Field$ of Dream$:  
An Examination of the Effects of Financing Structure on  
Baseball Facility Design and Surrounding  
Real Estate Development  

by  
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Submitted to the Department of Urban Studies and Planning  
in Partial Fulfillment of the Requirements for the Degree of  
Master of Science in Real Estate  

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ABSTRACT

Spending on baseball facility development in the 1990’s will likely exceed $2.5 billion. Historically, funding for these facilities has come from the public sector. However, the trend is shifting toward a portion, if not all, of the costs being funded by the private sector. I believe that this financing shift has implications for the design and siting of the facility as well as surrounding real estate activity and values. I begin with a discussion of trends in baseball facility development and political motivations driving the development of new ballparks over the last ten years. I follow with a discussion of public and private financing mechanisms and the economic benefits of owning ballparks. Writings on the subject of the regional fiscal impact of sports facilities are reviewed to provide a frame of reference. I also address the interaction of facility economics and financing on the physical issues of siting, exterior appearance and internal design.

In order to test my premise, I analyzed data on baseball, basketball and football facilities developed since 1987 both quantitatively and qualitatively. Basketball and football facilities were included in the analysis to increase the number of observations. The quantitative tool selected was linear regression analysis, with financing, design and siting as the dependent variables and real estate impact as the independent variable. The regression results supported the thesis that financing influences interior and exterior design and siting, which affect how the facility influences the adjacent real estate. The case study method was selected as the qualitative tool. I conducted two case studies, covering Oriole Park at Camden Yards and the Ballpark in Arlington, to examine the interrelationships of these variables. The case study results also confirmed that financing, design and siting factor into the amount of spillover generated by a facility. The conclusions include a summary of my findings as well as a matrix for predicting the impact of a facility on the surrounding real estate, considering the financing structure, design focus, siting and political environment.

Thesis Supervisor: Timothy J. Riddiough
Title: Assistant Professor of Real Estate Finance
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Special thanks to the New York Mets, whose performance this season has made researching baseball information especially pleasurable this year.
Chapter One: Introduction

“The importance of facilities should never be underestimated. I remember in 1981 Edward Bennett Williams (then owner of the Orioles) and I talked about it. He and I had the same identical revenues and expenses. Then came Camden Yards and the rest is history. Remember when we talked about poor Cleveland? When we (Milwaukee) get our new park we will be a big-market team.”

Bud Selig, Chairman of the Executive Council for Major League Baseball and Owner of the Milwaukee Brewers.

Overview

Forty-five new sports facilities will be built in the 1990’s at a total cost of over $9 billion. Of the 114 existing professional franchises at the major league level, over 80% have either built a new facility in the last five years or are proposing to build a new facility. The cost of each of these facilities is without exception, mammoth and in the hundreds of millions of dollars. Perhaps more than any other form of real estate development, sports facilities are a contentious topic in many communities throughout the United States. The business of sports facility development, especially the issues of financing, ownership, and siting, commonly appear on the front pages of media publication throughout the country. The abundance of proposed facilities promises to keep this issue on the front page for a long time to come.

A reason this topic receives so much attention in the press is the effect of the development of sports facilities on the public sector. The development of most sports facilities has taken place with some form of public assistance, usually public financing or infrastructure contributions. In many deals, the public financing is in the form of a tax

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2 Erik Brady and Debbie Howlette, “The Stadium Binge.” USA Today, September 6, 1996p. 14C.
paid by the citizens of the municipality in which the facility is located. Simply the mention of the word “tax” immediately draws the attention of the press and the public.

The other variable is emotion. The civic pride of a successful franchise or receiving an expansion or relocating team cannot be quantified. Similarly, the emotional and fiscal cost of losing a franchise can be tremendous. To the elected officials, it may be a politically damaging powder keg.

Does the public’s role have an effect on the sports facility development process? In this paper I focus on the public’s role as financier and briefly discuss the emotional and political issues. How does financing influence the siting and design of the facility? How does the design of the facility influence surrounding real estate? If financing influences design, then what is the interaction between financing and surrounding real estate? These three questions form the basis for the thesis.

Like any other “successful” development project, a good plan starts with a prime site. The “location, location, location” mantra that has been used by nearly every real estate professional also applies to sports facility development. Which type of location is most suitable for an arena or stadium? Is prime, class “A” urban land ideal for these facilities or are more benefits received from a suburban site? The development of Camden Yards, a baseball facility with an urban location, reversed a thirty year old trend of siting baseball or football stadiums in the suburbs. The vast majority of proposed baseball stadiums are now planned for urban locations. One of the recent trends in siting is the formation of the sports entertainment districts. In these districts, two or three sports facilities are located together in an urban setting. This technique has been used in Cleveland, Philadelphia and Baltimore, and is proposed in Detroit.
The selection of a suburban or urban site for a new facility is influenced by many factors, including financing structure. Until recently, privately financed facilities were usually located in suburban settings and publicly financed facilities were located in urban settings. One reason for this is land prices. Land prices are less expensive in the suburbs which decreases development costs, an issue especially important for the privately financed, cost conscious, facility owner. Another reason may be the ability to use a remote location in combination with an amenity filled facility to internalize the patron’s dollar. This interaction between financing and siting will be addressed in greater detail in later chapters.

Economic obsolescence, rather than physical obsolescence, is currently a driving force behind an owner’s wish for a new stadium. The enhancement of venue revenue is a primary goal for franchise owners. Despite varying degrees of economic activity around the Ballpark in Arlington, Jacobs Field, and Camden Yards, these facilities are economic successes for the teams. Each facility ranks in the top five in terms of venue revenue. The amount of venue revenue collected by owners is correlated to the internal design of the facility. The greater the amount of stadium amenities, such as concessions, restaurants and premium seating, the greater the venue revenue. Theoretically, the greater the amount of venue revenue received inside of the facility, the less economic impact the facility will have on its surroundings. If a primary reason of public sector financing is to stimulate economic activity in the vicinity of the arena, then public financing should play a role in the design of the facility. If a facility is privately financed, the owner presumably should seek an internal design that maximizes venue revenue as a return on investment.
Each facility deal is unique due to the situation of both the team and municipality prior to and during lease negotiation. Did the loss of the Colts to Indianapolis have an impact on the Orioles’ ability to negotiate their Camden Yards deal? The political climate in a particular city can greatly influence the structure of a facility deal. Public referendums to approve public financing for sports facilities are commonplace in today’s environment. In some cases the owner of a sports franchise has agreed to pay for the cost of a special ballot referendum.¹

Economists and sports consultants spar over the “true” economic benefit of these new sports facilities. Although often mentioned as an aside, I know of no study examining the effect of these facilities on the neighboring real estate. I explore this relationship and draw conclusions using inductive and empirical methods. Through this study I will show that the financing and design of a stadium influence the spillover benefits to adjacent operators and owners of real estate.

**Findings**

Having completed a quantitative and qualitative assessment of all baseball facilities developed over the past ten years, the findings suggest that certain characteristics of facility design have a direct impact on the adjacent real estate. The findings indicate that the inclusion of premium seating, such as luxury suites and club seats, as well as a high relative number of concession stands per seat has historically reduced the positive impact of the facility on adjacent rental rates. The results also indicate that the siting of a facility in an urban location contributes to the ability of the

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project to increase rental rates on adjacent property. I also conclude that a less dramatic exterior design and a higher percentage of private financing negatively impacts local rents. The percentage of private financing was not as significant as I originally expected.

Interestingly, I attribute this outcome to the interaction of financing structure and interior design. All franchises attempt to maximize venue revenue, which includes the internalization of amenities that would otherwise be situated around the facility, thereby decreasing the impact of the facility on its surroundings. I conclude that some franchises in 100% publicly financed facilities attempt to maximize venue revenue without regard to economic return on cost. Conversely, franchises in privately financed facilities seek to include only those amenities that provide the required return on investment. Examining this theory, I found that franchises in publicly financed facilities would accept every additional dollar of venue revenue since they have no equity or downside upon which to measure the investment. Franchises in privately financed facilities only accept additional venue revenue if it provides an acceptable return when compared to their equity or investment required. This paradox has created a potentially contradictory result.

As a part of the analysis, I examined two facilities through the use of case studies. The case study chapters of the thesis review a variety of development scenarios through the examination of examples that use all public or public/private partnerships, urban locations, suburban locations, and classic designs. Through the review of journal articles, media articles, site visits and interviews, I was able to confirm and question certain findings from the quantitative analysis.

Camden Yards has created excitement and tourism on the Inner Harbor in Baltimore. Real estate rents have increased more around the stadium than the rest of
downtown and business is booming. Downtown revitalization is underway. However, in Arlington, Texas, the financing structure, siting decision and design of the Rangers’ facility is purely consistent with the thesis. It has the most private financing of any new ballpark, sits in a suburban location and contains restaurants, a Texas Ranger Hall of Fame and other amenities. It is a destination unto itself and does not reach out to the surrounding area. Consequently, the real estate around the Ballpark has developed into other destination oriented entertainment uses and local rents have lagged the Arlington market.

**Organization**

The evolving and changing nature of sports facility development dictates that I start with a discussion of current trends and a synopsis of the recent direction of development, including deal structures. This discussion can be found in Chapter Two. In this section I will also discuss ownership structures, public/private financing structures, the political climate, and development costs. I will then proceed to an overview of facility economics including public and private financing mechanisms and benefits of facilities including tax revenues and patron revenues. This discussion is in Chapter Three. Also included in this section will be a summary of the regional economic impacts and motivations. Chapter Four includes the analysis of the physical asset including siting issues, architectural design and internal design features and the interaction these issues have with financing structure. Chapter Five focuses on quantitative analysis. Through the use of regression analysis, I will interpret the effects of facility design and development on real estate values, rents, and development activity. I will also analyze the connections between the financing and siting decisions for the facilities on the
externalities generated. Chapter Six contains the case study section of this work. Through the use of two case studies representing recently completed facilities, I will review the design and siting of these developments to explore the impact of these developments on their surrounding neighborhood market. Finally, in Chapter Seven, I present a brief look at the future, present the conclusions and their implications, and discuss areas for further research.
Chapter Two: Trends in ownership structures, the political climate and public/private financing, and facility development cost.

In this chapter I review recent trends in the structuring of facilities deals including ownership options, the political climate surrounding the public’s participation in the financing of new facilities, the financing structure, and the development costs of new sports facilities. Each of these areas has experienced significant changes in the past ten years. More importantly, each of these areas influence the design of the facility and the impact of the facility on surrounding real estate values. The structuring of a facility deal is often the lengthiest and most complex phase of the development process. Ownership interests, siting options, and the local political climate are unique to each development. While there may be prototypes for successful facility designs, no prototype exists for facility deal structures.

Ownership Structures

Ownership of a facility may be held by a municipal, private, or a quasi-governmental entity. Generally, title is held by the entity responsible for funding the development costs. However, given the myriad of economic structures, the general rule does not always apply. Sports authorities are gaining increased popularity due to the flexibility of merging private and public sector interests. They also have certain financing advantages over municipal ownership. Future municipal ownership may come

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4 This thesis was prepared in parallel with Aubrey Cannuscio on football stadium development and James Cole on basketball arena development, accordingly any statements or conclusions reached by the three of us may be referred to with the pronoun “We”. 
under scrutiny with the proposed changes in the tax status of municipal debt.\(^5\)

Lease agreements with franchises typically are between ten and twenty years in length with options to extend the lease held by the franchise. Unlike most other forms of real estate, the owner of the facility does not necessarily receive the revenues from the property. The lease agreement with the franchise (tenant) determines the distribution of the facility revenues. These revenues include naming rights, advertising, personal seat licenses (PSL’s), branding rights, and patron dependent revenues. Each of these revenue sources will be discussed in detail in Chapter Three.

Typically, baseball and football facilities are owned by municipalities or quasi-governmental authorities. The breakdown of publicly held versus privately owned facilities is 22/6, 25/4, and 14/14 for baseball, football, and basketball facilities respectively. Two theories may explain this disparity in ownership. The first theory focuses on the number of events at a facility. Baseball and football facilities average 85 and 22 events annually, respectively, while basketball arenas average 173 events annually.\(^6\) This suggests that basketball arenas may be self-supporting while baseball and football facilities require public ownership to cover any operating deficits. The “dual purpose” facilities of the 1970’s were developed to close the gap in operating deficits. Three Rivers Stadium in Pittsburgh, Riverfront Stadium (now Cinergy Field) in Cincinnati, and Candlestick Park (now 3Com Park at Candlestick Point) are examples of stadiums used by baseball and football franchises. The second theory involves the

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development cost of the facility. In most cases baseball and football facilities are more than twice as expensive as their basketball counterparts and now exceed $200,000,000 on a regular basis. It is most likely that the combination of these factors: higher usage/lower cost for basketball and lower usage/higher cost for baseball and football, influence the ownership profile for these facilities.

In the case of municipal ownership or quasi-governmental authorities, the team leases the facility from the municipal authority. Depending upon the deal that is reached, the rent amount could range from a market rate rent to rent free. The lease agreement is directly affected by the percentage of public versus private financing used in the development of the facility. Charging a franchise below market rent for use of the facility or the land underneath it is a popular form of public financing. This strategy is often employed when the goal for the donor is the enhancement of the value of land adjacent to the facility.

**Political Climate and Financing Structure**

The public/private financing structure of each facility is perhaps the most controversial and politically charged phase of the development process. Until recently, it had been commonplace for the public to finance up to 100% of the cost of a sports facility. This was accomplished through general obligation bond financing, municipal guarantees, land leases, and the newest technique, tax increment financing (TIF) bonds. Each of these techniques will be discussed in Chapter Three. Public sentiment toward subsidizing sports facilities has changed dramatically in recent years. Groups opposed to the public subsidies have forced referendums to decide the issue at the ballot box. These groups target the high net worth owners of franchises like Edward DeBartolo of the San
Francisco 49’ers and Paul Allen of the Seattle Seahawks and ridicule them for seeking public assistance to enhance the value of their privately-owned franchises. The personal wealth of team owners, such as Allen’s recent one-day paper profit of $875,000,000 based upon the increase in his shares of Microsoft, is frequently cited as a reason to vote against the public funding of these facilities. The results of these elections have been extremely close. The two most recent referendums, in San Francisco for the 49’ers, and Seattle for the Seahawks, have passed by slim majorities, not even reaching 51% to 49% margins. Allen, in fact, paid $3.4 million to cover the cost of the special referendum to the city of Seattle.\textsuperscript{7} Had the referendum been defeated, he would not have exercised his option to purchase the team and the relocation of the team to another market, probably Los Angeles, would have been likely.

The threat of relocation to another city is a popular technique employed by franchise owners and their consultants. The excess of demand over supply for sports franchises provides the support for this threat. The recent relocation of the Cleveland Browns to Baltimore is fresh in the mind of city politicians and sports fans. The deals reached in St. Louis for the Rams and Baltimore for the Ravens are cited as examples that the cost of replacing a lost franchise exceeds the demands of the incumbent franchise seeking a new facility. The table on the next page summarizes some of the public referendums calling for public money to build sports facilities.

\textsuperscript{7} Goldberg, p. 1.
<table>
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<th>Year</th>
<th>City/Team(s)</th>
<th>Outcome</th>
<th>Issue</th>
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<td>1995</td>
<td>Cleveland/ Browns</td>
<td>Approved</td>
<td>Extension of alcohol and cigarette sales tax that would raise $175 million for a new downtown football stadium in 1999</td>
</tr>
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<td>1995</td>
<td>Cincinnati/ Reds and Bengals</td>
<td>Approved</td>
<td>Hamilton County approves half-cent sales tax that would raise approximately $50 million/year to build new baseball stadium and new football stadium</td>
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<td>1996</td>
<td>Detroit/Tigers</td>
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<td>$40 million bond issue for baseball stadium</td>
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<tr>
<td>1996</td>
<td>San Francisco/ Giants</td>
<td>Approved</td>
<td>Change in city ordinances so that new baseball stadium may be built at China Basin</td>
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<td>1996</td>
<td>Nashville/ Oilers</td>
<td>Approved</td>
<td>$80 million bond issue for new football stadium</td>
</tr>
<tr>
<td>1996</td>
<td>Tampa/ Buccaneers</td>
<td>Approved</td>
<td>Half-cent increase in sales tax increase for 30 years to finance football stadium and other civic needs.</td>
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<tr>
<td>1996</td>
<td>Detroit/Lions and Tigers</td>
<td>Approved</td>
<td>Wayne County increases in hotel and car rental tax, as well as $80 million bond issue, to help finance new baseball and adjoining football stadium</td>
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<td>1996</td>
<td>Houston/ Astros and new football team</td>
<td>Approved</td>
<td>Financing plan for Harris County to build $265 million baseball stadium and $200 million renovation to Astrodome for future football team or to build new football stadium</td>
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<td>1997</td>
<td>Columbus</td>
<td>Rejected</td>
<td>Three year, half-cent sales tax for hockey arena and soccer stadium</td>
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<td>1997</td>
<td>Miami/Heat</td>
<td>Approved</td>
<td>Dade County use of county taxes and bonds for new basketball arena</td>
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<td>1997</td>
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<td>Approved</td>
<td>$100 million bond issue to help finance stadium and shopping/entertainment complex</td>
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<td>Fate of new football and baseball stadium</td>
</tr>
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<td>1998</td>
<td>Phoenix/ Cardinals</td>
<td>TBD</td>
<td>Fate of new football stadium and multiple use entertainment complex</td>
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Sources: NFL, Horow Sports Ventures
Trends in Financing Structure

The trend of privately financed facilities began with football facilities in 1987, with Joe Robbie Stadium, now Pro Player Park, serving as the pioneer. Ericsson Stadium is the most recent example of a privately financed football facility. The trend has continued into basketball arenas with the Palace at Auburn Hills serving as the pioneer in this area. The Fleet Center, United Center, and the Rose Garden are among the recently privately financed basketball arenas. Pacific Bell Ballpark at China Basin, the proposed home of the San Francisco Giants, will be the first privately financed baseball facility in over thirty years. The chart below illustrates the declining public contribution for the financing of baseball stadiums. The information from 1998-2000 is based upon development budgets for projects that have been approved by voters and have completed a public/private financing structure.

% of public financing of baseball stadiums
1991-2000
Other deals under consideration include the New York Mets, who are seeking a $100,000,000 public financing component to their $450,000,000 proposed stadium, and the New York Yankees who are rumored to be seeking 100% public financing for their proposed one billion dollar replacement for Yankee Stadium.

**Financing and Development Costs**

The amount of financing that is obtainable is critical as facility development costs skyrocket. While the seating capacity of the new generation of facilities may fall or rise, the development costs of facilities tends to be two to three times more expensive than their predecessors (using today’s dollars). For baseball stadiums the graph below indicates that development costs increased steadily from 1991 to 1997. Facilities to be completed in 1999 and 2000 are projected to be less expensive than their most recent counterparts. Interestingly, the public financing component of these facilities is also less

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than their most recent counterparts. An area for further research includes examining the increasing presence of private financing as it relates to more efficient construction, or less amenities in these newer facilities.

Preliminary research indicates that the new facilities will have an even greater amount of amenities than their predecessors. This would be consistent with the theory that the greater the amount of private financing, the more amenities that will be internalized within the confines of the facility. Only when these facilities are completed and the costs totaled will an examination of construction efficiencies be possible. If the final cost of these facilities is consistent with their projections, it would seem that private financing is more efficient.

What are the implications of the relationship between total development costs and the public financing component of the deal structure? Does the involvement of public financing raise the development cost of the facility? If the increased cost is associated with increased benefits for the public sector then the relationship would be positive. An example would be an additional amenity such as a sports museum at the facility site. If the public sector received a portion of the revenue from this amenity, then a return on the additional development cost could be calculated. While this sounds plausible in theory, in practice it appears not to be the case. Additional amenities at sports facilities, while popular with the fans, increase revenues for the owner, not the public sector. In most cases, the public sector receives no financial benefit from these amenities. A detailed discussion of internal design amenities and financial structure is included in Chapter Four.
Another theory concerning the relationship between development cost and public financing is efficiency. Is private money more efficient than public money? While the franchise owner of a privately financed facility clearly has incentive to maximize the return on investment and minimize the total development cost, how is the franchise owner of a publicly financed facility monitored? Theoretically, the franchise owner would look for every conceivable amenity to internalize revenue at a cost that is subsidized by the public sector. In the case of a 100% publicly financed facility, the return to the franchise owners is substantial and their liability limited. In Chapter Five, I incorporate quantitative analysis methods to further examine the effects of public/private financing structures on stadium design and the resulting impact on surrounding real estate markets.

The actual construction cost of all types of facilities is often less than half of the total development costs. Architectural and engineering fees, site acquisition and improvements, furniture fixtures and equipment, financing costs, infrastructure improvements, and parking facilities all are a part of the total development cost of a new facility. When public financing is used, it is important for the facility developer to determine the total cost accurately before construction begins or face the prospect of additional public referendum and the problems associated with it, or use private equity to cover the financial shortfall.

Summary

Ownership structures and public/private financing partnerships are evolving to solve the increasing costs of facility development. No prototype exists for a sports facility deal although trends in financing structures are emerging for each facility type.
Local groups opposed to public contributions to the financing structure of facility deals are increasing. Groups opposed to public funding are sure to use the Pacific Bell Ballpark at China Basin as the model upon which all future deals should be based. The Giants were forced to structure the deal this way after losing *five* referendums calling for partial public funding of a new facility. The political climate for these deals continues to be uncertain and the recent relocations of franchises in Los Angeles and Cleveland remind fans of the potential consequences of refusing to allocate public funding for a new facility. For baseball stadiums, development costs appear to be related to the size of the public financing component. Does the decision of the public to participate in the financing of sports facilities affect the design of the facilities? In the next chapter, I discuss the economics of facilities. This information serves as the background for Chapter Four when the interaction of financing structure, siting, and design are explored in depth.
In Chapter Two, I discussed the recent trends in public and private financing structures for new sports facilities. In this chapter, I discuss the various financing mechanisms employed by the public and private participants and overview facility economics and fiscal impacts. I also detail the innovative revenue streams driving the demand for new facilities. Throughout the discussion, I cite examples where a particular strategy was used. I close with an overview of writings on the economic impact of sports facilities for the communities where they are located which express a view on the justification for the governmental investment.

**Public Financing Mechanisms**

The public sector has funded a portion of the development cost of every facility developed within the last ten years. The amount of the contribution has varied from an indirect contribution of infrastructure to 100% of the total development cost. When the public contribution involves an outlay of funds as opposed to a tax abatement or other ongoing subsidy, the financing techniques used are not unlike those used for other large municipal capital improvement projects. Does the choice of financing technique impact the adjacent real estate activity? I propose possible answers to this question while providing an overview of some of the most popular techniques as excerpted from *The Practice of Local Government Planning*. I also include a table on the following page to

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9 Considering infrastructure, favorable zoning and below-market land leases, all facilities have had some form of governmental subsidy. Some of these contributions are monetary, such as land leases, and some are non-monetary, such as favorable zoning.

show how each facility developed within the last ten years has been financed.

*General obligation bonds*  The full taxing power of the jurisdiction is pledged to pay interest and principal to retire the debt. The bonds are tax-exempt but the use of the proceeds is restricted to a “public purpose” to insure this status. Voter approval may be required as the municipality is ultimately at risk for the repayment of the bonds. This form of financing is highly scrutinized by rating agencies and public watchdog groups. Many older facilities financed with general obligation bonds were sited in areas of urban revitalization to meet the public purpose requirement of the bonds. Consequently, when the team requests a new facility it is rare for the value of the vacant facility and the land underlying to exceed the outstanding indebtedness. However, the municipal guarantee of the bonds removes the city’s default option. As a result, the municipality has to factor in the cost of debt service on the old bonds in conjunction with any new commitments. An inability to default makes the use of general obligation bonds a risky proposition without a long term commitment from the tenant. The TWA Dome as well as the new Oilers facility in Nashville are financed with general obligation bonds. Many facilities developed for expansion or relocating teams are funded with general obligation bonds.

*Revenue bonds*  These bonds are sold for the financing of revenue generating projects. Water and sewer systems are common examples of projects using revenue bond
<table>
<thead>
<tr>
<th>Facility</th>
<th>General Obligation Bonds</th>
<th>Sales Revenue</th>
<th>Other Revenue</th>
<th>Grants</th>
<th>Lottery</th>
<th>Land</th>
<th>Infrastructure</th>
<th>Project Revenues</th>
<th>Team Obligation</th>
<th>PSL’s</th>
<th>Sponsorship</th>
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<td></td>
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<td>Ballpark in Arlington</td>
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Sources: Public Financial Management, Horrow Sports Ventures, Sportscorp, Ltd.
financing. These bonds are not backed by the full taxing power of the municipality and are not included in state imposed debt limits. Unlike general obligation bond financing, revenue bond financed projects have a much less stringent requirement on their use. They may be taxable or tax-exempt. Revenue bonds have been backed by sales taxes and excise taxes such as hotel taxes, car rental taxes and liquor or cigarette taxes. The advantage of bonds backed by hotel and car rental taxes is that the burden falls upon tourists and business travelers, not the local population. New Comiskey Park, which is owned by the Illinois Sports Facilities Authority, was financed with revenue bonds backed by a two percent hotel/motel tax and rent from the White Sox. This facility has had little positive impact on the neighboring real estate, which may be due to its siting more than its financing.

State and federal grants The federal or state government provides funding through a grant-in-aid. This funding has been used to acquire land which is then used for the facility. A land grant can allow a facility to be constructed on land deemed too expensive absent the grant money. These grants are generally used to prevent the exodus of a sports facility from an urban location or to prompt an urban revitalization. The purpose of these types of grants is often to spur economic activity, so one could expect to see greater activity where these sources have been used. The Delta Center was developed on land purchased with a state land grant in a downtown Salt Lake City. As expected, the area around the arena has experienced growth over and above that of the overall market.

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11 Petersen, p. 100.
**Tax increment financing (TIF)**

TIF, a recently popular facility financing strategy, is used to provide funding based upon the increase in the tax base within a district around the stadium or arena. The municipality sells bonds to redevelop the district where the sports facility will be located. The bonds are repaid with tax revenues from the redeveloped property. The increment refers to the increase in the value of the property within the district over its value prior to redevelopment. Tax revenues associated with this increase in value are designated for the repayment of the bonds. Tax revenues on the base property value are allocated to the general fund of the municipality. Reinvestment of the tax revenues back into a TIF district should lead to a general increase in values if for no other reason than by the amount of the reinvestment. However, many TIF districts are drawn tightly around the facility, having little direct impact on the neighboring property.\(^{12}\) A portion of the cost of the Target Center (Timberwolves) was originally financed with TIF bonds. Activity in the nearby Warehouse District has boomed since the opening of the arena.\(^ {13} \) The San Francisco Giants are using TIF for their new ballpark at China Basin.

Land leases are another common form of public subsidy. Ericsson Stadium, the Georgia Dome and Joe Robbie Stadium are using below-market ground leases as a form of public subsidy. The land under Ericsson Stadium is leased to the team for $1 a year and has a 30-year term. The City of Charlotte’s total expenditure for the land and related improvements approximated $57 million.\(^ {14} \) Similar to state and federal land grants, one should expect some form of revitalization around stadiums located on leased land. The area around Ericsson, further

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\(^{13}\) Arthur Andersen, Economic Impact Report on Target Center, Unpublished Paper, February 1994, p. 5.

discussed in Chapter Eight, has experienced new activity while the area around Pro Player has not. Is this contrast due to the different siting choices for each facility?

In analyzing the benefits of a particular site for the new Miami Heat arena, Jay Cross, President of the Heat, pointed out that “no amount of municipal incentives will make bad real estate, good real estate.” Mr. Cross’ point was that the siting decision is an important one and that it may make more sense to locate on land other than the site loaded with the municipal incentives. To a larger extent, the acceptance of municipal funding means that the developers must answer to the municipality on matters such as internal and external design, cost overruns, and future modifications to the facility. Therefore, the words of Mr. Cross should not be overlooked in a cost-benefit analysis of public funding mechanisms.

**Private Financing Mechanisms**

Now I turn to private mechanisms and discuss how they differ from public mechanisms from a design and real estate perspective. Here, I refer to privately financed facilities as those where at least two-thirds of the development cost is funded from private sources. I do not believe that any facility is totally devoid of public investment. According to Moody’s Investor Service, facilities have traditionally been publicly financed, but many recent developments have been financed with a combination of public and private contributions. In Chapter Two, I showed the trend of basketball arenas toward private financing, the success of private financing in football stadiums and the plans for the first privately financed ballpark since Chavez Ravine, in 1962. Private investments typically consist of equity contributions by team owners and/or

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15 Again, considering roads and other infrastructure as well as favorable zoning.

conventional debt from a local bank or Wall Street firm. The United Center was privately funded with loans from First Bank of Chicago totaling $140 million and $35 million in equity from the Bulls and Blackhawks. Other privately owned facilities have placed debt through Wall Street. Large institutions generally prefer private placements where the debt is no more than 60% of the facility value. Uniting ownership of the facility and ownership of the franchise, as in the case of the United Center, creates a successful venue.

Privately financed does not necessarily mean financed by the franchise ownership. Many public-private ventures tout naming rights and corporate purchase of luxury suites as private investments. Private investment may also take the form of corporate citizens contributing, either overtly or through foundations, to the development costs. Eli Lilly and the Allen-Bradley Company are examples of corporate citizens making substantial contributions toward the cost of the TWA Dome and the Bradley Center, respectively.

**Facility Revenue Streams**

Generally, privately placed debt is backed by revenues generated from the facility such as naming rights, personal seat licenses (or PSL’s), branding rights, club seats, luxury suites, advertising and possibly the franchise. Pro Player Stadium was initially financed with a pledge of the Miami Dolphins franchise. Because of the frequency with which certain revenues are pledged to secure debt financing, the phrase contractually obligated income (COI) has been

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17 Petersen, p. 96.
19 The Bulls ranked fifth in the NBA in venue revenue according to Financial World.
20 Petersen, p. 98.
coined to identify them. The emergence of COI also directly alters the facility design. The desire of team owners to maximize venue revenues has created amenities which elevate the facility to a “massive entertainment center.”^21 In fact, newer facilities are replete with such an abundance of entertainment and dining choices that they are often open all day, even on non-game days, suggesting that team owners want the facility to be the attraction as much as the team. The various types of COI derived from the newer venues are outlined below:

**Naming rights or sponsorship equity** Naming rights agreements give an entity the right to name a facility in return for payments to the facility owner or tenant. These rights are purchased for the potential media exposure during televised events. Sponsorship equity is generated through the sale of servicing rights.\(^2^2\) It may help the reader to think of sponsorship equity as a form of “junior” naming rights. The Fleet Center, TWA Dome and Coors Field are examples of facilities utilizing naming rights. Typical naming rights deals can generate between $1 million and $3 million per year for as long as 30 years.

**Personal seat licenses (PSL’s)** PSL’s entitle the purchaser to buy tickets for particular seats. The term of the PSL and the price varies across teams. The use of PSL’s enables the facility owner or tenant to obtain up-front money, even in advance of the opening season. The Carolina Panthers successfully raised over $140 million through the sale of PSL’s.\(^2^3\) After the fact, they discovered that PSL revenue was taxable as income when received. Because the

payments were received in advance, the tax liability was significant. The San Francisco Giants will also employ PSL’s for the new ballpark at China Basin. The cost of the PSL’s for the Carolina Panthers ranged from $600 to $5,400. After the purchase of the PSL, the holder was still required to pay for season tickets. The escalation in the cost of acquiring PSL’s and tickets suggest that the economic status of the patron is shifting to a more affluent group. This shift could translate into the greater potential for patron spending inside as well as outside the facility and might also suggest that malls and other retail centers could survive outside the stadium.

**Luxury suites and club seats** Suites and club seats are premium ticket revenues. Premiums are generally paid annually in addition to the price of a ticket and entitle the purchaser to special seating. Suites and club seats are generally serviced by wait staff. The seats are larger and generally separated from the rest of the seating. Suites are usually located in a ring around the playing area and may be totally enclosed. Corporations often purchase premium seating for entertaining clients, creating a decidedly business-like crowd at events. Corporate purchasers of luxury suites or club seats may prefer to lease nearer the facility, when considering new office space, suggesting that adjacent development of office space is encouraged by this trend.

**Miscellaneous** The new revenue streams also include the sale of branding rights (exclusive rights to sell certain concessions, also known as vending rights or pouring rights), interior advertising in view of television cameras and entertainment amenities. The interior

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25 Carolina Panthers Media Guide.
design of facilities has also been modified to include team sportswear stores, restaurants and theme bars. With each new development, owners and designers are adding more unique revenue generating amenities. The inclusion of amenities within the facility may reduce the likelihood of similar uses locating adjacent to the stadium or arena.

**Economic Impacts Of Municipal Investments In Sports Facilities**

Many people have researched the topic of sports facilities as municipal investments. Critics of municipal investment in sports facilities argue from a regional economic point of view. For example, Nunn and Rosentraub contend that professional sports is a small industry in the scope of a larger metropolitan economy. In counties with at least 300,000 residents, employment by professional sports teams or managers represents .06% of the total employment. Payroll for this group represents only .10% of the total payroll. Even considering the impact of related spending, Nunn and Rosentraub argue that the economic impact is negligible.

Rosentraub, et al studied the City of Indianapolis to determine the connection between sports and downtown development. Their conclusions were that the sports strategy followed by the City of Indianapolis was not able to attract a substantial level of other forms of economic activity. They did temper their findings with the statement that absent this strategy, the economic fortunes of the city may have declined precipitously.

Robert Baade, an outspoken critic of municipal investment in professional sports facilities, tested the economic development potential of professional sports. In one of his studies,

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27 Nunn and Rosentraub, pp. 7,9.
he concluded that there was no significant relationship between the presence of a sports team and real, trend-adjusted, per capita personal income growth. However, the objective evidence from Baade and others does not sway the herd mentality of municipalities to continue giving team owners what they ask for in new facility negotiations.

Economists and professional consultants propose another point of view. Michael O’Sullivan, a principal with Arthur Andersen, believes that the economic impact of a professional sports franchise must be compared to the impact of a relocating business. He believes that some sports investment is good and some is not. He urges that the analysis cannot be oversimplified. He views sports investment as discretionary, not essential, and that cities should make sure that essentials, such as schools and infrastructure, are solid before considering sports investments.

The conclusions of Baade and Rosentraub are debatable. Proponents of facility development argue that the presence of the team adds to the attraction of a city from a tourism point of view. Laurence Baer, Executive Vice President of the San Francisco Giants argued this point in explaining the defeat of bond referendums for their new ballpark. Baer stated that a survey of the Giants patrons revealed that one-third of their fans come from outside the Bay Area. John Harrington of the Red Sox echoed these sentiments in comments on a local sports talk show. He cited a team conducted survey which showed that the Red Sox were the number one tourist attraction in Boston, drawing 800,000 tourists from outside the Boston area. Regardless of the objectivity, the point of these studies is that a substantial portion of the patron

revenues represent net inflows to the community. The presence of the team and their facility creates the demand from outside the area. Baade and Rosentraub argue strongly that the patron revenues are not net inflows, but a re-distribution of entertainment spending from residents that would have gone elsewhere within the community assuming that there was no team present. It seems that municipalities have agreed with the team’s opinion that new dollars are pulled into the community rather than re-distributed, as certain economists argue.

In a lecture at Harvard University, Marc Ganis of Sportscorp, LTD argued that, when facility funding is turned over to a ballot initiative, if the fanaticism of the fans overlooks fiscal responsibility, this unique interaction of loyalty and fiscal responsibility can make for uneconomic decisions when it comes to public sector financing. Dean Baim quotes Adam Smith in his well known text, *An Inquiry into the Nature of Causes of the Wealth of Nations* in stating that a legitimate role of government is to provide,

> “those public institutions and those public works which, though they may be in the highest degree advantageous to a great society, are, however, of such nature, that the profit could never repay the expense to any individual or small number of individuals, and which it therefore cannot be expected that any individual or small number of individuals should erect or maintain.”

The problem here is that in funding Smith’s public good, it is difficult to determine if the tangible and intangible benefits to the fan and the community outweigh the economic benefits to the team.

Economists are decidedly split on the economic impact of sports facilities as municipal investments. Despite the lack of a consensus, municipalities and state governments are taking

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risks by investing huge sums in new venues. They are pushing debt limits at the possible expense of other community services. Private sources invest alongside in order to tap into the rapidly escalating revenues available from the facilities. As ownership and control of the facility and the surrounding real estate are separated, facility owners begin to provide services within their walls that were previously available outside but adjacent to the facility. Has this shift in design increased traffic to the facility and improved overall values around it or has the facility soaked up all potential adjacent spending? In the next chapter, I examine the recent trends in the facility development issues of siting and architectural design and the interaction of financing structure with these issues.
Chapter Four: Facility Development Issues

Chapter Three discussed the economics of facilities, specifically the mechanisms employed by the public and private sectors to finance sports facilities as well as the economic benefits and impacts of sports facilities. In this chapter I discuss the recent trends in the facility siting, architectural design and amenities and the influence of financing structure on these issues. The issue of location is also one of the more controversial facility development issues. The recent failure of the New England Patriots to develop a privately financed stadium in underutilized land in South Boston suggests that the concept of NIMBY, (not in my back yard), may apply to sports facilities as well as nuclear power plants, prisons, and landfills. This chapter examines the choice of an urban or suburban facility site and the role that the financing structure of the deal plays in this choice. I also examine the recent trends in facility design. This includes the use of luxury suites, club seating, facility contained restaurants, and other revenue generating mechanisms. The importance of these amenities is used to establish the framework for the examination of the interaction between financing and internal facility design, and financing and surrounding developments, which will be addressed through quantitative analysis in Chapter Five.

The siting choice for a sports facility is one of the most important factors in the success or failure of the project. Similar to almost all other forms of real estate, the mantra, “location, location, location” is applicable. The siting of sports facilities has changed dramatically in the past five years. The hypothesis is as follows: the siting choice for a facility is directly attributable
to the amount of public versus private financing. The greater the amount of public financing, the more likely that a facility will be located in an urban setting. Underutilized land or urban renewal locations often serve as facility sites when public funding is involved. When publicly financed, sports facilities are often used as catalysts to spur development in the areas surrounding the location of the facility.

The success of Oriole Park at Camden Yards (1992) in an urban setting broke the trend of suburban ballparks over the last thirty years. While this trend included all baseball and football facilities, it also was evident in many basketball arenas. The Palace at Auburn Hills, the Arco Arena, and The Charlotte Coliseum were all arenas located in suburban locations and built during the last ten years. Camden Yards was financed 100% by the public including site and infrastructure improvements. Coors Field (1995) and Jacobs Field (1994), financed 93% and 100% by the public, respectively, followed the urban location trend. A contrary example is the Ballpark in Arlington (1994), which features the greatest amount of private financing (29%) of the baseball facilities constructed in the 1990’s, which is in a suburban location. For football facilities, the TWA Dome in St. Louis, the Baltimore facility under construction and the proposed Cleveland facility are located in urban districts. The Baltimore and Cleveland facilities are located in close proximity to the baseball facilities in these markets. Each of these projects is financed primarily by the public. The most recent privately financed football facilities, Pro Player Park in Miami and Jack Kent Cooke Stadium in Raljon, Maryland, are all located in the suburbs. Land costs, an important consideration, are less expensive in the suburbs and therefore reduce development costs for the privately financed facility. Ericsson Stadium in Charlotte is the single exception to this trend. Located in the heart of the city, Ericsson Stadium was privately financed. However, the City of Charlotte leases the land to the Carolina Panthers at a cost of...
$1.00/year, effectively publicly financing the land portion of the development.

The issue of infrastructure is a significant consideration when selecting a site. While urban land locations may be more expensive to purchase, these locations most often have infrastructure in place including roads, utilities, parking, and most importantly access to public transportation. If the urban location does not have adequate infrastructure, the infrastructure improvements are usually publicly financed as an additional incentive to encourage the development of the urban site. The Fleet Center and Coors Field are examples of urban locations which have publicly financed infrastructure improvements. The suburban locations, while less expensive, often require significant infrastructure improvements including the construction or modification of roads and utility services, and the development of parking facilities. In many cases, these costs may outweigh the reduced cost of suburban land. Furthermore since the suburban facility site is more likely to be privately owned, public subsidies for infrastructure improvements are not likely to be available. Why do some franchises insist on suburban locations? An answer maybe that these franchises develop facilities that attempt to internalize the amenities that surround an urban ballpark. This effort begins with the design of the facility. To understand this effort, I now examine the design of certain representative urban sports facilities.

Camden Yards features an architectural design often reminiscent of the former Ebbets Field in Brooklyn. Camden Yards is considered the model for a successful urban ballpark. Although Comiskey Park opened one year earlier, and was located in an urban setting, it is isolated by the parking lots that surround the stadium. An existing urban neighborhood was cleared out to accommodate some of the 6,000 adjacent parking spaces. For this reason, Comiskey Park is developing a reputation as a white elephant among the new urban ballparks.
Attendance has declined since the opening year of the park despite the competitiveness of the park’s tenant, the Chicago White Sox. During the summer of 1987, an executive of HOK Sport, a leading architectural firm that has designed many of the newest facilities, when speaking about the design of Chicago’s new Comiskey Park contended that it did not make sense to design facilities in proximity to low income housing and unrelated commercial activities.\(^{32}\) Within 18 months, the same executive reversed his course when discussing the design of Camden Yards and said,

“When you design something as emotionally significant as a Major League baseball park, you don’t start out with a blank sheet of paper, you start out with the city.”\(^{33}\)

Camden Yards started the trend of the return to urban sited ballparks, followed by Jacobs Field in Cleveland and Coors Field in Denver. The goal of these developments was to recreate the ambiance of the original urban ballparks: Wrigley Field in Chicago, Fenway Park in Boston, and Tiger Stadium in Detroit. However, these “classic” parks are located within neighborhoods that include residential, commercial, and civic buildings. The classic parks were built up to the street, to the edges of their property lines and were shaped in part by the physical constraints of the urban blocks in which they are located. New baseball facilities, on the other hand, are program driven and therefore not constrained by city blocks. The program is the provision of luxury seating, team facilities and broad concourses. Building footprints tend to be 40-70% larger with a 500 percent greater interior area than their predecessors. The new structures tend to be 30-40 feet taller than the previous generation. Rather than being located in neighborhoods, they tend to be located in underutilized land. For example, Camden Yards and Coors Field


which were formerly railroad yards.

The successful architectural design of a facility incorporates the favorable attributes of a site into the design to enhance both the spectator’s experience and facility revenues. Keeping with the desire to recreate the urban ballpark setting, architectural design for sports facilities, especially baseball facilities, has attempted to recreate the classic ballparks. As facility or venue revenues become a greater percentage of overall revenues for franchises and as development costs increase, the architectural design of a facility assumes a greater importance than simply improving facility aesthetics.

Architectural design for sports facilities can be described by two approaches; the “Classic” approach and the “Modern” approach. These terms address the aesthetics of the facility in terms of the facade and seating capacities, not the overall design of the facility. All new facilities are modern in terms of amenities including improved seating angles and reduced distance from the playing field, increased numbers of concession stands and restrooms, improved handicapped access, and wider concourse and circulation areas. The classic approach dominates the recent development of baseball stadiums. To date, football stadiums and basketball arenas have been exclusively designed with the modern approach. The proposed Indiana Pacers arena will be the first basketball arena to adapt the classic approach with a concept of field house design. The classic approach rejects the use of steel and other high-tech facade materials and is characterized by the use of masonry materials for facades. Camden Yards, Coors Field, Jacobs Field, and the Ballpark in Arlington are all examples of the classic approach. Ebbets Field, the home of the Brooklyn Dodgers before they relocated to Los Angeles is the model against which the classic approach is judged. The new Comiskey Park is the last example of the modern architectural approach in baseball facilities. This generation of facilities, known as the cookie
cutter approach and built during the 1960’s and 1970’s, includes Shea Stadium, Busch Stadium, Cinergy Field, Three Rivers Stadium and 3Com Park. It is no coincidence that the teams that play in each of these facilities are seeking new ballparks or football stadiums.

Baseball facilities, in particular, have become smaller and more elegant. While bigger may be better in many sectors of real estate development, many new baseball facilities have been scaled down in terms of seating capacity compared to their predecessors. The Cleveland Indians for instance, moved from Cleveland Stadium, also known as “the mistake by the lake,” with its capacity of over 80,000 to Jacobs Field with a capacity of 42,000. New football facilities have remained relatively the same in terms of seating capacity when compared to their predecessors. Basketball facilities have increased their seating capacities with the Fleet Center, the United Center, and the Rose Garden illustrating this trend. The increase in capacity of basketball facilities is directly related to the success of the National Basketball Association (NBA) in the past fifteen years. The new basketball facilities are replacing smaller facilities that were adequate in terms of capacity when they were built and the NBA was considered a third-tier sport behind baseball and football.

While the trend in seating capacities varies according to the type of facility, the trend in luxury suites and club seating is consistent. Luxury suites and club seating are on the increase for all types of facilities. Returning to the Cleveland example, Jacobs Field contains 125 luxury boxes and 2,400 club seats while Cleveland Stadium had none. When a facility is labeled as economically obsolete this label most often applies to the amount of luxury suites in the facility. In basketball arenas in particular, the lack of luxury suites and club seating has made the homes of the Charlotte Hornets, Miami Heat, and San Antonio Spurs, all developed within the last ten
years, economically obsolete.

Architectural design for sports facilities is divided into two areas: external and internal. The design goals for each of these areas can be similar in many respects, but vastly different in others. External architectural design focuses on the relationship of the facility to its surroundings and the establishment of the atmosphere to draw the patron inside the facility. The classic urban ballpark designs of Camden Yards and Coors Field are excellent examples of these design principles. The playing field at Camden Yards is below street level. This reduces the above grade height of the ballpark to five stories from seven stories, and enables Camden Yards to compliment the neighboring buildings. The brick facade of Camden Yards replaces the steel edifices that characterized the 1970’s cookie cutter parks and enhances the classic atmosphere of old time baseball. This design accomplishes the goal of linking the ballpark with its surroundings. Once inside the facility, the internal architectural design exerts its influence. While the visible focus of the internal design seems consistent with the external design focus of the development of the classic ballpark, another interior design principle is in direct conflict with the exterior design focus. While the exterior design focuses on integrating the ballpark with its surroundings, the interior design focuses on isolating the ballpark from its surroundings. In this case, isolating does not refer to location, but rather to capturing the patron’s dollar, or venue revenue.

In terms of maximizing facility or venue revenue, interior architectural design focuses on four major areas: viewing locations, premium seating, concession, and advertising opportunities. A successful interior design maximizes the seating capacity in preferred viewing locations. In baseball this is behind home plate, in football, near the fifty yard line, and in basketball, in

proximity to center court. Premium seating is offered in many varieties with a successful design. Luxury suites, skyboxes, and club seating are all located in preferred viewing areas to appeal to the higher end of the spectator market. Concession revenue is maximized with a successful design. The optimum ratios of linear feet of concession counter space and points per sale per thousand attendees maximize revenue from food and beverage sales. In Ericsson Stadium, there are over 50 concession stands. In contrast, Bradley Arena has 14. Advertising revenue is another critical source of venue revenue. The design should incorporate dedicated locations such as scoreboards, time clocks, videoboards, aisle entrances and exits, and concourse walls, all with prominent visibility by fans, as advertising opportunities.

The tables that follow list the top five teams in terms of venue revenue for the 1995-1996 season and the year the facility opened or was most recently renovated. Venue revenue includes revenue from the rental of luxury suites, concession sales, parking, and advertising. Venue revenue does not include gate receipts or one-time revenues from the sale of personal seat licenses.

<table>
<thead>
<tr>
<th>Baseball franchise</th>
<th>Venue Revenue</th>
<th>Year Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas Rangers</td>
<td>$25,500,000</td>
<td>1994</td>
</tr>
<tr>
<td>Colorado Rockies</td>
<td>$23,900,000</td>
<td>1995</td>
</tr>
<tr>
<td>Cleveland Indians</td>
<td>$22,900,000</td>
<td>1994</td>
</tr>
<tr>
<td>Los Angeles Dodgers</td>
<td>$22,000,000</td>
<td>1963</td>
</tr>
<tr>
<td>Baltimore Orioles</td>
<td>$21,400,000</td>
<td>1992</td>
</tr>
</tbody>
</table>

*Source: Financial World*

For ballparks, four out of the five (80%) venue revenue leaders have been built within the last ten years and three out of five (60%) of these facilities were developed with some form of private financing.
Maximizing venue revenue may directly conflict with encouraging economic development around the facility. For privately financed facilities, this is a favorable condition. The private sector has taken the risks of financing the facility, and in turn, it will reap the rewards of its investment. For publicly financed facilities, this is an unfavorable condition. The return to the public sector is diminished when economic development surrounding the facility does not take place. Therefore, it would hold that the interior design features of a publicly financed facility should not maximize venue revenue. This hypothesis could be extended so that any interior design feature that attempts to maximize venue revenue, i.e. luxury suites, club seating, etc., should be privately financed or the public should receive a portion of the proceeds of these amenities. In most cases, the public sector has not negotiated this concession from franchise owners. In some cases such as the Ballpark in Arlington which was financed either with a greater percentage of private financing, the number of concessions, luxury suites, club seats, and ultimately venue revenue greatly exceed their publicly funded counterparts. This concept has been practiced quietly for some time. Dodger Stadium, the only facility with the top venue revenues that have not been built from the ground up in the last 10 years, was privately financed and is privately owned.

Concluding this section, it is clear that a number of trends are emerging. First, the siting choice for a facility is directly related to the percentage of public financing in the deal structure. The greater the percentage public financing, the more likely a facility will be sited in an urban location. Second, the amount of infrastructure improvements required for a site can often offset the reduced acquisition cost of the land. In the case of urban sites requiring infrastructure, the infrastructure is often included as an incentive in the deal structure. Third, while trends in facility capacity vary with facility type, the provision of premium seating is increasing for all facility
types. Fourth, architectural design is critical to the success of a facility from a revenue standpoint as well as a spectator standpoint. The reversion to a classic style of facility is overwhelmingly popular with baseball facilities and is making inroads in the development of basketball and football facilities. Fifth, venue revenue for new facilities are generally greater than venue revenue of older facilities and finally sixth, privately owned and financed facilities must increase venue revenues to provide a return on their investment. Individually, three of these trends form the theories that represent the first half of the foundation for the thesis. When linked together, they form a final theory that is the second half of the foundation. These theories are as follows:

1) There is a relationship between financing structure and facility siting.
2) There is a relationship between financing structure and facility design.
3) There is a relationship between financing structure and venue revenue.
4) Together, these relationships influence surrounding real estate.

Up to this point, I have laid the groundwork for the thesis by exploring the explosive growth in sports facility development, examining the economics of facilities and their impact, and discussing the recent trends in facility siting, design, and financing structures. I have presented theories about the influence of public and private financing structures on sports facility siting and design. In the next chapter I examine these theories quantitatively and extend the analysis to the real estate surrounding these facilities. Through regression analysis, I examine the impact of siting, financing structure, and design on surrounding real estate. Each of these issues become variables and their interactions are examined to determine their individual and collective impacts.
Chapter Five: Regression Analysis

The previous chapters have provided an overview of recent facility design and economics. Throughout, I have suggested interrelationships between financing structure, siting and design and the effect of those variables on the local real estate. In this chapter, I will test data collected for selected facilities and markets through regression analysis. I attempt to substantiate the earlier conclusions while exploring other interrelationships produced from this analysis. The final product of the regressions is an econometric model that could be used to predict the local impact of a sports facility.

With twenty-five professional facilities constructed in the last ten years, covering twenty real estate markets and twenty-four submarkets, the sample set is small. Upon examination of the deal structures for each of these facilities, I chose to narrow the sample further. I limited the data set to facilities developed within the last ten years that replaced existing facilities, excluding those facilities located in Canada. I have excluded facilities that were developed for expansion teams and teams that have relocated from one market to another. The rationale behind this decision is the belief that the development of these facilities was not a “market deal.” Cities that have attracted expansion or relocating franchises have often offered facility packages that dramatically exceed the typical deal offered to existing franchises. In most cases, this package includes developing the facility with 100% public financing. I excluded facilities developed in Canada because differences in governmental involvement and lack of available data could bias the results.
The independent variable in the regression was the measurement of the real estate impact. I obtained this variable by surveying real estate professionals within each market. The “Real Estate Survey” requested the respondent’s opinion of the performance of the market, submarket and local zone. Local Zone has been defined as the area within walking distance of the stadium or arena. Potential respondents to the survey included commercial real estate brokers, researchers, appraisers, developers and other real estate professionals. I polled at least one professional in each market. The survey covered a respondent’s assessment of market rents, land prices and development/redevelopment activity for four product types: retail, residential, office, and industrial (See Exhibit). The respondent assessed the change in rents or activity by selecting the survey answer that described the change. The possible answers for the change were: negative, no change, minimal (<5%), moderate (5%-10%) and strong (>10%). For the purpose of evaluating the answers, each response was assigned a score on a “1 to 5” scale, with a score of “1” for a negative change and a score of “5” for a strong change.

The responses from each survey were tabulated and a comparison of the Market, Submarket and Local Zone was undertaken to determine how the local rents compared to the overall market. For example, if the local zone scored a “4” (moderate impact: 5%<=10% increase) versus a “3” (minimal impact: 1%<=5%) for the facility submarket, the result would be “+1.” I term a positive result as Bonus Rent, while negative results represent local zone underperformance. A result of “0” is defined as no significant differential between the market and local zone. The independent variable utilized in the regression is the mean score of all the property types within the submarket subtracted from the mean score for the local zone.

I recognize that there are drawbacks associated with the use of this variable as a proxy for the impact of a facility on the surrounding property. The survey has shortcomings in that it relies
solely on the “expertise” of one market participant and that the survey methods and questions are qualitative and subjective in nature. Depending on the participants and their motivations, the variation in responses could significantly impact the results of the survey. In the future, to compensate for these shortcomings, the survey could be administered to a broader range of respondents to achieve an average market performance. Survey responses falling out of a certain range could be excluded from the results.

The initial attempts at collecting “objective” real estate market specific information were not met with complete success. I began the data collection by utilizing the research infrastructure of national brokerage firms. Two major issues with these national firms is that they 1) did not cover all geographical markets and submarkets in the sample and 2) do not consistently cover all product types from market to market. The issue of market and product coverage cannot be easily solved. Real estate data, especially retail and residential data, is not typically broken down at the submarket level. Additional proxies that could be used for the independent variable are building permits around the facility, property tax assessed value increases over two time periods and sales tax collections before and after the introduction of the facility. To the best of my knowledge, these potential variables are also noisy and are not readily available.

I selected five dependent variables representing design, siting and financing. The design variables assist in measuring the degree of internalization of patron revenues, as well as the aesthetic design of the facility. Two variables were used to explain the internalization philosophy: (i) PREMIUM, the total number of club seats and luxury suite seats, and (ii) SEAT/CON, the number of seats per concession stand. The remaining design variable (DESIGN) encompassed both the internal design of the venue from a spectator’s point of view as well as the external appearance of the facility. The variable was represented in the data as the
“overall assessment” from the expert survey. It is unclear which aspect of the design, the internal or external, weighed more heavily in the respondent’s assessment. The financing element was measured by %PRIVATE, the private financing expressed as a percentage of total development costs. The importance of siting was measured through the dummy variable, URB/SUB, with zero assigned to urban and one to suburban.

PREMIUM, the seating dependent variable, is described as the total club seats in a facility plus the total number of suite seats (# of suites x average # of seats per suite). I assumed a universal average of 12 seats per suite. The expected sign of this coefficient is negative. The rationale is that the presence of club seats and luxury suites in the facility reduces the likelihood that patrons will entertain or dine outside the facility, reducing the spillover to the surrounding real estate. This variable is not an exact measurement of premium seating due to the assumption that each suite contains 12 seats, regardless of venue. Future researchers could quantify this variable for each specific facility to develop a more exact figure.

SEAT/CON, the seats-to-concessions ratio, is calculated by dividing the maximum seating capacity of each facility by the number of permanent concessions (i.e. food and alcohol). Restaurants, team stores and bars are not included in this ratio. The logic in using this variable is that concession stands represent the owner’s desire to internalize patron spending, and by including more stands, they become more convenient and offer a wider variety of foods, reducing the likelihood of additional food spending outside the facility. The expected sign of this coefficient is positive. A positive coefficient means that there are more seats per concession, representing less of a degree of internalization. Concession figures and seating were abstracted from numerous sources, including the Internet, books, studies and interviews.
DESIGN, the dependent design variable, was derived from a second survey I designed and administered. This survey was developed to rank each facility based on certain internal and external design criteria. These criteria included: Access (Location), Food, Sight Lines, Seating, Exterior Design and an Overall Assessment. A “1 to 5” scale was also utilized for this survey with similar definitions for each ranking, with “1” being the worst and “5” being the best score. Surveys were delivered to a wide range of potential respondents, which included sports franchise representatives, design and architecture professionals, stadium consultants, engineering professionals and finance professionals. Responses were then tallied and averaged for each facility and the resulting score incorporated as the DESIGN variable in the regression model. A higher score from the survey represents a “better” or more architecturally significant design which should have a positive impact on the local real estate. Accordingly, the expected sign of this coefficient is positive.

The design survey allowed me to poll a range of sports facility professionals to determine how each facility compares to others within their sport or across sports. However, due to the qualitative nature of the survey, caution should be taken when analyzing the results. The respondent pool consisted of persons who had “vested interests” in certain projects in the survey. The survey may suffer from selection bias because of a respondents tendency to have a “my child is cuter than your child” mentality, with respect to their projects versus the competitors. Difficulties will always be present in selecting respondents, but future researchers should be cognizant of these issues and attempt to eliminate potentially-biased respondents.

%PRIVATE, the financing variable, quantifies the amount of private financing in each sports facility financing deal. This variable is a critical component of the analysis. The expected sign of this coefficient is negative, with the hypothesis that the owners of a privately financed
facility will attempt to internalize the revenue producing components, which will limit real estate activity around the facility. The methodology for collecting data included first determining the total development costs for each project. Figures for construction cost and financing percentages were acquired from many sources, including economic impact studies, newspaper articles, press releases, books and various Internet web pages. A “private financing” percentage was derived simply by dividing the privately financed portion of development costs by the total development cost. Private financing includes equity investments by team owners, private debt, club seat and suite revenue, advertising revenue, as well as other sources.

URB/SUB, the location dependent variable, defines the siting of the facility. The categorization of each facility was determined based on research and the writer’s knowledge of stadiums and arenas. Each facility was assigned a “0” or “1,” with a “1” being assigned to suburban sites and a “0” being assigned to urban sites. The expected sign of this coefficient is negative. The interpretation of this is that urban locations will have a greater impact on surrounding real estate. Census information and classifications were not utilized for classification purposes, but could be used for future research.

Regression results

The regression produced the following table:

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Coefficient</th>
<th>t Statistic</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREMIUM</td>
<td>-0.000168136</td>
<td>-3.927248238</td>
<td>0.002832845</td>
</tr>
<tr>
<td>SEAT/CON</td>
<td>0.000620932</td>
<td>3.102950811</td>
<td>0.011194254</td>
</tr>
<tr>
<td>URB/SUB</td>
<td>-0.788693052</td>
<td>-2.264199937</td>
<td>0.047031779</td>
</tr>
<tr>
<td>DESIGN</td>
<td>0.245447817</td>
<td>1.246962590</td>
<td>0.240826233</td>
</tr>
<tr>
<td>%PRIVATE</td>
<td>-0.310406800</td>
<td>-0.985570041</td>
<td>0.347589368</td>
</tr>
<tr>
<td>Intercept</td>
<td>-0.723449020</td>
<td>-0.973203868</td>
<td>0.353404410</td>
</tr>
</tbody>
</table>

R Squared = .80
The negative coefficients for PREMIUM, URB/SUB, and %PRIVATE indicate that a facility with an urban siting, a low number of premium seats and a low percentage of private financing is likely to produce bonus rents. The positive coefficients for SEAT/CON and DESIGN indicate that a large number of seats per concession stand and an architecturally significant are likely to produce bonus rents. It is noteworthy that the PREMIUM, SEAT/CON and URB/SUB came through as the most significant variables.

The number of premium seats (PREMIUM) appears to have the greatest impact on the local rents. The Ballpark in Arlington (MLB-Rangers), United Center (Bulls), and Pro Player Stadium (Dolphins) have the most premium seats. The local market rents around these stadiums lagged the submarket rents by between 5% and 15% according to the survey scoring system. The number of seats per concession stand also has a tremendous impact on the bonus rents. This variable was the highest for the Georgia Dome followed by Camden Yards, both of which have produced bonus rents, according to the survey.

The design survey score comes through the results with a moderate level of significance. Given the subjective nature of the survey and the fact that the survey addressed both internal and external design, it is unclear whether the respondent was rating the facility based on its exterior appearance or based on the quality of the event experience. These viewpoints may have produced offsetting results. This subjectivity may explain why this variable did not come through as significant as the other design variables. A regression with design as the dependent variable and age as the independent variable showed that the design score was higher for the

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35 A more detailed discussion of the Ballpark in Arlington follows in Chapter Six.
newer facilities.36

The private financing variable did not come through as strongly as expected. However, given the recent trend described in Chapter Four regarding the incorporation of premium seating into all facilities, regardless of financing, and the strength of this variable in the results, the low significance is not surprising. The theory mentioned in Chapter Four regarding the lack of economic underwriting of recent publicly financed facilities may also be supported by the regression results.

The third prong of the thesis, the siting issue, showed up significantly in the measurement of bonus rents. The dummy for siting was significant and negative, meaning that facilities sited in urban location have a much greater potential for bonus rents. A review of the data suggests that the result may be an indictment of suburban locations as much as an endorsement of urban locations. Once again, Ballpark in Arlington and Pro Player Stadium, both located in the suburbs, with lower local rental performance contribute to the strength of this variable. To this list of suburban underperformers, the Palace at Auburn Hills and Arco Arena in Sacramento are added. The story behind Arco is chronicled in Chapter Seven.

The results indicate that the inclusion of luxury suites and club seats as well as a high number of concession stands per seat has historically reduced the positive impact of the facility on the adjacent rents. However, selecting an urban location and designing the facility to maximize the viewing experience while providing a pleasing external appearance may minimize the effect of the premium seating. The method of financing, whether or not the public funds the majority of the cost, appears to be of some importance but may be declining as facilities financings trend toward a greater percentage of private investment. This outcome may have been

36 The equation for this regression was: DESIGN=3.955 – 0.1202 AGE. The t-Statistic for AGE is -2.119.
generated from the standardization of premium seating in the newer venues, regardless of the financing source. In the following chapters, I take a closer look at two specific facilities in each sport. In these studies I will explore the impact of each facility on the surrounding real estate from a qualitative standpoint. In the final chapter, I will merge the qualitative observations with the empirical output from this chapter to form the basis for the conclusions.
Chapter Six: Case Studies - Baseball Facilities

Beginning with this chapter I examine case studies of recently developed sports facilities. The principles and findings of the first five chapters are applied to the discussion of the cases. In order to examine a variety of development scenarios, I have selected examples that use all public or all private financing, public/private partnerships, urban locations, suburban locations, retro-designs and modern designs. The case studies focus on five major issues; site analysis, the planning and selection process, building analysis, economics, and effects on the surrounding real estate market.

Baseball stadiums or ballparks, as they are popularly called, have experienced a return to their roots through the reemergence of the classic or retro design approach. The goal of this approach is to recapture the romance of the urban ballpark as seen in the movie, *The Natural*, and as illustrated by Wrigley Field, Tiger Stadium, and Fenway Park. From an economic standpoint, ballparks theoretically should impact their surroundings more than any other form of sports facilities because of the number of dates that they will be used; at least 81 per year. This compares to approximately 10 games per year in football stadiums and approximately 40 games per year in basketball-only arenas. In recent years, ballparks have been built predominantly in urban sites. Oriole Park at Camden Yards, Jacobs Field, Coors Field, and Comiskey Park, all follow this trend. The Ballpark in Arlington is the lone suburban ballpark in the last ten years. The proposed ballparks also tend to be sited in urban settings. Parks in Detroit, San Francisco, and Seattle will be located in urban settings. Miller Park, the future home of the Milwaukee Brewers will be located in a suburban setting despite the encouragement of the city of
Milwaukee and the State of Wisconsin to locate in downtown Milwaukee. For the examination of baseball facilities I have selected Oriole Park at Camden Yards and The Ballpark in Arlington.

**ORIOLE PARK AT CAMDEN YARDS**

*Introduction*

Oriole Park at Camden Yards (Camden Yards) is often sited as the sports facility that has redefined the state-of-the-art. “Once this opens,” predicted then Commissioner of Baseball Bart Giamatti, “everyone will want one like it.” After experiencing Camden Yards conceptual breakthrough, one thing is certain; if you build it, they will copy. Camden Yards is actually a multi-phase project. Phase 1 is the construction of the baseball facility; Phase 2 is the construction of a football facility for the Baltimore Ravens.

Camden Yards replaced Memorial Stadium which had been home to the Orioles since they entered the American League in 1954. Memorial Stadium, while structurally sound, was
economically obsolete. Memories of the loss of the Baltimore Colts to Indianapolis were fresh in the minds of local and state officials as they approved the use of public funds to satisfy the club’s demand for a new facility.

**Site Analysis**

The complexities of the 85 acre urban site were evaluated and resulted in completion of a master plan, which assured the integration of the ballpark into the existing historic urban context. The relative adjacency of the site to Baltimore’s Inner Harbor Development, (see map below) along with the existence on-site of the historic Camden Railroad Station and the B&O Warehouse buildings, provided a unique and challenging element to the planning process.

The infrastructure servicing Camden Yards is vastly superior when compared to Memorial Stadium. The location is just blocks from Baltimore’s Inner Harbor and is accessible from both Interstate 95 and the Baltimore-Washington Parkway, I-295. Public transportation options include the MARC train from Washington’s Union Station, 24 city bus routes, and a
light rail system. There is onsite parking for 5,000 cars with parking for an additional 14,000 cars within walking distance.

**Planning and Selection Process**

The construction process at Camden Yards took 33 months. Construction began in June 1989 and was completed in time for opening day on April 6, 1992. The leading advocate of the Camden Yards site was Maryland Governor William Donald Shaefer. Interestingly, Governor Shaefer was mayor of Baltimore when the Baltimore Colts football team relocated to Indianapolis.

The selection of the Camden Yards site was controversial. In an article titled, *A Bad Idea for Baltimore*, Senator Julian L. Lapides from Baltimore predicted that at least 1,600 jobs located in Camden Yards would disappear, the city’s tax base would shrink, and local real estate taxes would rise, if the land was acquired for the construction of sports facilities. At the time, Camden Yards was an industrial park. On the opposite side of the issue, the Maryland Stadium Authority said the stadium should have as much impact on its neighborhood as Harborplace, a cluster of shopping pavilions built by Rouse Co. in 1981, has had on the Baltimore waterfront. The proposal to locate a ballpark in an urban setting was in direct conflict with the trend of the last thirty years to locate sports facilities in suburban locations.

**Building Analysis**

Camden Yards was designed by the firm of HOK Sport, the architects of the urban ballparks at Coors Field in Colorado and Jacobs Field in Cleveland. The design concept of Camden Yards focuses on a traditional or classic baseball theme. The stadium facade is

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composed of brick arches with steel trusses to emphasize the traditional field. The ballpark is asymmetrical in design, similar to the classic ballparks at Fenway Park, Wrigley Field, and Ebbets Field. The site has a special historical significance to baseball as it is only two blocks from the birthplace of Babe Ruth. Early excavations of the site unearthed the foundation of a bar and café operated by Ruth’s parents at the turn of the century.

The playing surface is Maryland Bluegrass. One of the modern innovations at Camden Yards is a state-of-the-art vacuum drainage system designed to keep rain delays as brief as possible. Consistent with the characteristics of a retro-designed ballpark, the outfield dimensions vary from 333 feet in left field to the deepest area at 410 feet in center field and down to 318 feet in right field. The distance from the home plate to the warehouse behind right field is 460 feet. The outfield wall is 7 feet tall except in right field where it is 25 feet tall. The bullpens in left center field are arranged in an unique double-decker tier that allow the fans to see who is warming up to pitch.

Total seating capacity is 48,262 which includes 40,005 general seats, 4,500 seats contained in 75 suites, and 3,757 club seats. There are 26 fixed concession stands, the Diamond Club, which seats 175 in a buffet-style restaurant, and the Camden Club, which is an elegant 375 person capacity fine dining club for members only. The Camden Club is decorated in a traditional setting using rich wood detailing, period lighting, fabrics and furnishings that are reminiscent of a gentleman’s club. Dining is also available at Pastimes restaurant, which is located in the B&O Warehouse and seats 130, and Bambino’s, a sports bar or saloon that offers a more casual dining option. ARA Services operates the concessions and has more than 60,000 square feet of retail space in the ballpark.
Attendance at Oriole games has increased dramatically since the opening of Camden Yards. In the five years prior to the opening, attendance averaged 2,011,000 fans per year. Since the opening of Camden Yards, attendance has averaged 3,622,000 fans per year. This represents an increase in attendance of 80%. Some of this increase is attributable to the success the Orioles have had on the field. Their average place in the standings has increased from fifth to between second and third, and the winning percentage has increased from .429 to .531 over the same period.\textsuperscript{39}

\textit{Economics}

The total cost of Oriole Park at Camden Yards was $210,000,000. The major components of the development cost included construction costs of $79,000,000, land costs and site work of $97,000,000, soft costs of $12,000,000, and redevelopment of the B&O Warehouse into an office building, $15,000,000. It was funded completely through public financing. There is no private equity or debt in this deal. $140,000,000 of lottery proceeds were used as public cash during the construction of the facility. $17,400,000 of taxable Lease Revenue Bonds, Series 1989C were issued by the Authority to pay for the site which includes land for parking and the football stadium. $137,000,000 of tax-exempt Lease Revenue Bonds, Series 1989D were issued by the Authority for facility construction. Both of these securities are backed by an obligation of the State to annually appropriate funds, off-set by lottery revenue.

The lease agreement is for a period of thirty years through 2022. The Orioles make no fixed rental payment to the Authority. In lieu of fixed rent, the Authority receives a percentage of revenues from luxury suites, club seats, concessions, advertising, and parking. The Orioles

also agreed to reimburse the Authority over the term of the lease for the $8,000,000 cost to build the luxury suites. The team also pays an admissions tax of 10% per ticket (8% to the Authority and 2% to the State). Merchandise revenue and stadium club/restaurant revenue are not shared with the Authority in any way. Under this arrangement, total venue revenues for the Orioles in 1995 was $21,400,000, fifth best in the majors.\textsuperscript{41} The Orioles pay all game day expenses and an allocation of administrative costs. The Authority pays all other operating expenses for the stadium and is responsible for capital maintenance.\textsuperscript{42} According to figures released by Maryland Governor Schafer’s office, Camden Yards had a statewide impact of more than $226,000,000 in gross sales, $77,000,000 in employment income and 2,100 full time jobs. The economic impact of Camden Yards was twice as large as originally projected. A city survey completed after the first year of operation of the facility reported $38,000,000 in fan spending at downtown restaurants, hotels, and souvenir stores and $14,800,000 of fan spending in the suburbs. This $52,800,000 compares to $13,300,000 of fan spending in 1991, during the Orioles’ last year at Memorial Stadium.\textsuperscript{43} Total gate receipts in 1995 for the Orioles was $51,000,000, the best in baseball.\textsuperscript{44}

\textsuperscript{40} JP Morgan, pp. 6-7.
\textsuperscript{41} Financial World, 1997 Baseball Valuations.
\textsuperscript{42} Public Financial Management, Camden Yard Lease Abstract.
\textsuperscript{44} Financial World, 1997 Baseball Valuations.
Real Estate

Almost immediately upon the selection of Camden Yards as the site for the new Orioles’ ballpark, real estate activity increased. The site is located only five blocks away from Baltimore’s Inner Harbor, an area that had begun to experience a renaissance a few years earlier. The most visible property from Camden Yards is a 430,000 square foot, eight story brick warehouse built by the Baltimore & Ohio Railroad and owned by the State of Maryland. The warehouse, which had been vacant, now serves as the corporate offices of the Orioles, and includes restaurants, shops, and the offices of the Maryland Stadium Authority. Retail development, especially restaurants, has been strong since the opening of the ballpark. The success of the retail market is not limited to local investors. A Hard Rock Café is scheduled to open near the ballpark during August of 1997. Retail and office rents in the immediate vicinity of the ballpark have increased in excess of the increase in general in the market. There are two proposed hotel developments seeking city approval for development of vacant parcels of land.

In general, the success of Camden Yards from a real estate standpoint, is a result of the extension of the renaissance of the Inner Harbor area. Camden Yards feeds off of the development that has taken place at the Inner Harbor. Camden Yards achieves a synergy with the Inner Harbor developments to extend the success of both areas to a point that would not be possible on an individual basis. The future opening of the Baltimore Ravens stadium adjacent to the ballpark should extend this success. The initial plan to develop two sports facilities on this site helped establish the area as a viable location year round and an important part of the revitalization of Baltimore.
THE BALLPARK IN ARLINGTON

Introduction

The Ballpark in Arlington (The Ballpark) opened on April 1, 1994 and is the state-of-the-art home of the Texas Rangers. The Ballpark is a baseball only stadium and replaced the twenty-eight year old Arlington Stadium which had been the home of the Rangers since their relocation in 1972 from Washington DC, where they had been known as the Senators. In addition to satisfying the Rangers request for a new stadium to remain competitive, the City believes the new stadium will spur real estate development around the site. The Ballpark was built across the parking lot from Arlington Stadium in the city of Arlington, a suburb of Dallas and Fort Worth.

Site Analysis

The selection of a site adjacent to the stadium that the new development replaces is a popular technique in the sports facility development business. In some cases, such as the New Comiskey Park, the former site is cherished for its history and some of the pain that is present with the destruction of a landmark is eased when the new facility is located adjacent to the landmark. The replacement of the Boston Garden with the Fleet Center is another example of
this phenomenon (the Fleet Center was built only nine inches from the Boston Garden). In other cases, this technique is used because the adjacent land is controlled by a party to the new facility development thereby decreasing acquisition costs by reusing portions of the existing development, usually the parking facilities. This can also reduce approval processes and construction time. This is the case with Turner Field in Atlanta and the Ballpark in Arlington. The City of Dallas attempted to lure the Rangers with a proposed ballpark in downtown Dallas, but the Rangers elected to stay in Arlington. The map that follows shows the location of the Ballpark and its relation to the Six Flags Over Texas amusement park. Since the Ballpark was located adjacent to Arlington Stadium the existing infrastructure in terms of traffic capacity was sufficient and did not need any material modifications.

![Map of the Ballpark and its relation to Six Flags Over Texas](image)

**Planning and Selection Process**

The agreement between the Rangers and the City of Arlington to build a new ballpark was announced on October 24, 1990. Construction on The Ballpark commenced on April 24,
1992 and took 23 months to complete. As stated before, Camden Yards was completed in 33 months. The first exhibition game took place on April 1, 1994 and the first regular season game was played on April 11, 1994.

**Building Analysis**

The Ballpark was designed by David M. Schwarz Architectural Services of Washington DC, rather than HOK Sport, the architects of the urban ballparks at Camden Yards, Coors Field, and Jacobs Field. The design concept of the Ballpark attempts to combine features from classic ballparks. The stadium facade is composed of brick, granite and steel. The granite is along the lower arches of the facade and is “Sunset Red” granite from quarries in Marble Falls, Texas. There are approximately 840,000 “Ranger Red” bricks on the upper arches of the facade. The Texas influence of the site is exhibited in the 35 steer heads and 21 Lone Stars that are made of stone and erected above the upper arches. A series of murals depicting ten different Texas scenes, are located between the upper and lower arches on the outer facade. The structural steel above grade is painted “Ranger Green”. The lower deck seating is cast-in-place concrete, and the club and upper deck seating are structural pre-cast concrete risers. A steel roof canopy runs the entire length of the upper deck.\(^45\)

The outfield features many nooks and crannies reminiscent of Ebbets Field in Brooklyn. The left field wall is 6 feet higher than in center and right field, which is reminiscent, though of a smaller scale, of the left field wall called The Green Monster at Fenway Park and contains a manually operated scoreboard that is a replica of the scoreboard at Fenway. Right field is a tribute to Tiger Stadium in Detroit and features a three deck covered pavilion porch with pillars.

Center field features an open space picnic area in front of the four story office building. Beyond the center field wall the office building is fronted by wrought-iron decor with a subtle Cajun flavor. On top of the office building is a wind screen measuring 42 by 430 feet designed to minimize the impact of the stiff breezes that commonly occur in this area of the country.

The playing surface, identical to Arlington Stadium is Bermuda Tifway 419, natural grass. The playing surface is located 22 feet below street level in order to avoid summer winds. The playing surface at Arlington Stadium was 40 feet below street level as the stadium was built in a natural bowl. One of the modern innovations at The Ballpark is an infield tarp that is mounted on hydraulic lifts and stored below ground level along the left-field line. Consistent with the characteristics of a retro-designed ballpark, the outfield dimensions vary from 334 feet in left field to the deepest area at 407 feet in center field and down to 325 feet in right field.

Total seating capacity is 49,292 which includes 42,393 general seats, 1,200 seats contained in 122 suites, and 5,699 club seats. There are five seating levels; the lower deck, lower suites, club deck, upper suites, and the upper deck. The seats vary in width from 18 to 22 inches wide. The average slope of the upper deck is approximately 32 degrees. The proximity of the fans to the action is among the closest in the major leagues. The first row of seats on the near side of the dugouts on the first and third base sides of the feet is only 56 feet, 8 inches from home plate. This dimension was 64 feet at Arlington Stadium. The dugouts are also 17 feet longer than their predecessors at Arlington Stadium.

The luxury suites include 44 suites on the lower level and 78 suites on the upper level. The size of the suites ranges from 8 to 14 seats. The majority of the suites has 14 seats. Sepiatone murals, honoring baseball’s all time greats, and measuring 9 by 10 feet are located

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outside each suite. There are 75 fixed concession stands maintained by SportService Corp., the Diamond Club, a private club which seats 500, and T.G.I. Friday’s which operates a grill in the upper porch behind right field. SportService was awarded a ten year contract to operate the concessions. The Diamond Club is open year round for lunch and is available for banquets, wedding receptions and other celebrations. Friday’s is open to the public year round.

Excluding the strike year of 1995, attendance has been strong at The Ballpark, especially when compared to attendance figures from Arlington Stadium. For the five years prior to the opening of The Ballpark, the Rangers averaged 2,133,000 fans per year. Since the Ballpark has opened the Rangers have averaged attendance of 2,967,000 fans per year. This represents an increase of 39%\(^{47}\). If the strike year of 1995 is removed, the average attendance jumps to 3,333,500 fans, an increase of over 56%.

Among the unusual features of The Ballpark are nine parking lots, the Legends of the Game Baseball Museum, the Dr. Pepper Youth Ballpark, a children’s learning center, two six-acre man-made lakes with parks, and a four story, 170,000 square foot office building. The building, with 35,000 square foot floorplates includes retail shops and ticket windows on the first floor, commercial office space that is leased on the second and third floors, and the Rangers’ offices on the top floor. The tenants range from doctors, lawyers, and investment management professionals to memorabilia shops and art galleries. The side of the building facing the playing field consists of floor to ceiling glass on each floor with balconies stretching the entire length of the structure on the top three levels.

The baseball museum is a 17,000 square foot facility and features a visiting exhibit from

\(^{47}\) JP Morgan, pp. 6-7.
the National Baseball Hall of Fame. Permanent exhibits feature the Rangers, Texas Leagues, Negro Leagues, and The Ballpark. The museum is open year round and admission is $7.00 for adults, $6.00 for seniors, and $5.00 for children. On the third floor of the museum is the Legends of the Game Learning Center. Interactive educational exhibits in the Learning Center feature history, geography, science, math, and communications, all with a baseball spin. The Dugout, for ages five years and younger accompanied by an adult, includes hands on learning activities. The Learning Center holds weekend, after-school, and special programs and activities. Also housed inside the Learning Center is a 230 seat theater used for programs and presentations by the Museum. It is also available for rent to groups for public and private meetings, lectures, and seminars.

The Dr. Pepper Youth Ballpark is a state-of-the-art baseball facility for kids twelve and under. It is also used for the Rangers youth camps during the summer months. Outside the stadium visitors can walk up the Nolan Ryan Expressway and visit the Rangers Walk of Fame, reading about each team in franchise history on the brick path beneath them.

Economics

The total cost of The Ballpark was $191,000,000. The major components of the development cost included construction costs of $89,500,000, land costs of $32,000,000, architectural and engineering costs of $9,000,000, infrastructure costs of $5,000,000, and furniture fixtures and equipment of $12,000,000. It was funded through a public/private partnership which resulted in 71% of the financing from public sources and 29% from private sources. The public financing component of the deal came from the Authority’s issuance of $135,000,000 of taxable Sales Tax Revenue Bonds, Series 1992, a $12,000,000 bank loan to the

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Authority to be repaid with a $1.00 per ticket surcharge, and a $5,000,000 contribution from the local county from a general obligation bond issue for street and infrastructure improvements. The Sales Tax Revenue Bonds were to be repaid by Arlington’s dedicated half-cent sales tax. The private financing component of the deal came from the issuance of $20,000,000 of Seat Option Bonds, issued by the Authority on behalf of the Rangers secured by a junior lien on sales tax revenues, and $35,000,000 equity contribution by the Rangers. The sources of this equity included $12,700,000 in up-front payments received by the Rangers from the Ballpark’s concessionaires: Sportservice Corp. and TGI Friday’s, $1,000,000 from a Brick Paver program where fans could by sidewalk bricks with their names on them, and $6,000,000 from the total first-year lease revenues from luxury suites.

The lease agreement is for a period of thirty years through 2024. The Rangers make annual rental payments of $3,500,000 per year until the Sales Tax Revenue Bonds are repaid, and then $2,000,000 per year thereafter. Revenue sources including luxury suites, club seats, concessions, merchandise, in-stadium advertising, naming rights, stadium club/restaurants, parking, and all other revenues are directed 100% to the Rangers and are not shared in any way with the Authority. The division of revenues is distinctly different from Camden Yards. A possible explanation for this is the 29% private financing component of the deal structure. The Rangers may have been able gain a more favorable split of revenues since they had some equity in the deal. The Rangers pay all operating expenses for the stadium and the Authority is responsible for capital maintenance.49

Ticket prices range from $2.00 for children’s bleacher seats to $20.00 for a club box.

Luxury suites rental ranges from $30,000 to $200,000 a year for a five year lease. Total gate receipts for the year 1996 was $35,500,000. The unusual features of The Ballpark that were described earlier have helped provide the Rangers with the largest amount of revenue from their venue in Major League Baseball. In 1996, the Rangers received $25,500,000 from venue revenues. This amount is over $1,600,000 greater than the runner-up, the Colorado Rockies. More importantly, it is over 100% greater than the Major League average of $12,600,000.51

A study of the potential economic and fiscal impacts of The Ballpark was performed in 1995 by Coopers & Lybrand. The total annual revenue received by the City of Arlington is estimated to be $5,056,500. This includes rent, City sales tax receipts for estimated levels of taxable in-stadium and out-of-stadium spending, City sales taxes derived from levels of indirect spending and City hotel-motel tax receipts associated with estimates of out-of-town visitors to The Ballpark. The chart illustrating the breakdown of this revenue is included below.

![The Ballpark in Arlington Summary of Annual Revenues of Baseball Operations](chart)

Source: Coopers & Lybrand/Texas Rangers

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Real Estate

In addition to providing a facility for the Rangers to play and keep them economically competitive, one of the major goals of the facility was to spur real estate development in the area. The Ballpark is located adjacent to Six Flags over Texas on the west side of the amusement park at the northwest corner of East Randol Road and Stadium Drive East. The area immediately surrounding The Ballpark is still being developed. Plans for the complex include retail and restaurant locations bordering the two lakes, a 20,000 seat amphitheater, and an adjoining park and recreational space. West of The Ballpark is a linear park and south of The Ballpark is a picnic area with a pavilion.

Proposals have been made to build a new arena for the NBA’s Dallas Mavericks and NHL’s Dallas Stars on land adjacent to The Ballpark. The arena would continue the sports and entertainment theme in the area that includes The Ballpark and the Six Flags Over Texas theme park. A public group called Goal Arlington is spearheading these efforts to lure these teams from Dallas. Based upon most recent information it appears that these efforts will be unsuccessful. The City of Dallas has pledged over $100,000,000 to finance the new arena in downtown Dallas.

The only development that has taken place since The Ballpark has opened is a string of restaurants developed adjacent to the parking lot. These restaurants have been privately developed on land that is privately owned. The Rangers and the Authority have no interest in these developments.

The future of real estate development around the Ballpark will most likely be entertainment oriented. While the office building component of the development is fully leased, many of the tenants are related to the Rangers or provide ancillary services to the Rangers. The
office building tenants are generally small and do not generate any externalities that would encourage future office development to service these tenants. The strip of restaurants that have developed on the outer edge of the property is probably the beginning of a series of retail developments. These retail establishments are designed to service the patrons of the Ballpark as well as patrons of Six Flags. It is unlikely that they will become destination retail developments because of the potential for perceived traffic problems. The question is, would a customer of the retail tenants wait in ballpark traffic to patronize the retail development? If there are alternatives, and there most certainly is, then the answer is clearly, no.

Conclusion

When comparing Oriole Park at Camden Yards and The Ballpark in Arlington there are two critical issues that demand attention; siting and financing. Camden Yards is located in an urban setting and was developed completely through public financing. As discussed in Chapter Two, the greater amount of public financing involved in a facility deal, the more likely the development will be located in an urban setting. The Ballpark in Arlington is located in a suburban setting and was a public/private partnership with 29% of the financing from private sources. What do the Rangers get for raising 29% of the funds privately?

The best answer to this question seems to be increased venue revenue. This supports the theory expressed quantitatively in Chapter Five. The increased venue revenue from the successful ballpark design and the additional features of the complex previously described. The entire complex occupies 270 acres as compared to 85 acres for Oriole Park at Camden Yards. Camden Yards is in an urban location surrounded by retail, office, and industrial uses. The Ballpark is surrounded by entertainment uses, undeveloped land, and 10,000 parking spaces. The Ballpark occupies 1,400,000 square feet or just over 32 acres. Theoretically, the 29% private
financing interest is the purchase price of the remaining 238 acres. Based upon the private financing component of $56,000,000, the price per acre is $235,294, certainly a high price for suburban land in Arlington. It is likely that additional development will be required for the price of the land to be justified.
Chapter Nine: Conclusions and Implications for the Future

There are two out in the ninth inning in other words, its time to draw this season, or should I say, this thesis, to a close.

The growth in the development of sports facilities in the last ten years has been phenomenal. The market for sports facilities avoided the country’s recession of the early 1990’s and shows no sign of slowing down. While basketball facilities led this growth in the early 1990’s, the development of new baseball facilities will be more than 200% greater than during the past ten years. The business of sports facility development will be in the forefront of the news for the next decade. This final chapter states the conclusions which form the basis for the Stadium Consequences on Real Estate (SCORE) Board, and the implications these conclusions have for the future.

Summary of Major Findings

Ownership structures of sports facilities are most often related to the financing package used to develop the facility. The development of municipal stadium authorities or sports authorities have allowed the merging of private and public sector interests. The trend of private ownership of facilities is increasing as more facilities are developed with a greater percentage of private funds. The trend in public funding of facilities is decreasing, but there are exceptions to this trend. Major League Baseball has plans to expand during the next decade. The surplus of cities that desire a professional franchise versus the limited expansion of the sports, promises that the facility deals reached with expansion franchises will be funded primarily with public
financing. Franchises relocating to new markets will receive an above market percentage of public financing for their new facilities. Similarly, municipalities seeking to replace lost teams will offer packages of public financing that exceed the market norm.

Excluding these above market exceptions, the use of public funding for sports facilities will change during the next decade. As the most recent generation of facilities age, more data is available about the true economic impact of these facilities. Trends in the venue revenue received by the franchises will emerge and the public underwriting of facilities will become more accurate. Municipalities will underwrite each feature of a facility similar to a private investor, and will demand some form of revenue sharing or will insist that the amenity portion of the development cost be funded privately. This trend could present results similar to the change in high-rise office towers that is taking place now. The new generation of towers do not contain the opulent lobbies that characterized the towers of the late 1980's. The lobby is underwritten as it relates to its ability to enhance cash flow, rather than make a statement about the building.

Development costs for all facility types are increasing. The development cost of baseball facilities exhibits a positive relationship to the amount of public financing involved.

The economics of sports facilities is evolving. Financing mechanisms are becoming more creative and venue revenue streams more important. The emergence of venue revenue is directly related to the revenue sharing agreements that are present in each of the professional leagues. While gate receipts and national television contracts are divided among the franchises of a league, venue revenue is not. Naming rights, advertising, branding rights, and premium seating generate significant amounts of revenue for franchises with new facilities. The enhancement of venue revenue, and ultimately franchise value, is a driving force behind the stadium development boom.
The direction of external and internal architectural design in the next ten years will be directly related to the public/private financing structures of the new facilities. Two contradictory theories are offered here: *either* privately financed facilities will have greater amenities than publicly financed facilities as they attempt to internalize more of the patron’s dollar, *or* privately financed facilities will have less amenities than publicly financed facilities as they will only include the amenities that provide an acceptable return on investment to the private investors. The current data available is not sufficient to forecast which theory will prevail. The answer however, is vital to both municipalities and sports franchises.

Siting is a major factor in the success of a new sports facility. Trends and data indicate that facilities sited in urban locations are more successful in stimulating surrounding development than facilities sited in suburban locations. Camden Yards, Coors Field, and Jacobs Field, are all examples of facilities sited in urban locations that have experienced *extraordinary* increases in surrounding real estate market activity. The Ballpark in Arlington is an example of suburban facilities that has seen little or no impact on surrounding real estate. The market is well aware of this trend as the vast majority of proposed ballparks will be located in urban settings. This trend represents a complete reversal of the suburban siting trend of the thirty years preceding Camden Yards. Facilities in an urban setting are successful in stimulating development, *independent* of their financing structure. However, the decision to site a facility in an urban location is often *dependent* on financing structure.

The background information presented formed the framework for the thesis. Based upon
this information, I presented three basic theories and a hypothesis to be analyzed quantitatively:

1) There is a relationship between financing structure and facility siting.
2) There is a relationship between financing structure and facility design.
3) There is a relationship between financing structure and venue revenue.
4) Together, these relationships influence surrounding real estate.

The quantitative analysis section of this thesis extended the analysis to the real estate surrounding these facilities. Beginning with the twenty-five professional facilities constructed in the last ten years I gathered information on facility age, financing structure, development cost, seating capacity, premium seating, concessions, and locations. To enhance this data I also developed a survey (see appendix) to measure the quality of the facility’s design. This survey was sent to design professionals and members of the sports industry. Finally, to observe the effect of the facility on the real estate market I surveyed (see appendix) real estate professionals with local market knowledge of the facility and its surroundings.

While the data available was limited and in some ways subjective, the regression analysis confirmed the basic theories. The variables of premium seating, seats per concession, and siting all significantly affected real estate rents in the surrounding area. Premium seating and seats per concession represent attempts by franchise owners to internalize revenue. As a result, both of these variables had a negative impact on the surrounding real estate. The siting variable indicated that an urban facility location had a much more significant impact on the surrounding real estate as opposed to a suburban location. The design variable, while not significant, exhibited a positive relationship to real estate rents. The financing structure variable was also marginally significant, which is consistent with the theory that financing structure affects the surrounding real estate indirectly, through its affect on siting and design.
The case studies presented continue to support the interaction of financing, design, and siting theories developed earlier. The diversity of the selection across publicly and privately financed facilities and urban and suburban locations strengthen the theories. Each of these case studies presents examples of components of the facility design process. Each of them also illustrates that there are lessons to be learned from prior experiences. As each party to the facility deal becomes more educated, the variations in profits and economic impact should close. The impact of these facilities should not be measured purely in economic terms. Jerry Colangelo, owner of the Phoenix Suns discussed the impact on downtown Phoenix of the America West Arena. In the five years since America West Arena opened:

1. Downtown Phoenix has enjoyed steady growth in sales tax revenues generated from restaurants, retail stores, hotels, and motels.
2. More than $1 billion of public and private investment has gone into the downtown core and that number continues to climb.
3. There has been a dramatic change in public perception about downtown Phoenix. Since the arena opened in 1992, people have discovered that downtown is a safe, clean environment, with lots of attractions and things to do.
4. Attendance at other arts and entertainment venues in downtown has steadily increased.
5. Downtown Phoenix is now among the top generators of new jobs, new tax revenues, and new investment in the region.\(^2\)

While it is difficult to quantify, the perceptual and emotional impact of a new sports facility does exist. The impact associated with the loss of a franchise or the opportunity cost, must also be considered.

These findings have led to the development of the SCORE Board listed below. This matrix outlines the negotiating positions of the public sector and the team and predicts the facility deal structure and its impact of the real estate surrounding the facility.

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Stadium Consequences on Real Estate (SCORE) Board

<table>
<thead>
<tr>
<th>Public Sector</th>
<th>Threat of relocation</th>
<th>Relative % Public Financing</th>
<th>Preferred siting</th>
<th>Predicted design focus</th>
<th>Real Estate Impact</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informed</td>
<td>Real</td>
<td>Mid(^{33})</td>
<td>Urban or suburban</td>
<td>External</td>
<td>Positive</td>
<td>Coors Field</td>
</tr>
<tr>
<td>Informed</td>
<td>Small</td>
<td>Low</td>
<td>Urban or suburban</td>
<td>External</td>
<td>Positive</td>
<td>Pacific Bell Park</td>
</tr>
<tr>
<td>Uninformed</td>
<td>Real</td>
<td>High</td>
<td>Urban</td>
<td>Internal</td>
<td>None</td>
<td>Comiskey Park</td>
</tr>
<tr>
<td>Uninformed</td>
<td>Small</td>
<td>Mid</td>
<td>Urban(^{34})</td>
<td>Internal</td>
<td>None</td>
<td>Miller Field</td>
</tr>
</tbody>
</table>

The **public sector** is considered informed if they have experience in the development of sports facilities and are aware of the cost/benefit relationships in facility development. The public sector is considered uninformed if they have no experience in sports facility development and are unaware of the financial condition and options. The **threat of relocation** is real if the franchise has an offer to relocate to another city or if the franchise owner has actively pursued relocating to another city. The threat of relocation is small if the threat is only a veiled threat, or the owner has expressed a strong desire to remain in the city, or has strong business or community ties to the city. The results of these variables help determine the financing structure of the facility. Together, the interaction of these variables effect the siting and design focus of the facility which are the key factors in determining the impact of the facility on surrounding real estate values.

Therefore, to satisfy the objective of spurring development in an efficient, economic way, the ideal sports facility would be sited in an urban location with an informed public sector, and either publicly or privately financed. Coors Field, which has spawned 46 bars and restaurants,

\(^{33}\) Although Coors Field had only a 7% private financing component, it should be considered a mid level when compared to its contemporaries, Camden Yards, Jacobs Field, Comiskey Park (0%), and the Ballpark in Arlington (29%)

\(^{34}\) As we discuss on the next page, based upon the percentage of public financing, and the poor track record of suburban located facilities, Miller Park should be developed in an urban location.
sparked an increase in real estate values and shifted the focus of downtown Denver to the LoDo district where the field is located, exemplifies this ideal stadium. Comiskey Park, which sits isolated among six acres of parking that was formerly a neighborhood, illustrates the opposite scenario. Miller Park, the proposed Milwaukee Brewers suburban, publicly financed stadium, contrasts the expected urban siting and will likely not generate adjacent development activity.

**Implications for the Future**

The classic design approach, which first appeared at Camden Yards, is the dominant approach in ballparks and will make its debut in basketball arenas with the development of the Indiana Pacers Fieldhouse. Football stadiums continue to be designed with a modern design approach geared toward using technological innovations to enhance the fans experience. While the “frozen tundra of Lambeau Field” is a popular reference to classic football, the new stadiums do not attempt to recreate the ambiance of Lambeau Field in more favorable climate conditions.

As Camden Yards changed the perception of baseball stadiums and became a target for replication, there is a new generation of facilities that may raise the bar again. Pacific Bell Park in China Basin, the future home of baseball’s San Francisco Giants, represents the first privately funded ballpark since Dodger Stadium in 1962. It’s urban location, dramatic siting, and planned use of 21st century technology may make this park the Camden Yards of the coming decade.

Pacific Bell Park seeks to be unique when compared to its contemporaries. The attraction of a unique facility can maintain high attendance even when the franchise is not performing well in terms of wins and losses. As the design of these proposed facilities shows, owners are pushing the design of the facility to create the perfect attraction so that fans are attracted to the game to experience the facility, not just the performance of the team.
Topics for additional research

When discussing the future, I cannot help but think about additional areas to be explored within the topic of sports facility financing, development, and design. Each of these areas require more data to produce meaningful results. An economic model can be developed to measure the distance of the impact of the facility. The distance of the impact can then be measured against the public/private financing structure. Land prices may be forecast and this model used by real estate developers to profit from the real estate impact of proposed facilities.

The public/private financing versus quantity of amenities debate can also be answered with additional data. A key issue in this debate is the efficiency of private versus public money. If privately developed facilities cost less, all other things equal, then municipalities should subcontract the entire sports facility development process to a fee developer. The measure of return on amenities requires some refinement. Separating the cost component of these amenities should be simple. The revenues from these amenities is more difficult to define. Considering the difference in the price of a hot dog, for instance, inside and outside of the facility, adds some noise to this measure.

Finally, sports facilities must be thought of in the context of the entertainment industry. The upcoming availability of multiple pay per view channels forced the movie theater industry to redesign their theaters to enhance the movie experience for their patrons. The availability of sports on television through ESPN and its family of stations, CNN/SI, Sportschannel and satellite programming offer the sports fan an opportunity to see every game in the comfort of their home. In addition to sports, there are even more entertainment options bidding for the fans dollar. Franchise owners have realized that they must change the game experience to retain their fans and attract new generations. While a new facility generates venue revenue, all of this revenue is
still a function of the attendance at an event. Therefore, it was the attempt to satisfy and retain
the fans upon which the boom in sports facility development began. It will be the attempt to
satisfy all parties to a facility deal upon which will allow us to see how far this boom extends.
Appendix

-Broker Survey
-Design Survey
-Regression Data
M.I.T. SURVEY

Facility________________________ Respondent________________________
Submarket________________________ Company________________________

Date________________________

Circle all answers

1) Define location of facility Suburban Urban

2) Has municipality enacted any legislation to stimulate development or renovations Yes No

3) Do people come to events using public transportation Yes No

4) For the following product types and since the opening of the facility, rents in the market have:
   Retail Decreased No Change Minimal Moderate Strong
   Housing Decreased No Change Minimal Moderate Strong
   Office Decreased No Change Minimal Moderate Strong
   Industrial Decreased No Change Minimal Moderate Strong

5) For the following product types and since the opening of the facility, rents in the submarket have:
   Retail Decreased No Change Minimal Moderate Strong
   Housing Decreased No Change Minimal Moderate Strong
   Office Decreased No Change Minimal Moderate Strong
   Industrial Decreased No Change Minimal Moderate Strong

6) For the following product types and since the opening of the facility, rents within walking distance of the facility have:
   Retail Decreased No Change Minimal Moderate Strong
   Housing Decreased No Change Minimal Moderate Strong
   Office Decreased No Change Minimal Moderate Strong
   Industrial Decreased No Change Minimal Moderate Strong

7) For the following product types and since the opening of the facility, development/redevelopment activity as a result of the stadium has:
   Retail Decreased No Change Minimal Moderate Strong
   Housing Decreased No Change Minimal Moderate Strong
   Office Decreased No Change Minimal Moderate Strong
   Industrial Decreased No Change Minimal Moderate Strong

8) How have land prices in the area surrounding the facility changed since the development of the facility
   Decreased No Change Minimal Moderate Strong

9) For retail, which type of development has been most prevalent?
   Small family owned Local investors National investors
**Baseball Stadiums**

| Coors Field | Denver |
| Jacobs Field | Cleveland |
| New Comiskey Park | Chicago |
| Camden Yards | Baltimore |
| Ballpark in Arlington | Arlington |
| Tropicana Field | St. Petersburg |
| Turner Field | Atlanta |

| Basketball Arenas |
| Alamodome | San Antonio |
| America West Arena | Phoenix |
| ARCO Arena | Sacramento |
| Bradley Center | Milwaukee |
| Charlotte Coliseum | Charlotte |
| CoreStates Center | Philadelphia |
| Delta Center | Salt Lake City |
| Fleet Center | Boston |
| Gund Arena | Cleveland |
| Key Arena | Seattle |
| Miami Arena | Miami |
| Orlando Arena | Orlando |
| Palace at Auburn Hills | Auburn Hills |
| Target Center | Minneapolis |
| Rose Garden | Portland |
| United Center | Chicago |

| Football Stadiums |
| Allnet Stadium | Jacksonville |
| Ericsson Stadium | Charlotte |
| Georgia Dome | Atlanta |
| Pro Player Park | Miami |
| Trans World Dome | St. Louis |

Categories: Use a 1-5 rating, 1 being the worst and 5 being the best.

**Access/Location** - Is the facility easily accessible? Are adequate public transportation and parking available? Is it conveniently located?

**Food** - Rate the quality of the food and number of concession stands, are lines too long?

**Sight Lines/Views** - Rate the views of the field from the stands. Consider the angle of the seats in the upper deck and the closeness to the field of the best seats.

**Comfort/Seating** - Are the seats comfortable and wide enough is this sufficient space between the rows.

**Exterior Design/Attractiveness** - Rate the attractiveness of the facility from the outside and how it fits into the surrounding neighborhood.

**Overall Assessment** - Rate your overall experience at the sports facility.
<table>
<thead>
<tr>
<th>Stadium Name</th>
<th>Cost</th>
<th>Public</th>
<th>% Public</th>
<th>Year Open</th>
<th>Private</th>
<th>% Private</th>
<th>Rel% Pvt</th>
<th>%Pvt Avg</th>
</tr>
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<tbody>
<tr>
<td>New Comiskey Park</td>
<td>$137,000,000</td>
<td>$137,000,000</td>
<td>100%</td>
<td>1991</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Camden Yards</td>
<td>$205,000,000</td>
<td>$205,000,000</td>
<td>100%</td>
<td>1992</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Jacobs Field</td>
<td>$180,000,000</td>
<td>$180,000,000</td>
<td>100%</td>
<td>1994</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Ballpark in Arlington</td>
<td>$191,000,000</td>
<td>$135,000,000</td>
<td>71%</td>
<td>1994</td>
<td>$56,000,000</td>
<td>29.32%</td>
<td>400%</td>
<td>22%</td>
</tr>
<tr>
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<td>$26,040,000</td>
<td>31%</td>
<td>1988</td>
<td>$57,960,000</td>
<td>69.00%</td>
<td>96%</td>
<td>3%</td>
</tr>
<tr>
<td>ARCO Arena</td>
<td>$40,000,000</td>
<td>-</td>
<td>0%</td>
<td>1988</td>
<td>$40,000,000</td>
<td>100.00%</td>
<td>139%</td>
<td>28%</td>
</tr>
<tr>
<td>Palace at Auburn Hills</td>
<td>$75,000,000</td>
<td>-</td>
<td>0%</td>
<td>1988</td>
<td>$75,000,000</td>
<td>100.00%</td>
<td>139%</td>
<td>28%</td>
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<tr>
<td>Delta Center</td>
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<td>-</td>
<td>88.10%</td>
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<td>16%</td>
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<td>America West Arena</td>
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<td>45%</td>
<td>1992</td>
<td>$56,000,000</td>
<td>54.90%</td>
<td>76%</td>
<td>-17%</td>
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<tr>
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<td>$186,000,000</td>
<td>100%</td>
<td>1993</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>Gund Arena</td>
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<td>$120,000,000</td>
<td>77%</td>
<td>1994</td>
<td>$35,000,000</td>
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<td>-50%</td>
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<tr>
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<td>-</td>
<td>0%</td>
<td>1994</td>
<td>-</td>
<td>100.00%</td>
<td>139%</td>
<td>28%</td>
</tr>
<tr>
<td>The Rose Garden</td>
<td>$262,000,000</td>
<td>$34,000,000</td>
<td>13%</td>
<td>1995</td>
<td>$180,000,000</td>
<td>87.02%</td>
<td>121%</td>
<td>15%</td>
</tr>
<tr>
<td>Fleet Center</td>
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<td>-</td>
<td>0%</td>
<td>1995</td>
<td>$228,000,000</td>
<td>100.00%</td>
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<td>28%</td>
</tr>
<tr>
<td>Pro Player Park</td>
<td>$181,500,000</td>
<td>-</td>
<td>0%</td>
<td>1987</td>
<td>$181,500,000</td>
<td>100.00%</td>
<td>200%</td>
<td>50%</td>
</tr>
<tr>
<td>Georgia Dome</td>
<td>$188,500,000</td>
<td>$188,500,000</td>
<td>100%</td>
<td>1992</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>-50%</td>
</tr>
<tr>
<td>TWA Dome</td>
<td>$298,000,000</td>
<td>$298,000,000</td>
<td>100%</td>
<td>1995</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>-50%</td>
</tr>
<tr>
<td>Ericsson Stadium</td>
<td>$180,000,000</td>
<td>$136,000,000</td>
<td>76%</td>
<td>1996</td>
<td>$44,000,000</td>
<td>24.44%</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Coors Field</td>
<td>$215,000,000</td>
<td>$200,000,000</td>
<td>93%</td>
<td>1995</td>
<td>$15,000,000</td>
<td>6.98%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Miami Arena</td>
<td>$53,000,000</td>
<td>$40,000,000</td>
<td>75%</td>
<td>1988</td>
<td>$13,000,000</td>
<td>24.53%</td>
<td>-47%</td>
<td></td>
</tr>
<tr>
<td>Target Center</td>
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<td>$136,000,000</td>
<td>100%</td>
<td>1990</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>-72%</td>
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<td>Orlando Arena</td>
<td>$100,000,000</td>
<td>$100,000,000</td>
<td>100%</td>
<td>1989</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>-72%</td>
</tr>
<tr>
<td>Charlotte Coliseum</td>
<td>$52,000,000</td>
<td>$52,000,000</td>
<td>100%</td>
<td>1988</td>
<td>-</td>
<td>0.00%</td>
<td>0%</td>
<td>-72%</td>
</tr>
<tr>
<td>Stadium Name</td>
<td>Suites</td>
<td>Club Seats</td>
<td>Venue Revenue</td>
<td>Revenue per seat</td>
<td>Total Revenue</td>
<td>% of Total</td>
<td>CS/CAP</td>
<td>Age</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------</td>
<td>------------</td>
<td>---------------</td>
<td>------------------</td>
<td>---------------</td>
<td>------------</td>
<td>--------</td>
<td>-----</td>
</tr>
<tr>
<td>New Comiskey Park</td>
<td>93</td>
<td>1,822</td>
<td>$20,900,000</td>
<td>$471.56</td>
<td>$70,300,000</td>
<td>29.73%</td>
<td>4.1%</td>
<td>6</td>
</tr>
<tr>
<td>Camden Yards</td>
<td>66</td>
<td>3,800</td>
<td>$21,400,000</td>
<td>$443.36</td>
<td></td>
<td>20.32%</td>
<td>7.9%</td>
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</tr>
<tr>
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<td>125</td>
<td>2,400</td>
<td>$22,900,000</td>
<td>$545.24</td>
<td>$95,400,000</td>
<td>24.00%</td>
<td>5.7%</td>
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</tr>
<tr>
<td>Ballpark in Arlington</td>
<td>120</td>
<td>5,386</td>
<td>$25,500,000</td>
<td>$518.52</td>
<td>$87,700,000</td>
<td>29.08%</td>
<td>11.0%</td>
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</tr>
<tr>
<td>Bradley Center</td>
<td>68</td>
<td>-</td>
<td>$2,800,000</td>
<td>$150.27</td>
<td>$36,400,000</td>
<td>7.69%</td>
<td>0.0%</td>
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</tr>
<tr>
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<td>30</td>
<td>400</td>
<td>$9,400,000</td>
<td>$542.82</td>
<td>$50,400,000</td>
<td>18.65%</td>
<td>2.3%</td>
<td>9</td>
</tr>
<tr>
<td>Palace at Auburn Hills</td>
<td>180</td>
<td>-</td>
<td>$24,500,000</td>
<td>$1,141.98</td>
<td>$77,300,000</td>
<td>31.69%</td>
<td>0.0%</td>
<td>9</td>
</tr>
<tr>
<td>Delta Center</td>
<td>22</td>
<td>1,176</td>
<td>$11,500,000</td>
<td>$577.57</td>
<td>$61,400,000</td>
<td>18.73%</td>
<td>5.9%</td>
<td>6</td>
</tr>
<tr>
<td>America West Arena</td>
<td>87</td>
<td>700</td>
<td>$10,900,000</td>
<td>$572.99</td>
<td>$78,800,000</td>
<td>13.83%</td>
<td>3.7%</td>
<td>5</td>
</tr>
<tr>
<td>Alamodome</td>
<td>38</td>
<td>3,500</td>
<td>$6,000,000</td>
<td>$290.39</td>
<td>$59,700,000</td>
<td>10.05%</td>
<td>16.9%</td>
<td>4</td>
</tr>
<tr>
<td>Gund Arena</td>
<td>156</td>
<td>3,000</td>
<td>$13,400,000</td>
<td>$651.69</td>
<td>$64,500,000</td>
<td>20.78%</td>
<td>14.6%</td>
<td>3</td>
</tr>
<tr>
<td>United Center</td>
<td>216</td>
<td>3,000</td>
<td>$12,200,000</td>
<td>$561.93</td>
<td>$86,800,000</td>
<td>14.06%</td>
<td>13.8%</td>
<td>3</td>
</tr>
<tr>
<td>The Rose Garden</td>
<td>70</td>
<td>2,400</td>
<td>$15,200,000</td>
<td>$713.62</td>
<td>$86,100,000</td>
<td>17.65%</td>
<td>11.3%</td>
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<tr>
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<td>104</td>
<td>2,441</td>
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<td>$64,600,000</td>
<td>11.46%</td>
<td>13.1%</td>
<td>2</td>
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<tr>
<td>Pro Player Park</td>
<td>215</td>
<td>10,209</td>
<td>$20,000,000</td>
<td>$108.07</td>
<td>$95,400,000</td>
<td>20.96%</td>
<td>14.0%</td>
<td>10</td>
</tr>
<tr>
<td>Georgia Dome</td>
<td>203</td>
<td>5,600</td>
<td>$6,500,000</td>
<td>$91.68</td>
<td>$85,800,000</td>
<td>13.99%</td>
<td>8.86%</td>
<td>2</td>
</tr>
<tr>
<td>TWA Trans World Dome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$75,100,000</td>
<td>21.57%</td>
<td>14.56%</td>
<td>1</td>
</tr>
<tr>
<td>Ericsson Stadium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$95,600,000</td>
<td>25.00%</td>
<td>8.76%</td>
<td>2</td>
</tr>
<tr>
<td>Coors Field</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$44,300,000</td>
<td>9.93%</td>
<td>0.00%</td>
<td>9</td>
</tr>
<tr>
<td>Miami Arena</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$44,000,000</td>
<td>15.45%</td>
<td>0.00%</td>
<td>7</td>
</tr>
<tr>
<td>Target Center</td>
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<td></td>
<td></td>
<td></td>
<td>$62,800,000</td>
<td>7.64%</td>
<td>0.00%</td>
<td>8</td>
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<td></td>
<td></td>
<td>$53,700,000</td>
<td>11.55%</td>
<td>0.00%</td>
<td>9</td>
</tr>
</tbody>
</table>

The data includes the number of suites, club seats, venue revenue, revenue per seat, total revenue, % of total revenue, CS/CAP, age, premium, urban/sub, and design.
<table>
<thead>
<tr>
<th>Stadium Name</th>
<th>Ownership</th>
<th>Rev/seat</th>
<th>Sport Var</th>
<th>Avg Loc-Sub</th>
<th>Local -Mkt</th>
<th>Local -sub</th>
<th>CBD</th>
<th>Premium/cap</th>
<th>Potential Attend</th>
<th>Capacity</th>
<th>SEAT/CON</th>
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</thead>
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<tr>
<td>New Comiskey Park</td>
<td>0</td>
<td>471.6</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>6.63%</td>
<td>3,590,001</td>
<td>44,321</td>
<td>738.68</td>
</tr>
<tr>
<td>Camden Yards</td>
<td>0</td>
<td>443.4</td>
<td>0</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>9.51%</td>
<td>3,909,708</td>
<td>48,268</td>
<td>1856.46</td>
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<td>545.2</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>9.29%</td>
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<td>518.5</td>
<td>0</td>
<td>-1.75</td>
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<td>-2</td>
<td>1</td>
<td>13.88%</td>
<td>3,983,418</td>
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<td>-1</td>
<td>0</td>
<td>0</td>
<td>4.38%</td>
<td>838,485</td>
<td>18,633</td>
<td>1330.93</td>
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<td>542.8</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4.39%</td>
<td>779,265</td>
<td>17,317</td>
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<td>1,142.0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>10.07%</td>
<td>965,430</td>
<td>21,454</td>
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<td>1</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>7.23%</td>
<td>895,995</td>
<td>19,911</td>
<td>765.81</td>
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<td>573.0</td>
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<td>-0.25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.17%</td>
<td>856,035</td>
<td>19,023</td>
<td>422.73</td>
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<td>290.4</td>
<td>1</td>
<td>-0.25</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>19.15%</td>
<td>929,790</td>
<td>20,662</td>
<td>765.26</td>
</tr>
<tr>
<td>Gund Arena</td>
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<td>651.7</td>
<td>1</td>
<td>0.25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>23.69%</td>
<td>925,290</td>
<td>20,562</td>
<td>514.05</td>
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<tr>
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<td>561.9</td>
<td>1</td>
<td>-0.75</td>
<td>-1</td>
<td>-1</td>
<td>1</td>
<td>25.76%</td>
<td>976,995</td>
<td>21,711</td>
<td>471.98</td>
</tr>
<tr>
<td>The Rose</td>
<td>1</td>
<td>713.6</td>
<td>0</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>15.21%</td>
<td>958,500</td>
<td>21,300</td>
<td>1121.05</td>
</tr>
<tr>
<td>TWA Garden</td>
<td>1</td>
<td>397.3</td>
<td>0</td>
<td>-0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>19.81%</td>
<td>838,080</td>
<td>18,624</td>
<td>517.33</td>
</tr>
<tr>
<td>Pro Player Park</td>
<td>1</td>
<td>274.0</td>
<td>0</td>
<td>-2.5</td>
<td>-2</td>
<td>-2</td>
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Ballpark in Arlington, Ballparks.com (Munsey & Suppes)

MAPS

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