. The new deal included the city's refinanced arena bonds at lower interest rates; therefore, the team's rent will decrease from \$9 million per year to \$4 million.<sup>266</sup> Minnesota Wild will continue to pay 80 percent of principal and interest payments and hold responsibility for arena maintenance.<sup>267</sup>

---

264. "Minnesota Issues Resource Guides Professional Hockey in Minnesota," *NHL Hockey in Minnesota - Minnesota Issues Resources Guides*, June 2018, <https://www.leg.state.mn.us/lrl/guides/guides?issue=hockey>.

265. *Xcel Energy Center Timeline Fact Sheet*, Report, Accessed May 2, 2019, [https://www.xcelenergycenter.com/assets/doc/XEC\\_FactSheet\\_ArenaHistory\\_2018-cbe7529215.pdf](https://www.xcelenergycenter.com/assets/doc/XEC_FactSheet_ArenaHistory_2018-cbe7529215.pdf).

266. Spedden Zach, "Minnesota Wild Extend Xcel Energy Center Lease Through 2035," *Arena Digest*, April 17, 2019, <https://arenadigest.com/2019/04/17/minnesota-wild-extend-xcel-energy-center-lease-through-2035/>.

267. Minnesota Wild, "Wild, City of St. Paul Announce Lease Extension for Xcel Energy Center," *NHL.com*, April 16, 2019, <https://www.nhl.com/wild/news/saint-paul-wild-lease-extension-041619/c-306788130>.

In the original lease, Saint Paul Arena Company paid between \$2.5 million and \$6 million per year in lieu of property taxes.<sup>268</sup> In addition, the City benefits from a half-cent sales tax that is currently set to expire in 2030. The tax generates \$6 million annually toward the Xcel Energy Center and RiverCentre complex.<sup>269</sup>

### *Nashville Predators*

#### **Team Facts**

- **Year Established:** 1998
- **Location:** Nashville, Tennessee, USA
- **Metro Area Population:** 1.9M
- **City Median Household Income (2017):** \$52,858
- **Stanley Cup Championships:** 0
- **Media Partners:** FS Tennessee (TV); Cromwell Radio Group 102.5 The Game (Radio)

#### **Team Valuation:** \$425M (December 2018)

- **Operating Income:** \$4.6M
- **Debt/Value** (including arena debt): 20%
- **Player Expenses:** \$74M
- **Gate Receipts:** \$48M
- **Revenue Per Fan:** \$51
- **Average Ticket Price:** \$134 (2018), \$46 (2008)

#### **Arena Facts**

- **Name:** Bridgestone Arena
- **Date Opened:** 1996
- **Location:** downtown Nashville
- **NHL Seat Capacity:** 17,159
- **Size:** 750,000 sq. feet
- **Owner:** Sports Authority of Nashville and Davidson County
  - **Industry:** government
- **Operator:** Powers Management Company, a subsidiary of the Nashville Predators

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$144
- **Real Cost 2019 (\$/Million):** \$234.5
- **Direct Funds**
  - \$144 million financed through general obligation bonds issued by the City of Nashville
- **Indirect Funds**
  - The City paid for the team's expansion fees to attract a franchise to the city

---

268. "Minnesota Issues Resource Guides Professional Hockey in Minnesota," *NHL Hockey in Minnesota - Minnesota Issues Resources Guides*, June 2018, <https://www.leg.state.mn.us/lrl/guides/guides?issue=hockey>.

269. Frederick Melo, "Xcel Energy Center Dusts off Fix-it Wish List after Legislature Frees up Money for Arena," *Twin Cities*, November 6, 2015, <https://www.twincities.com/2013/05/23/xcel-energy-center-dusts-off-fix-it-wish-list-after-legislature-frees-up-money-for-arena/>.

- Until 2019, the City had paid the team for any operating losses incurred; this amounted to \$3.5 million annually.<sup>270</sup>
- The Government is responsible for annual funding for both the Nashville arena and stadium; Sports Authority Revenue bonds rely on non-tax revenues of the Government's General Fund, and the Government is required to approve debt issuances of the Sports Authority

**Renovations (as of May 2019):** The Bridgestone Arena has undergone \$80 million worth of renovations in the last eight years. Half of these renovation costs were publicly provided through the Sports Authority of Nashville and Davidson County. In 2007, Powers Management Company renovated concession stands, replaced the center hanging scoreboard, and updated the media control room. In 2011, the Company installed an NHL-mandated ice and dash board system. In addition, the upper concourse was renovated. Between 2015 and 2016, the Company replaced all seating in the Arena.<sup>271</sup>

**Lease Agreement:** In the original lease, Powers Management Company paid up to \$1 million for annual maintenance expenses. If expenses for the year exceed \$1 million, the City of Nashville paid the difference.<sup>272</sup> Under this lease, the Sports Authority was responsible for an estimated \$183 million in capital investments over the next 20 years.<sup>273</sup> In 2018, the Sports Authority of Nashville and Davidson County reported having a \$10,000,000 revolving credit line with First Tennessee Bank to finance capital improvements at the Bridgestone Arena.<sup>274</sup> On May 16, 2019, Powers Management Company and Metro Nashville Sports Authority announced a new. In this lease, the Company promises to relieve the City from any funding obligations towards the Arena; specifically, the city no longer has to subsidize the team for any operating losses. In return, the Company requests that the City allows the team to lease the Arena until 2049.<sup>275</sup> Any future renovations or Arena updates must be approved by the Sports Authority.<sup>276</sup> As of July 1, 2019 ticket surcharges increase from \$2 to \$3.<sup>277</sup>

---

270. Nate Rau, "New Predators Lease Deal a 'great Moment for the City,' Briley Says," *The Tennessean*, May 16, 2019, <https://www.tennessean.com/story/money/2019/05/16/nashville-predators-lease-agreement-bridgestone-arena-david-briley/3679035002/>.

271. Jacob Steimer, "Predators Unveil Ambitious Expansion Ideas for Bridgestone Arena (with Slideshow)," *Nashville Business Journals*, August 18, 2016, <https://www.bizjournals.com/nashville/news/2016/08/18/predators-unveil-ambitious-expansion-plans-for.html>.

272. United States, City of Glendale, *Comparison of Operating Costs for Similar Arenas*, by Tom Hocking, January 2012, accessed May 25, 2019, <https://www.glendaleaz.com/documents/Study-ComparisonofOperatingCostsforSimilarArenas.pdf>.

273. Nashville Predators Images Report, *Digital image*, Accessed June 17, 2019, <https://nhl.bamcontent.com/images/assets/binary/307422410/binary-file/file.pdf>.

274. United States, The Metropolitan Government of Nashville and Davidson County, *Comprehensive Annual Financial Report for the Year Ended June 30, 2018*, June 30, 2018, <https://www.nashville.gov/Portals/0/SiteContent/Finance/docs/CAFR/CAFR 2018.pdf>.

275. Press Release, "Bridgestone Arena, Metro Nashville Reveal Proposal for New 30-Year Lease," *NHL.com*, May 16, 2019, <https://www.nhl.com/predators/news/bridgestone-arena-metro-nashville-reveal-proposal-for-new-30-year-lease/c-307422426>.

276. Joey Gill, "New 30-year-lease Announced between City and Nashville Predators at Bridgestone Arena," *WSMV Nashville*, May 17, 2019, [https://www.wsmv.com/news/new--year-lease-announced-between-city-and-nashville-predators/article\\_23aa3904-77f6-11e9-963f-d34dc2276bed.html](https://www.wsmv.com/news/new--year-lease-announced-between-city-and-nashville-predators/article_23aa3904-77f6-11e9-963f-d34dc2276bed.html).

277. Nate Rau, "New Predators Lease Deal a 'great Moment for the City,' Briley Says," *The Tennessean*, May 16, 2019, <https://www.tennessean.com/story/money/2019/05/16/nashville-predators-lease-agreement-bridgestone-arena-david-briley/3679035002/>.

## *St. Louis Blues*

### **Team Facts**

- **Year Established:** 1967
- **Location:** St. Louis, Missouri, USA
- **Metro Area Population:** 2.8M
- **City Median Household Income (2017):** \$38,664
- **Stanley Cup Championships:** 1 (2019)
  - **Coach:** Craig Berube
  - **Media Partners:** FS Midwest (TV); KMOX 1120 AM (Radio)

### **Team Valuation:** \$465M (December 2018)

- **Operating Income:** \$10M
- **Debt/Value** (including arena debt): 22%
- **Player Expenses:** \$79M
- **Gate Receipts:** \$45M
- **Revenue Per Fan:** \$42
- **Average Ticket Price:** \$93 (2018), \$38 (2008)

### **Arena Facts**

- **Name:** Enterprise Center (formerly known as Kiel Center from 1994 to 2000, Savvis Center from 2000 to 2006, and Scottrade Center from 2006 to 2018)
- **Date Opened:** 1994
- **Location:** downtown St. Louis
- **NHL Seat Capacity:** 18,832
- **Size:** 664,000 sq. feet
- **Owner:** City of St. Louis
  - **Industry:** government
- **Operator:** Kiel Center Partners

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$170
- **Real Cost 2019 (\$/Million):** \$293
- **Direct Funds**
  - \$30 million from Kiel Center Partners, the St. Louis Blues' former owner
  - \$62.4 million in tax-exempt bonds
    - issued prior to the 1986 Tax Reform Act Transition Rule's expiration date of December 31, 1990
  - \$37 million in bank loans
  - \$6 million in working capital
- **Indirect Funds**
  - \$34.5 million LCRA bond from the City for demolition, construction site preparation, and garages.

**Renovations (as of May 2019):** In 2017, the Arena began to see its first renovation. The St. Louis Blues executives planned for a \$138 million renovation. Of this, they put in \$10.3 million for updating the water systems, renovating the video production and control room, and installing wireless internet in the arena. However, the City or State could reimburse the team for these

expenses. So far, the City of St. Louis financed \$69 million of this renovation for infrastructure repairs and upgrades.<sup>278</sup>

**Lease agreement:** Kiel Center Partners signed a lease with the City of St. Louis in 1992, which included a 25-year real estate tax abatement.<sup>279</sup> The lease detailed that the team only had to pay rent of \$1 per year for exclusive use of and revenue from the arena.

In 2017, 20th Ward Alderman Cara Spencer, former state Rep. Jeanette Oxford and former city counselor James Wilson sued the City of St. Louis for its public financing agreements with the St. Louis Blues owners, claiming that it violates Missouri Constitution.<sup>280</sup> In January 2018, the lawsuit was closed with a settlement which kept the city funding the same.<sup>281</sup> In May 2019, the City Council has approved legislation to allow funding for the Arena; specifically, the arena could get up to \$2.5 million annually for 10 years and then \$4.5 million annually for the following 10 years.<sup>282</sup>

### Previously Used Arena<sup>283</sup>

- **Name:** St. Louis Arena, also known as the Checkerdome
- **Date Opened:** 1929
- **Location:** St. Louis, Missouri
- **NHL Seat Capacity:** 17,188
- **Size:** N/A
- **Owner:** City of St. Louis
  - **Industry:** Government
- **Operator:** City of St. Louis

### Arena Financing

- **Nominal Cost (\$/Million):** \$1.5
- **Real Cost 2019 (\$/Million):** \$22.5
- **Direct Funds**
  - Funded privately by a group of businessmen<sup>284</sup>

---

278. Mike Faulk and Koran Addo, "City, Business Leaders Want \$138 Million in Renovations for Scottrade Center," *St. Louis Post-Dispatch*, January 4, 2017, [https://www.stltoday.com/news/local/metro/city-business-leaders-want-million-in-renovations-for-scottrade-center/article\\_5ed239cf-48b5-51ce-9016-ce069693eef7.html](https://www.stltoday.com/news/local/metro/city-business-leaders-want-million-in-renovations-for-scottrade-center/article_5ed239cf-48b5-51ce-9016-ce069693eef7.html).

279. "About Us," *Enterprise Center*, May 23, 2019, <http://www.enterprisecenter.com/about-us>.

280. *Cara Spencer, Jeanette Oxford and James Wilson v. The City of St. Louis, Land Clearance for Redevelopment Authority, St. Louis Blues Hockey Club, L.P. Kiel Center Partners, L.P.* (Circuit Court Of The City Of St. Louis State Of Missouri).

281. Celeste Bott, "Battle between Blues, Comptroller Ends with Settlement over Upgrades at Scottrade Center," *St. Louis Today*, January 5, 2018, [https://www.stltoday.com/news/local/govt-and-politics/battle-between-blues-comptroller-ends-with-settlement-over-upgrades-at/article\\_670c6012-177f-5485-a3f1-6e669df87a76.html](https://www.stltoday.com/news/local/govt-and-politics/battle-between-blues-comptroller-ends-with-settlement-over-upgrades-at/article_670c6012-177f-5485-a3f1-6e669df87a76.html).

282. Mike Faulk and Koran Addo, "City, Business Leaders Want \$138 Million in Renovations for Scottrade Center," *St. Louis Post-Dispatch*, January 4, 2017, [https://www.stltoday.com/news/local/metro/city-business-leaders-want-million-in-renovations-for-scottrade-center/article\\_5ed239cf-48b5-51ce-9016-ce069693eef7.html](https://www.stltoday.com/news/local/metro/city-business-leaders-want-million-in-renovations-for-scottrade-center/article_5ed239cf-48b5-51ce-9016-ce069693eef7.html).

283. Paul Munsey and Cory Suppes, *Ballparks.com*, Accessed July 1, 2019, <http://hockey.ballparks.com/NHL/misc/pastindex.html>;

284. Astorian, Laura, "Memorabilia Memories: The St. Louis Arena," *St. Louis Game Time*, November 15, 2014, <https://www.stlouisgametime.com/2014/11/15/7225213/memorabilia-memories-the-st-louis-arena>.



**Why did the team move?** Kiel Center Partners bought the team and wanted to build a new arena.<sup>285</sup> This arena lacked adequate plumbing and had cracks along the ice floor.<sup>286</sup>

## *Winnipeg Jets*

### Team Facts

- **Year Established:** 2011 (formerly was the Atlanta Thrashers from 1999 to 2011; the original Winnipeg Jets existed from 1972 to 1996 and then relocated to Phoenix Arizona)
- **Location:** Winnipeg, Manitoba, Canada
- **Metro Area Population:** 0.8M
- **City Median Household Income (2017):** \$70,795
- **Stanley Cup Championships:** 0
- **Media Partners:** TSN (TV); 1290 Sports Radio (Radio)

**Team Valuation:** \$415M (December 2018)

- **Operating Income:** \$11M
- **Debt/Value** (including arena debt): 31%
- **Player Expenses:** \$73M
- **Gate Receipts:** \$63M
- **Revenue Per Fan:** \$128
- **Average Ticket Price:** \$83 (2018), \$42 (2008 as Atlanta Thrashers)

### Arena Facts

- **Name:** Bell MTS Place
- **Date Opened:** 2004
- **Location:** downtown Winnipeg
- **NHL Seat Capacity:** 15,329
- **Size:** 440,000 sq. feet
- **Owner:** True North Sports & Entertainment
  - **Industry:** Sports and entertainment management
- **Operator:** True North Sports & Entertainment

### Arena Financing

- **Nominal Cost (\$/Million):** \$133.5 million CAD
- **Real Cost 2019 (\$/Million):** \$167
- **Direct Funds**
  - \$40 million from Federal, Provincial, and Municipal governments<sup>287</sup>
    - \$12 million from the Government of Canada
    - \$14 million from the Province of Manitoba
    - \$13.5 million from the City of Winnipeg
  - \$93 million from True North Sports and Entertainment

---

285. Dan O'neill, "Blues' Ownership: A Colorful History," *St. Louis Today*, May 10, 2012, [https://www.stltoday.com/sports/hockey/professional/blues-ownership-a-colorful-history/article\\_4eabfab3-209f-5844-84bf-ee24a4341ac2.html](https://www.stltoday.com/sports/hockey/professional/blues-ownership-a-colorful-history/article_4eabfab3-209f-5844-84bf-ee24a4341ac2.html).

286. R.b. Fallstrom, "Following a Checkered Past, The Arena to Close," *AP NEWS*, May 7, 1994, <https://www.apnews.com/0cd6a98080c04384c433a973e6e21389>.

287. Bipin Dhillon, "Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations," *MPA Major Research Papers*, 178, July 1, 2018.

- **Indirect Funds**<sup>288</sup>
  - Municipal tax breaks of \$6.9 million annually<sup>289</sup>; in 2018, the amount was \$14.1 million<sup>290</sup>
  - Up to \$4 million annually for 20 years from provincial VLT revenue

**Renovations (as of May 2019):** True North Sports and Entertainment contributed \$12 million towards renovations in 2017.<sup>291</sup> These renovations included updating concourses with new lighting, flooring, and ceiling. By 2020, the owners hope to have completed the \$48 million worth of renovations which has included new seating, dressing room renovations, and upgraded scoreboards.<sup>292</sup>

**Lease agreement:** True North Sports and Entertainment owns the Arena and the Winnipeg Jets. In December 2001, the Province of Manitoba and the City of Winnipeg agreed to help finance the Arena. In 2004, after Federal Infrastructure contributions, Manitoba contributed \$14 million.<sup>293</sup> Also in 2004, Manitoba pledged \$1.5 million a year for 20 years to help True North Sports and Entertainment pay down arena debt.<sup>294</sup>

From 1972 to 1996, the original Winnipeg Jets played at the now-demolished Winnipeg Arena. In 1996, the franchise relocated to Arizona as the Phoenix Coyotes. After the MTS Centre opened in 2004, the City looked to receive an NHL franchise again.

### Previously Used Arena

- **Name:** Winnipeg Arena
- **Date Opened:** 1955
- **Location:** 6 km west of downtown Winnipeg
- **NHL Seat Capacity:** 12,473 -16,000
- **Size:** 350,000 sq. feet
- **Owner:** Maple Leaf Gardens Ltd. (1931 – 2004)
  - **Industry:** Sports management
- **Operator:** Maple Leaf Gardens Ltd. (1931 – 2004)

### Arena Financing

- **Nominal Cost (\$/Million):** \$2.5 CDN

---

288 "A Comparison of Edmonton's Proposed Downtown Arena and Five Other Arena Deals," *Edmonton Journal*, accessed May 30, 2019, <http://www.edmontonjournal.com/sports/arena/arenacomparison/index.html>.

289. Bipin Dhillon, "Levelling the Urban Playing Field: How Municipalities can Increase Leverage from Sports Franchises during Sports Venue Public-Private Partnership Negotiations," *MPA Major Research Papers*, 178, July 1, 2018.

290. Kives, Bartley, "Winnipeg Pro Sports Clubs to Collect \$16.3M in Public Assistance in 2018," *CBC News*, November 29, 2017, <https://www.cbc.ca/news/canada/manitoba/budget-pro-sports-contributions-1.4423605>.

291. Jessica Rawluk, "True North Announces New Renovations for the MTS Centre," *Bell MTS Place*, February 24, 2017, <https://www.bellmtspplace.ca/news/true-north-announces-new-renovations-mts-centre/>.

292. "Jets Fans Get First Look at Bell MTS Place Renovations," *CBC News*, September 18, 2017, <https://www.cbc.ca/news/canada/manitoba/winnipeg-jets-true-north-mts-bell-place-renovations-1.4295870>.

293. Canada, Province of Manitoba, Office of the Minister of Finance, *Province Of Manitoba Annual Report For The Year Ended March 31, 2004*, By Greg Selinger, Ottawa: Office of the Minister of Finance, 2004, <https://www.gov.mb.ca/finance/publications/pubs/annualreports/annreport2004.pdf>.

294. "Manitoba Boosts Funding for MTS Centre," *CBC News*, June 2, 2011, <https://www.cbc.ca/news/canada/manitoba/manitoba-boosts-funding-for-mts-centre-1.1026604>.

- **Real Cost 2019 (\$/Million):** \$
- **Direct Funds**

**Why did the team leave?** Due to financial troubles, the Jets relocated from Winnipeg to Phoenix, Arizona in 1996. The Bell MTS Place replaced the aging arena, hosting the Manitoba Moose and other entertainment events.<sup>295</sup>

## Western Pacific Division

### *Anaheim Ducks*

#### **Team Facts**

- **Year Established:** 1993 (formerly known as the Mighty Ducks of Anaheim until 2006; founded by the Walt Disney Company)
- **Location:** Anaheim, California, USA
- **Metro Area Population:** 13.1M
- **City Median Household Income (2017):** \$65,313
- **Stanley Cup Championships:** 1 (2007)
  - **Coach:** Randy Carlyle (2006–2011)
- **Media Partners:** FS West, Prime Ticket, KCOP (TV); KLAA 830 AM (Radio)

**Team Valuation:** \$460M (December 2018)

- **Operating Income:** -\$2.3M
- **Debt/Value** (including arena debt): 5%
- **Player Expenses:** \$78M
- **Gate Receipts:** \$41M
- **Revenue Per Fan:** \$16
- **Average Ticket Price:** \$88 (2018), \$41 (2008)

#### **Arena Facts**

- **Name:** Honda Center
- **Date Opened:** 1993
- **Location:** 4 miles southeast of downtown Anaheim
- **NHL Seat Capacity:** 17,174
- **Size:** 650,000 sq. feet
- **Owner:** City of Anaheim
  - **Industry:** Government
- **Operator:** Anaheim Arena Management, LLC

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$123
- **Real Cost 2019 (\$/Million):** \$217.5
- **Direct Funds**
  - \$103.5 million initially provided by the City of Anaheim to finance construction
  - \$23 million from the City to reimburse Ogden for the \$12.5 million NHL franchise fee and additional enhancements to the Arena

---

295. Winnipeg Jets Staff Writer, "True North Recognizes 10th Anniversary of MTS Centre," *NHL.com*, November 14, 2014, <https://www.nhl.com/jets/news/true-north-recognizes-10th-anniversary-of-mts-centre/c-739177>.

- **Indirect Funds**

- \$1.5 million paid from the City annually from 1998 to 2002 for debt obligations<sup>296</sup>

**Renovations (as of May 2019):** In 2012, the Anaheim Arena Management began a \$20 million dollar, 15,000-square-foot indoor-outdoor dining facility project in the Arena, called “Grand Terrace”.<sup>297</sup> In 2015, the Honda Center received a \$10 million high resolution Daktronics center-hung scoreboard.<sup>298</sup> In 2017, the entrance and concourse underwent a \$2 million renovation.<sup>299</sup>

**Lease agreement:** The City of Anaheim and Ogden Facility Management Corporation of Anaheim signed an agreement regarding the construction and operation of the Arena which was completed in June 1993. The Arena was financed completely with public debt. Ogden Facility Management Corporation assumed responsibility for paying all operating and service expenses on this debt. However, the City was liable to reimburse Ogden for any revenue deficits. In years four through eight of the Arena, the City paid \$1.5 million.<sup>300</sup> In 2003, Ogden Facility Management Corporation filed for bankruptcy and the City entered into a Facility Management Agreement with the Anaheim Arena Management, LLC.<sup>301</sup>

On November 20, 2018 the City of Anaheim approved a new lease with the Anaheim Arena Management LLC. According to this lease, the Anaheim Arena Management will continue to operate the Arena until 2048. Revenues are shared 47.5 percent to the City of Anaheim, 47.5 percent to the Anaheim Arena Management, and 5 percent to Orange County. In addition, the Arena Management has bought out city parking lots and agreed to manage the ARTIC transit station. The sale price for the parking lots is \$10.1 million, which was appraised market value for a minimum of 3,900 parking spaces. The ARTIC transit station was built with \$185 million paid by OCTA, state, and federal funding; however, the City has been covering the annual operating deficit for at least the last three years. In the new agreement, the Anaheim Arena Management now assumes operation costs of the station. 60 percent of any revenues go to the City of Anaheim and 40 percent to the Anaheim Arena Management.<sup>302</sup>

### *Arizona Coyotes\**

#### **Team Facts**

- **Year Established:** 1996 (previously was the original Winnipeg Jets)

---

296. United States, City of Anaheim, Department of Finance, *Comprehensive Annual Financial Report*, By William G. Sweeney, June 30, 2002.

297. Nancy Luna, "\$20 Million Honda Center Expansion Begins," *Orange County Register*, February 9, 2012, <https://www.ocregister.com/2012/02/09/20-million-honda-center-expansion-begins/>.

298. Don Muret, "Ducks Unveil \$10 Million Video Board at Honda Center," *Sporting News*, September 29, 2015, <https://www.sportingnews.com/us/other-sports/news/anaheim-ducks-honda-center-new-video-board-nhl-daktronics-capacity-ticket-prices/1a2hbhdgabdcn1o4qmt1u4s5ia>.

299. Nancy Luna, "\$20 Million Honda Center Expansion Begins," *Orange County Register*, February 9, 2012, <https://www.ocregister.com/2012/02/09/20-million-honda-center-expansion-begins/>.

300. United States, City of Anaheim, Department of Finance, *Comprehensive Annual Financial Report*, By William G. Sweeney, June 30, 2002.

301. United States, City of Anaheim, Department of Finance, *Comprehensive Annual Financial Report*, By William G. Sweeney, June 30, 2002.

302. "Honda Center: The Next 25 Years: Anaheim, CA - Official Website," *Anaheim, CA - Official Website*, accessed June 7, 2019, <https://www.anaheim.net/5157/Honda-Center-The-Next-25-Years>.

\*In 2021, the Arizona Coyotes will move to the Central Division when Seattle joins the league.

- **Location:** Phoenix, Arizona, USA
- **Metro Area Population:** 4.7M
- **City Median Household Income (2017):** \$52,080
- **Stanley Cup Championships:** 0
- **Media Partners:** Fox Sports Arizona (TV); Arizona Sports 98.7 FM, KTAR News 92.3 FM, ESPN 620 AM (Radio)

**Team Valuation:** \$290M (December 2018)

- **Operating Income:** -\$11M
- **Debt/Value** (including arena debt): 103%
- **Player Expenses:** \$63M
- **Gate Receipts:** \$20M
- **Revenue Per Fan:** \$11
- **Average Ticket Price:** \$79 (2018), \$39 (2008)

#### **Arena Facts**

- **Name:** Gila River Arena (formerly known as the Glendale Arena and the Jobing.com Arena)
- **Date Opened:** 2003
- **Location:** Glendale, AZ; 12.5 miles northwest of downtown Phoenix
- **NHL Seat Capacity:** 17,125
- **Size:** 612,900 sq. feet
- **Owner:** City of Glendale
  - **Industry:** government
- **Operator:** AEG Facilities

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$180
- **Real Cost 2019 (\$/Million):** \$250
- **Direct Funds**
  - \$180 million from the City of Glendale in bonds which will be repaid over 30 years through "sales taxes generated on the arena complex and parking revenues"
    - \$30 million was in general obligation bonds and \$150 million was in excise taxes<sup>304</sup>
    - \$13 million per year annual debt payments to repay the arena bonds
  - \$17.6 million from Ellman for the land
- **Additional Funds**
  - From 2010 to 2013, the City of Glendale paid \$50 million in subsidies to cover the team's operating losses after the team owners filed for bankruptcy in 2009
  - In 2013, the City awarded an annual \$15 million arena management fee to the Coyotes' ownership group, IceArizona; this fee was reduced to \$6.5 million in 2017<sup>305</sup>

---

304. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>.

305. Jen Fifield, "Coyotes Arena Management Agreement Extended until 2026," *Arizona Central*, August 01, 2018, <https://www.azcentral.com/story/news/local/glendale/2018/08/01/glendale-extends-contract-company-managing-gila-river-arena-arizona-coyotes/882373002/>.

**Lease Agreement:** In the original agreement from 2001, the City of Glendale owns the Arena; however, the Coyotes keep all revenue from the facility for 30 years. The Coyotes did not have to pay rent for the first 10 years; after then, the team has paid approximately \$1 million annually.<sup>306</sup>

On January 1, 2017 a new lease began between the Coyotes and AEG Facilities. The team pays \$500,000 annually to AEG Facilities for use of the Arena. The team retains all revenue from events, concessions, and ticket surcharges. The City of Glendale is responsible for providing \$500,000 annually for capital improvements until 2020, and then \$1 million annually until 2030. In addition, the City is responsible for all facility operating costs and the debt service payments, which average \$13 million annually through 2033.<sup>307</sup>

In 2019, the Coyotes have begun discussing a new arena. The team and the NHL league have said that the team cannot be successful in the Gila River Arena because it is too far away from the team's Phoenix fan base, premium ticket holders, and corporate sponsors. The Coyotes have been trying to receive approval from the City to provide \$225 million in public funding for an arena in downtown Phoenix that would cost \$395 million total.<sup>308</sup>

### Previously Used Arena

- **Name:** Talking Stick Resort Arena, formerly known as America West Arena (1992–2006), US Airways Center (2006–2015)
- **Date Opened:** 1992
- **Location:** Downtown Phoenix, Arizona
- **NHL Seat Capacity:** 16,210
- **Size:** 1,000,000 sq. feet
- **Owner:** City of Phoenix
  - **Industry:** Government
- **Operator:** Phoenix Arena Development L.P.

### Arena Financing<sup>309</sup>

- **Nominal Cost (\$/Million):** \$89
- **Real Cost 2019 (\$/Million):** \$162.5
- **Direct Funds**
  - \$35 million in bonds from the City of Phoenix

---

306. "Howl About That: Coyotes Land Arena Deal in Glendale," *Sports Business Daily*, April 12, 2001, <https://www.sportsbusinessdaily.com/Daily/Issues/2001/04/12/Facilities-Venues/Howl-About-That-Coyotes-Land-Arena-Deal-In-Glendale.aspx>.

307. United States, City of Glendale, "City of Glendale and Coyotes Fact Sheet," January 18, 2017, <https://www.glendaleaz.com/pressroom/documents/CityofGlendaleandCoyotesFactSheet.pdf>; Darrell Jackson, "Glendale Releases Fact Sheet on Arizona Coyotes," *The Glendale Star*, February 7, 2017, [http://www.glendalestar.com/news/article\\_89d7c07c-ecbe-11e6-9ae7-2b457319a0f5.html](http://www.glendalestar.com/news/article_89d7c07c-ecbe-11e6-9ae7-2b457319a0f5.html).

308. Craig Harris, "Glendale: Coyotes, Not City, to Blame for Financial Mess," *Arizona Central*, March 10, 2017, <https://www.azcentral.com/story/news/politics/legislature/2017/03/09/glendale-fires-back-arizona-coyotes-glendale-arena/98967020/>.

309. Meg O'Connor, "Phoenix Police Union Takes Aim at Councilman Carlos Garcia," *Phoenix New Times*, July 11, 2019, <https://www.phoenixnewtimes.com/news/phoenix-police-union-takes-aim-at-councilman-carlos-garcia-11321393>; Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com>

- \$52 million from the Phoenix Suns Limited Partnership, with \$44 million in bond money from Maricopa County Industrial Development Authority and \$5 million loan from Restaura, Inc.
- **Indirect Funds**
  - \$12 million from the City of Phoenix to acquire land for the arena

**Why did the team move?** The arena did not fit a standard NHL rink on the floor. The Phoenix Suns of the National Basketball Association (NBA), the Phoenix Mercury of the Women's National Basketball Association (WNBA) and the Arizona Rattlers of the Indoor Football League (IFL) shared this rink, and they had to retract the area seats to fit hockey.<sup>310</sup>

### *Calgary Flames*

#### **Team Facts**

- **Year Established:** 1980 (formerly the Atlanta Flames from 1972 to 1980)
- **Location:** Calgary, Alberta, Canada
- **Metro Area Population:** 1.4M
- **City Median Household Income (2016):** \$99,388
- **Stanley Cup Championships:** 1 (1989)
  - **Coach:** Terry Crisp (1987–1990)
- **Media Partners:** Sportsnet (TV); Sportsnet 960 The Fan (Radio)

**Team Valuation:** \$450M (December 2018)

- **Operating Income:** \$11M
- **Debt/Value** (including arena debt): 11%
- **Player Expenses:** \$76M
- **Gate Receipts:** \$60M
- **Revenue Per Fan:** \$73
- **Average Ticket Price:** \$65 (2018), \$60

#### **Arena Facts**<sup>311</sup>

- **Name:** Victoria Park Event Centre
- **Date Opened:** Construction is expected to begin in 2021 and take approximately three years to complete.
- **Location:** East Victoria Park of downtown Calgary
- **NHL Seat Capacity:** Up to 19,000
- **Size:** N/A
- **Owner:** City of Calgary
  - **Industry:** government
- **Operator:** Calgary Sports and Entertainment Corporation (CSEC)

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$550 CAD
- **Real Cost 2019 (\$/Million):** \$550 CAD

---

310. Darren Rovell, "Coyotes' Strike a Real Deal," *ESPN*, December 23, 2003, <https://www.espn.com/nhl/news/story?id=1693100>.

311. The City of Calgary and CSEC approved this arena plan; construction has not yet begun. Canada, City of Calgary, "Victoria Park Event Centre FAQs," The City of Calgary, July 27, 2019, <https://www.calgary.ca/PDA/pd/Pages/Event-Centre-FAQs.aspx>.

- **Direct Funds**
  - \$275 million cash funding provided by the City of Calgary through its Major Projects Capital Reserve over three years.<sup>312</sup>
- **Indirect Funds**
  - CSES will not pay municipal property taxes. The Corporation will pay provincial property taxes after the CRL expires
  - The City of Calgary will contribute \$12.4 million (90 percent of costs) for demolition of the Saddledome, from city savings
  - Sale of Government assets: the City will sell land to the CSEC for construction at fair market value.
  - \$3 million in transaction costs provided by the City

**Lease agreement:** The City of Calgary and CSEC agreed upon a 35-year Management and License Agreement. CSEC will pay all operating and maintenance costs and receive all Event Centre revenues. The City will receive 2 percent of ticket revenues for all events as a facility fee. Each year, the CSEC will contribute \$1.5 million to community sports and \$200,000 to a community engagement program in the city.<sup>313</sup>

#### Previously Used Arena

- **Name:** Scotiabank Saddledome
- **Date Opened:** 1983
- **Location:** Stampede Park in the southeast end of downtown Calgary
- **NHL Seat Capacity:** 19,289
- **Size:** 474,000 sq. feet
- **Owner:** City of Calgary
  - **Industry:** government
- **Operator:** Saddledome Foundation (Board made up of three Directors appointed by the City of Calgary, three appointed by the Province of Alberta, and one each from the Calgary Olympic Development Association, Hockey Canada and the Calgary Exhibition & Stampede)<sup>314</sup>; Calgary Sports and Entertainment

#### Arena Financing

- **Nominal Cost (\$/Million):** \$97.7 CAD
- **Real Cost 2019 (\$/Million):** \$220.2
- **Direct Funds**
  - \$31.5 million from the City of Calgary
  - \$31.5 million from the Province of Alberta
  - \$29.7 million from the Government of Canada

---

312. Canada, City of Calgary, "New Event Centre Overview Infographic," digital image, Calgary: City of Calgary: 2019, [https://content.presspage.com/uploads/1485/1920\\_eventcentreoverview-graphic--239102.jpg?10000](https://content.presspage.com/uploads/1485/1920_eventcentreoverview-graphic--239102.jpg?10000); Canada, City of Calgary, *Facilities Update C2019-0964 Combined Meeting of Council*, by Glenda Cole, Carla Male, Barry Munro, and Michael Brown, July 22, 2019, <https://www.calgary.ca/PDA/pd/Documents/Facility-Update-Presentation.pdf>.

313. Canada, City of Calgary, *Facilities Update C2019-0964 Combined Meeting of Council*, by Glenda Cole, Carla Male, Barry Munro, and Michael Brown, July 22, 2019, <https://www.calgary.ca/PDA/pd/Documents/Facility-Update-Presentation.pdf>.

314. "Saddledome Foundation," *Scotiabank Saddledome*, Accessed May 23, 2019. <https://www.scotiabanksaddledome.com/saddledome-foundation>.



- \$5 million from the 1988 Olympic Organizing Committee provided

**Renovations (as of May 2019):** In 1994, the Arena underwent a \$37 million renovation with new luxury suites, more club seats, a new restaurant, a restructured concourse, and a new parking facility. The City and the Saddledome Foundation paid for these renovations.<sup>315</sup> Later in 1994, the Calgary Flames team bought out the Saddledome Foundation's contract. In 2004, the team spent \$1 million on a LED display system. In 2006, the Arena received a new high definition scoreboard.<sup>316</sup>

**Lease Agreement:** The City of Calgary and Saddledome Foundation signed a 50-year lease agreement that commenced on June 1, 1983. The base rent for the Arena is \$1.00 annually to the City. In addition, the Saddledome Foundation paid \$600,000 annually from 1995 to 1999 and \$750,000 annually thereafter. These payments are distributed 1/3 to the City, 1/3 to the Calgary Olympic Development Association, and 1/3 to Hockey Canada.<sup>317</sup>

**Why is the team leaving?** The Saddledome was the second oldest arena in the NHL, only younger than Madison Square Garden. In 2012, Calgary Sports and Entertainment proposed the CalgaryNEXT project to create a 20,000-seat arena and event centre and a multi-purpose stadium. The company estimated the cost to be \$890 million for construction and committed \$200 million to finance it. The other funds would be from a \$250 million user fee, \$240 million from a Community Revitalization Levy (CRL), and \$200 million from the City's capital budget. City Council shut down the proposal and Mayor Nenshi called any arena deal "dead" in 2017.<sup>318</sup> In 2019, City Council reopened talks for an arena deal and approved a cash reserve which could be contributed to a \$600 million arena.<sup>319</sup>

## *Edmonton Oilers*

### **Team Facts**

- **Year Established:** 1971
- **Location:** Edmonton, Alberta, Canada
- **Metro Area Population:** 1.3M
- **City Median Household Income (2016):** \$41,836
- **Stanley Cup Championships:** 5 (1990, 1988, 1987, 1985, 1984)
  - **Coaches:** John Muckler (1989–1991), Glen Sather (1980–1989),

---

315. Mario Toneguzzi, "Calgary Flames Announce New Name for Arena: 'Scotiabank' Saddledome," *Global News*, October 08, 2010, <https://globalnews.ca/news/99029/calgary-flames-announce-new-name-for-arena-scotiabank-saddledome/>.

316. "Flames Set to Unveil New Scoreboard," *Calgary Herald*, December 12, 2006, <https://www.pressreader.com/canada/calgary-herald/20061212/page/1>.

317. "Lease Summary: Calgary Flames," *Marquette Sports Law*, Accessed May 19, 2019, <https://law.marquette.edu/assets/sports-law/pdf/lease-summary-calgary-flames.pdf>

318. "CalgaryNEXT: The Concept," *The City of Calgary*, January 13, 2016, [https://www.calgary.ca/General/Pages/CalgaryNEXT\\_TheConcept.aspx](https://www.calgary.ca/General/Pages/CalgaryNEXT_TheConcept.aspx); Al Charest and Aryn Toombs, "'CalgaryNEXT, the West Village Project, Is Dead,' Says Mayor Nenshi," *Calgary Herald*, April 3, 2017, <https://calgaryherald.com/news/local-news/calgarynext-the-west-village-project-is-dead-says-mayor-nenshi>.

319. Meghan Potkins and Calgary Herald, "City Likely to Retain Ownership of New Arena in Deal to Replace Saddledome," *Calgary Herald*, April 25, 2019, <https://calgaryherald.com/news/local-news/city-likely-to-retain-ownership-of-new-arena-in-deal-to-replace-saddledome>.

- **Media Partners:** Rogers Sportsnet (TV); CORUS Radio - 630 CHED (Radio)

**Team Valuation:** \$540M (December 2018)

- **Operating Income:** \$21M
- **Debt/Value** (including arena debt): 18%
- **Player Expenses:** \$74M
- **Gate Receipts:** \$64M
- **Revenue Per Fan:** \$91
- **Average Ticket Price:** \$100 (2018), \$62

#### **Arena Facts**

- **Name:** Rogers Place Arena
- **Date Opened:** 2016
- **Location:** downtown Edmonton
- **NHL Seat Capacity:** 18,347
- **Size:** 1,100,000 sq. feet<sup>320</sup>
- **Owner:** City of Edmonton
  - **Industry:** government
- **Operator:** Oilers Entertainment Group

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$613.7 CAD
- **Real Cost 2019 (\$/Million):** \$637.6 CAD
- **Direct Funds**
  - \$145 million from Community Revitalization Levy
  - \$81 million from incremental revenues, such as increased parking revenue, reallocation of existing subsidy paid to Northlands, and new taxes from business in the Arena (public)
  - \$125 million from ticket surcharge on events in the Arena
  - \$112.8 million from Edmonton Arena Corporation lease revenue for the Arena
  - \$23.68 million in cash from Edmonton Arena Corporation
- **Land**
  - \$25 million from the Community Revitalization Levy
  - \$500,000 from the City
  - \$1 million from Edmonton Arena Corporation and ICE District Joint Venture
- **Additional Funding**
  - \$56.8 million for the Winter Garden
    - \$25 million from the Community Revitalization Levy
    - \$25 million from Edmonton Arena Corporation Lease Funding
    - \$6.7 million from Edmonton Arena Corporation Cash
  - \$15 million Pedestrian Corridor from the Community Revitalization Levy
  - \$7 million LRT Connection from Community Revitalization Levy
  - \$24.9 million Community Downtown Arena
    - \$14 million from Community Revitalization Levy
    - \$0.3 million from Edmonton Arena Corporation Cash
    - \$10.5 million other

---

320. "Rogers Place and the ICE District," *HOK*, Accessed June 7, 2019, <https://www.hok.com/design/type/sports-recreation-entertainment/rogers-place/>.

In summary, the City of Edmonton paid \$312.5 million, mostly from a community revitalization levy and reallocated revenues. The Edmonton Oilers paid \$166 million, primarily through renting the Arena; and \$125 million came from a promised ticket surcharge over thirty-five years.

**Lease Agreement:** The Katz Group has paid \$132.5 million towards the Arena. \$112.8 million of this is paid to the City as rent over 35 years. Edmonton Arena Corporation operates the Arena, paying operating expenses and earning all revenues. The Corporation pays up to \$250,000 in property taxes annually.<sup>321</sup>

### Previously Used Arena

- **Name:** Northlands Coliseum (formerly known as Edmonton Coliseum from 1995 to 1998, Skyreach Centre from 1998 to 2003, Rexall Place from 2003 to 2016)
- **Date Opened:** 1974
- **Location:** Edmonton, on the north side of Northlands; 7 km north of downtown
- **NHL Seat Capacity:** 16,839
- **Size:** 497,700 sq. feet
- **Owner:** Northlands (1974-2017), City of Edmonton (2018-)
  - **Industry:** non-profit volunteer organization and government, respectively
- **Operator:** Northlands

### Arena Financing

- **Nominal Cost (\$/Million):** \$17.3 CAD
- **Real Cost 2019 (\$/Million):** \$83.6
- **Funding**<sup>322</sup>
  - \$3.7 million grant from the Province of Alberta
  - \$10 million low-interest loan from the Government of Canada
  - \$2 million in Government of Canada lottery money
  - \$3.7 million from the City of Edmonton to buy land for the Arena
- **Renovations**
  - In 1994 a \$14 million renovation was completed
  - In 2008, Northlands contributed \$810,000 for structurally and mechanical upgrades to the Arena
  - From 2006 to 2013, the City of Edmonton committed \$11 million for renovations, such as purchasing the Arena scoreboard

**Lease agreement:** The Edmonton Oilers paid \$1 annually in rent and \$1.1 million in operating expenses. Northlands was responsible for providing all staff, utilities, and maintenance of the Arena. The team received all revenue from the Arena.

Northlands and the City of Edmonton agreed to share non-hockey profits, with the City receiving 20 percent of any excess of the Arena's net earnings minus the average of the previous five year's net earnings, adjusted for inflation. For example, from 2004 to 2008, the City earned \$1.9 million which was then put back into arena improvements.<sup>323</sup>

---

321. "The Agreement," *City of Edmonton*, Accessed June 19, 2019, [https://www.edmonton.ca/attractions\\_events/rogers\\_place/the-agreement.aspx](https://www.edmonton.ca/attractions_events/rogers_place/the-agreement.aspx).

322. Paul Munsey and Cory Suppes, *Ballparks.com*, May 25, 2019, <http://hockey.ballparks.com/>.

323. *Northlands Annual Report 2008*, Report, January 2014, [https://www.northlands.com/wp-content/uploads/2014/01/2008\\_Annual\\_Report.pdf](https://www.northlands.com/wp-content/uploads/2014/01/2008_Annual_Report.pdf).

**Why did the team move?** The Arena was the third oldest and third smallest in the league. Like many of the 1960s to 1980s arenas, the Arena concourses were cramped and lacked a sufficient number of restrooms and concessions.

The City of Edmonton was able to renegotiate its sponsorship agreement with the Oilers Entertainment Group, being released from its \$17 million commitment. The City has been considering whether to bulldoze the arena or to repurpose it with Hockey Canada for \$102 million.<sup>324</sup>

## *Los Angeles Kings*

### **Team Facts**

- **Year Established:** 1967
- **Location:** Los Angeles, California, USA
- **Metro Area Population:** 13.1M
- **City Median Household Income (2017):** \$61,015
- **Stanley Cup Championships:** 2 (2014, 2012)
  - **Coach:** Darryl Sutter (2011–2017)
- **Media Partners:** Fox Sports West (TV); KABC 790 (Radio)

**Team Valuation:** \$810M (December 2018)

- **Operating Income:** \$44M
- **Debt/Value** (including arena debt): 5%
- **Player Expenses:** \$79M
- **Gate Receipts:** \$59M
- **Revenue Per Fan:** \$27
- **Average Ticket Price:** \$110 (2018), \$46 (2008)

### **Arena Facts**

- **Name:** STAPLES Center
- **Date Opened:** 1999
- **Location:** downtown Los Angeles, adjacent to the L.A. Live development
- **NHL Seat Capacity:** 18,230
- **Size:** 900,000 sq. feet
- **Owner:** Anschutz Entertainment Group (AEG)
  - **Industry:** entertainment management
- **Operator:** Anschutz Entertainment Group (AEG)

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$375
- **Real Cost 2019 (\$/Million):** \$575.2
- **Direct Funds**
  - \$305 million loan from Bank of America
  - \$20 million in reserves from the Los Angeles Convention Center (publicly owned, privately operated)
  - \$38.5 million bonds from the City of Los Angeles (public)

---

324. "Northlands Coliseum Will Close Permanently at End of This Year," *CBC News*, September 13, 2017, <https://www.cbc.ca/news/canada/edmonton/northlands-coliseum-city-horse-racing-1.4287527>.

- \$12 million in tax incremental financing from the City's Community Redevelopment Agency (public)

**Renovations (as of May 2019):** In 2010, STAPLES Center unveiled a \$10 million center-hung video LIVE 4HD Scoreboard. In 2016, AEG invested \$5 million in upgrading suites and concessions. In 2014, AEG spent \$7 million in a new lighting system. In 2016, AEG invested \$8 million in a new lounge and concession updates.<sup>325</sup>

**Lease Agreement:** The Arena is also home to the NBA's Los Angeles Lakers and Los Angeles Clippers, and the WNBA's Los Angeles Spark.<sup>326</sup> The Staples Center's rent, property taxes, and debt repayments to the City equals approximately \$3.85 million annually.<sup>327</sup>

### Previously Used Arena

- **Name:** The Forum
- **Date Opened:** December 30, 1967
- **Location:** Inglewood, California; 12 miles east of downtown Los Angeles
- **NHL Seat Capacity:** 16,005
- **Size:** 350,000 sq. feet
- **Owner:** Madison Square Garden Company
  - **Industry:** Sports and Entertainment Management
- **Operator:** MSG Entertainment

### Arena Financing

- **Nominal Cost (\$/Million):** \$16
- **Real Cost 2019 (\$/Million):** \$122.4
- **Direct Funds**
  - Funded by Jack Kent Cooke, owner of the Los Angeles Lakers and founding owner of the Los Angeles Kings

The Forum was also home to the Los Angeles Lakers of the National Basketball Association and Los Angeles Sparks of the Women's National Basketball Association.

**Why did the Team Move?** Relative to other arenas, the Forum was smaller and lacked premium suites and enough retail and commercial space. Los Angeles City officials wanted to redevelop the downtown area and saw a new arena as an ideal opportunity.

### *San Jose Sharks*

#### Team Facts

- **Year Established:** 1991
- **Location:** San Jose, California, USA
- **Metro Area Population:** 2M

---

325. STAPLES Center, "STAPLES Center Completes Final Piece of Its Three Year, \$20 Million Upgrade Project," *STAPLES Center*, accessed July 19, 2019, <https://www.staplescenter.com/news/detail/staples-center-completes-final-piece-of-its-three-year-20-million-upgrade-project>.

326. "About Us," *STAPLES Center*, Accessed June 3, 2019, <https://www.staplescenter.com/about-us>.

327. United States, City of Las Angeles, City Controllers, *Los Angeles City Controllers Report on Economic Impact: Staples Center*, By Robert A. Baade, 2003.

- **City Median Household Income (2017):** \$96,662
- **Stanley Cup Championships:** 0
- **Media Partners:** NBC Sports California (TV); KFOX 98.5, 910 AM ESPN Deportes (Radio)

**Team Valuation:** \$510M (December 2018)

- **Operating Income:** \$12M
- **Debt/Value** (including arena debt): 10%
- **Player Expenses:** \$74M
- **Gate Receipts:** \$60M
- **Revenue Per Fan:** \$60
- **Average Ticket Price:** \$83 (2018), \$39 (2008)

#### **Arena Facts**

- **Name:** SAP Center at San Jose (originally known as San Jose Arena from 1993 to 2001, Compaq Center from 2001 to 2002, and HP Pavilion from 2002 to 2013)
- **Date Opened:** 1993
- **Location:** downtown San Jose
- **NHL Seat Capacity:** 17,562
- **Size:** 450,000 sq. feet
- **Owner:** City of San Jose
  - **Industry:** Government
- **Operator:** San Jose Sports & Entertainment Enterprises

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$162.5
- **Real Cost 2019 (\$/Million):** \$287.4
- **Direct Funds**
  - \$132.5 million funded by the City of San Jose
  - \$30 million funded by HP Pavilion Management

**Renovations (as of May 2019):** In 2017, the team spent \$5 million on a new de-humidification system inside the Arena.<sup>328</sup>

**Lease Agreement:** The Arena is also home to the San Jose Barracuda of the American Hockey League. Under the initial lease agreement from 1991, San Jose Sports & Entertainment Enterprises (SSE) contributed approximately \$6 million per year in rent and shared revenue to the City of San Jose. In addition, the City received \$5 million dollars per year from sales tax and transient occupancy tax. Each year, the City contributed \$750,000 and SSE contributed \$550,000 towards capital expenses. From 2015 to 2018, the Management company paid \$16 million to the City; this agreement expired July 31, 2018.

In a new agreement announced May 19, 2015, the City of San Jose proposed that from 2018 to 2025 SSE would pay \$1.7 million annually to the Arena Capital Reserve Fund, \$375,000 for the Arena Community Fund, \$100,000 for its community fund, and \$425,000 for traffic control and

---

328. Curtis Pashelka, "Sharks Spent \$5 Million to Improve Ice at SAP Center. Is It Helping?" *The Mercury News*, October 8, 2017, <https://www.mercurynews.com/2017/10/07/sharks-spend-5-million-to-improve-ice-at-sap-center-is-it-helping/>.

event staff. The City would pay a one-time \$6 million capital fee, \$2.3 million annually to the Arena Capital Reserve Fund, \$300,000 to fund the Arena Authority and expenses.<sup>329</sup> As stipulated in the agreement, if the City imposes new taxes, SSE receives credits or exemptions.

### **How did the arena come to be?**

In the 1980s, local citizens formed a group called Fund Arena Now. The group contacted City officials, and the Mayor held a referendum in 1988 which passed, allowing the City to allocate local taxes to arena construction.<sup>330</sup>

## *Seattle*

### **Team Facts**

- **Year Established:** 2021
- **Location:** Seattle, Washington, United States
- **Metro Area Population:** 3.9M
- **City Median Household Income (2018):** \$79,565
- **Stanley Cup Championships:** 0

**Team Valuation:** Not available until first season.

### **Arena Facts**

- **Name:** KeyArena
- **Date Opened:** 1962. Undergoing a major renovation as of 2018.
- **Location:** downtown Seattle
- **NHL Seat Capacity:** 17,300
- **Size:** Over 736,000 sq. feet
- **Owner:** City of Seattle
  - **Industry:** Government
- **Operator:** Oak View Group's ArenaCo

### **Arena Financing**

- **Nominal Cost (\$/Million):** \$900
- **Real Cost 2019 (\$/Million):** \$900
- **Direct Funds**
  - Funding privately financed by Oak View Group
- **Indirect Funds**
  - In the first 10 years, the City will grant ArenaCo an annual abatement of \$350,000 towards the Baseline Rent.

**Lease Agreement:** The City of Seattle and ArenaCo agreed to sign a 39-year lease with a non-relocation agreement for the NHL team. ArenaCo will pay a baseline rent \$2,810,662 to the City. In addition, the City will receive a Baseline Tax Guaranty of \$2,242,419 funded with revenues from the Arena's sales tax, business and occupation tax, leasehold excise tax, admissions tax,

---

329. United States, City of San Jose, *Memorandum: Authorize The City Manager To Negotiate And Execute The Amendment Of Agreements Between The City Of San Jose And Sharks Sports & Entertainment Entities Related To The Extension Of The Management Of Sap Center And The Ice Centre And Related Appropriation Adjustments*, May 8, 2015, <http://sanjoseca.gov/DocumentCenter/View/43476>.

330. Mark Purdy, "Purdy: Arena Vote 20 Years Ago Made San Jose a Real City," *The Mercury News*, August 14, 2016, [http://www.mercurynews.com/ci\\_9806277](http://www.mercurynews.com/ci_9806277).

and commercial parking tax. ArenaCo will invest millions in arena capital improvements over the length of the lease. ArenaCo will also contribute \$40 million to a City Transportation Fund and over \$16 million to community organizations.<sup>331</sup>

### *Vancouver Canucks*

#### **Team Facts**

- **Year Established:** 1970
- **Location:** Vancouver, British Columbia, Canada
- **Metro Area Population:** 2.5M
- **City Median Household Income (2016):** \$72,662
- **Stanley Cup Championships:** 0
- **Media Partners:** Rogers Sportsnet (TV); Sportsnet 650 (Radio)

**Team Valuation:** \$735M (December 2018)

- **Operating Income:** \$37M
- **Debt/Value** (including arena debt): 11%
- **Player Expenses:** \$76M
- **Gate Receipts:** \$66M
- **Revenue Per Fan:** \$58
- **Average Ticket Price:** \$83 (2018), \$71 (2008)

#### **Arena Facts**

- **Name:** Rogers Arena (formerly known as General Motors Place from 1995 to 2010 and Canada Hockey Place in February 2010)
- **Date Opened:** 1995
- **Location:** downtown Vancouver
- **NHL Seat Capacity:** 18,870
- **Size:** 475,000 sq. feet
- **Owner:** Canucks Sports & Entertainment
  - **Industry:** sports and entertainment management
- **Operator:** Canucks Sports & Entertainment

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$160 CAD
- **Real Cost 2019 (\$/Million):** \$243 CAD
- **Direct Funds**
  - Privately funded by Former Vancouver Canucks owner, Arthur Griffiths, and former part-owner, John McCaw<sup>332</sup>
- **Land**
  - \$12 million in 1993, purchased by the team from Concord Pacific
- **Indirect Funding**

---

331. "New Arena at Seattle Center," *Oak View Group*, Accessed August 13, 2019, [http://newarenaatseattlecenter.com/#quick\\_facts](http://newarenaatseattlecenter.com/#quick_facts); United States, City of Seattle, *KeyArena Renovation Summary of Proposed Agreement between the City and Oak View Group (OVG)*, Seattle, WA: City of Seattle, 2018, 1-4.

332. Bruce Constantineau, "Rogers Arena Still Rockin' 20 Years Later," *Vancouver Sun*, August 28, 2015, [http://www.vancouver.sun.com/sports/rogers\\_arena\\_still\\_rockin\\_years\\_later/11325281/story.html](http://www.vancouver.sun.com/sports/rogers_arena_still_rockin_years_later/11325281/story.html).



- The Canucks benefited from transportation routes and \$5 million worth of arena renovations from the Province of British Columbia for the 2010 Winter Olympics.<sup>333</sup>

**Renovations (as of May 2019):** In 2014, Canucks Sports and Entertainment contributed \$10 million to renovate suites, upgrade concessions, and create a new lodge.<sup>334</sup> The owner of the Canucks, under his construction company, Aquilini Developments and Construction, invested \$300 million in 2012 to build Highrise towers adjacent to the Arena.<sup>335</sup>

### Previously Used Arena

- **Name** Pacific Coliseum, also known as "The Coliseum" or the "Rink on Renfrew"
- **Date Opened:** 1968
- **Location:** Hastings Park, 7 km east of downtown Vancouver
- **NHL Seat Capacity:** 15,713
- **Size:** 94,325 sq. feet
- **Owner:** City of Vancouver
  - **Industry:** Government
- **Operator:**

### Arena Financing

- **Nominal Cost (\$/Million):** \$6 CDN
- **Real Cost 2019 (\$/Million):** \$31.6
- **Funding**<sup>336</sup>
  - Privately financed by the Pacific National Exhibition

**Why did the team move?** The team's owner at the time, Arthur Griffith said that, "My instincts told me that (staying in the Coliseum) wouldn't work for a number of reasons...It was in the wrong location for our customers — not near rapid transit and not in the downtown entertainment district where people who literally write our cheques like to go."<sup>337</sup>

## Vegas Golden Knights

### Team Facts

---

333. Canada, British Columbia, Office of the Auditor General, *The 2010 Olympic and Paralympic Winter Games: A Review of Estimates Related to the Provinces Commitments*. Victoria, B.C.: Office of the Auditor General, 2006, <https://www.bcauditor.com/sites/default/files/publications/2006/report2/report/2010-olympic-and-paralympic-winter-games.pdf>; Rob VanWynsberghe, Trisha Bischel, Mariana Gatzeva, Meredith Hambrock, Brenda Kwan, and Clark Lim, *Olympic Games Impact (OGI) Study for the 2010 Olympic and Paralympic Winter Games*, Report, OGI-UBC Research Team, University of British Columbia, Vancouver, B.C., 2011, <http://cfss.sites.olt.ubc.ca/files/2011/10/The-Olympic-Games-Impact-Study-Games-time-Report-2011-11-21.pdf>.

334. Kevin Hinton and Ryan Mckenzie, "VIDEO: Behind the Scenes of Rogers Arena's Changes," *BC Business*, September 5, 2014, <https://www.bcbusiness.ca/video-behind-the-scenes-of-rogers-arenas-changes>.

335. Mike Hager, "Vancouver City Council Approves Aquilini's Three New Highrise Towers beside Rogers Arena," *Vancouver Sun*, July 20, 2012, <http://www.vancouver.sun.com/business/Vancouver-city-council-approves-aquilini-three-highrise-towers-beside-rogers-arena/6961948/story.html>.

336. John Mackie and Lionel Wild, "Pacific Coliseum at 50: The Rink on Renfrew in Photos," *Vancouver Sun*, January 20, 2018, <https://vancouver.sun.com/news/local-news/pacific-coliseum-at-50-the-rink-on-renfrew-in-photos>.

337. Bruce Constantineau, "Rogers Arena Still Rockin' 20 Years Later," *Vancouver Sun*, August 28, 2015, <http://www.vancouver.sun.com/sports/rogers-arena-still-rockin-years-later/11325281/story.html>.

- **Year Established:** 2017
- **Location:** Las Vegas, Nevada, USA
- **Metro Area Population:** 2.3M
- **City Median Household Income (2017):** \$53,159
- **Stanley Cup Championships:** 0
- **Media Partners:** AT&T SportsNet (TV); FOX Sports 98.9 FM, 1340 AM (Radio)

**Team Valuation:** \$575M (December 2018)

- **Operating Income:** \$53M
- **Debt/Value** (including arena debt): 22%
- **Player Expenses:** \$71M
- **Gate Receipts:** \$101M
- **Revenue Per Fan:** \$68
- **Average Ticket Price:** \$174 (2018), Nonexistent in 2008

#### **Arena Facts**

- **Name:** T-Mobile Arena
- **Date Opened:** 2016
- **Location:** Las Vegas Strip in Paradise, Nevada; 8 miles south of downtown Las Vegas
- **NHL Seat Capacity:** 17,367
- **Size:** 650,000 sq. feet
- **Owner:** Anschutz Entertainment Group (AEG) and MGM Resorts International, 42.5% each; Tim Foley, 15%
  - **Industry:** entertainment management, hospitality, businessman (respectively)
- **Operator:** MGM Resorts International

#### **Arena Financing**

- **Nominal Cost (\$/Million):** \$375
- **Real Cost 2019 (\$/Million):** \$399.3
- **Direct Funds**
  - \$375 million financed by private developers and equity holdings
    - \$200 million from AEG and MGM Resorts International in bank facility fund<sup>338</sup>; \$120 in a term A loan and \$80 million in a term B loan<sup>339</sup>

**Lease agreement:** William P. Foley II owns the Las Vegas Golden Knights. The Las Vegas Arena Company, a subsidiary of AEG, leases the Arena land for 50 years from 2016; annual rent is \$2 million. The Arena currently has a seven-year tax abatement agreement. Over this time period, the Arena Company will save over \$3.3 million.<sup>340</sup>

---

338. "AEG AND MGM Resorts International Secure Financing for New Las Vegas Arena," *T-Mobile Arena Newsroom*, September 30, 2014, <http://newsroom.mgmresorts.com/aeg-and-mgm-resorts-international-secure-financing-for-new-las-vegas-arena.htm>.

339. United States, Securities and Exchange Commission, *Form 10-Q for MGM Resorts International*, By Daniel J. D'Arrigo, 2016, [http://q4live.s22.clientfiles.s3-website-us-east-1.amazonaws.com/513010314/files/doc\\_financials/quarterly/2016/q3/7b5b169e-adfa-43e4-9f2c-2dd145bb902f.pdf](http://q4live.s22.clientfiles.s3-website-us-east-1.amazonaws.com/513010314/files/doc_financials/quarterly/2016/q3/7b5b169e-adfa-43e4-9f2c-2dd145bb902f.pdf).

340. City of Nevada, Nevada's Governor, Office of Energy, *Green Building Tax Abatement Projects*, July 13, 2018, <http://energy.nv.gov/uploadedFiles/energynvgov/content/Programs/Public%20List%2013July2018.pdf>.