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

by

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B.S., Business Administration, 1991
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Submitted to the Department of Urban Studies and Planning
in Partial Fulfillment of the Requirements for the Degree of
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ABSTRACT

The development of sports facilities comprises a large percentage of municipal investment in infrastructure and real estate. This thesis will analyze, both quantitatively and qualitatively, all football stadiums constructed in the past ten years and how their design, financing and siting impact the surrounding real estate market. The early chapters of this thesis cover general trends and issues in financing, design and development of sports facilities. In Chapter Five, regression analysis is implemented to develop a quantitative framework for analyzing trends and relationships between the variables discussed above. Chapter Six introduces two football case studies: TWA Dome in St. Louis, MO, and Ericsson Stadium in Charlotte, NC. These cases summarize the financing, design and siting of each facility and conclude with an assessment of the impact on the surrounding real estate market (i.e. changes in rents, development activity and property values).

The conclusions reached from the regression analysis support the hypothesis that financing influences interior and exterior design and siting, which affect how the facility influences the adjacent real estate. The case studies produced contrasting results, relative to influencing the surrounding real estate market. The TWA Dome has had a negligible impact on the surrounding real estate market, while Ericsson Stadium has had a slightly positive influence.

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Chapter One: Introduction

"We are a league of stadiums."[1]

Jerry Jones, Owner of the Dallas Cowboys.

Over the past ten years five football-only stadiums have been developed in the United States. The construction of these facilities was dictated by the need to find homes for expansion teams,[2] but more importantly to meet the financial requirements of franchise owners. Pro Player Stadium in Miami was the first such stadium to include premium seating,[3] which is now a required specification for all future stadium projects. Premium seating and other design amenities are incorporated into a new facility to increase the level of venue revenue, most often to the benefit of the team owner.

The late 1980's and early 1990's were defined by the proliferation of basketball arenas and baseball stadiums. This trend, however, is changing. At the time of writing of this thesis, there were four stadiums under construction, five stadiums with ballot approval and numerous other football stadium projects at various stages of proposal.[4]

How will football stadiums be financed in the future? With the growing costs of football stadiums and increasing competition between cities for teams, the future of stadium development is sure to capture the attention of many municipal officials and team owners. Two out of the five

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[1] Erik Brady and Debbie Howlette. "The Stadium Binge," *USA Today*, September 9, 1996, p. 14C.
[2] Ericsson Stadium, Charlotte, NC and Allnet Stadium, Jacksonville stadium were built for the Panthers and Jaguars, respectively.
[3] Premium seating is defined as club seating and suite seating.
[4] The Washington Redskins, Baltimore Ravens, Nashville Oilers and Cleveland are all currently at various stages in the development process. The San Francisco 49ers, Seahawks, Detroit, Cincinnati and Tampa have all passed ballot initiatives for new football stadiums.

stadiums constructed over the past ten years were financed with private dollars, Pro Player Stadium and Ericsson Stadium. The Georgia Dome, Trans World Dome and Allnet Stadium were almost completely publicly-financed. This thesis will cover historical trends in financing, siting and development and also introduce a question that has been overlooked by many parties to the stadium deal: How does the introduction of a football stadium influence the surrounding real estate market? This hypothesis will be analyzed and tested in later chapters through the use of both quantitative and qualitative methods.[5]

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? Pro Player Stadium and Georgia Dome contrast in their siting selection, with Pro Player located in the suburbs of Miami and the Georgia Dome being sited in the CBD of Atlanta.

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

[5] Regression analysis and the case study method will be incorporated into chapters five and six, respectively.

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. Stadium design plays an integral role in stadium financing and development. The boom in football stadium development can be attributed to team owner's desire to increase venue revenue. Football stadiums started this trend in the mid-80's with the completion of Joe Robbie Stadium (now Pro Player) and retrofit of Texas Stadium. The main design change from the previous generation of stadiums was the introduction of premium seating. Do the owners of privately-financed stadiums attempt to internalize the revenue producing amenities sometimes found around stadiums (i.e. restaurants and bars)? How does financing impact the design of football stadiums and how will design be modified in the future?

Findings

Having completed a quantitative and qualitative assessment of all football facilities development over the past ten years, the findings suggest that certain characteristics of facility design have a direct impact on adjacent real estate. Findings indicate that the inclusion of premium seating, 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. Results also indicated that the siting of a facility in an urban location contributed to the ability of the project to increase rental rates on adjacent property, as in the cases of Ericsson Stadium and Georgia Dome. TWA Dome has not experienced any noticeable benefits to the surrounding real estate, which is also the case

for Pro Player Stadium. It was also concluded that a less dramatic exterior design and a higher percentage of private financing negatively impacts local rents. Interestingly, the percentage of private financing was not as significant as was originally expected.

In the case study chapter, Ericsson Stadium and TWA Dome presented different conclusions. Ericsson, a privately financed venue on city owned land, has generated a small amount of associated development. However, land values around the stadium have skyrocketed and unrelated types of development have materialized. In St. Louis, the TWA Dome, which was conceived before the Rams' announced relocation, does not have the amenities of many facilities of the same age. Although St. Louis has benefited with the expansion of the Cervantes Convention Center, substantial ancillary development has not occurred. Together, these two facilities have sparked a small economic gains. However, large scale growth has not emanated from these developments in the manner expected.

Organization

The thesis starts with a discussion of current trends and a synopsis of the recent direction of stadium development, including deal structures. This discussion can be found in Chapter Two. This section will also discuss ownership structures, public/private financing structures, the political climate, and development costs. An overview of facility economics, including public and private financing mechanisms, and benefits of facilities including tax revenues and patron revenues will be discussed in Chapter Three. Also included in this section will be a summary of the regional economic impacts and motivations. Chapter Four includes an 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, an interpretation of the effects of facility design

and development on real estate values, rents, and development activity will be undertaken. The connections between the financing and siting decisions for the facilities on the externalities generated will be covered. Chapter Six contains the case study section of this work. Through the use of two case studies, representing recently completed facilities, an analysis will be undertaken on the design and siting of these developments to explore the impact of these developments on their surrounding neighborhood market. Finally, Chapter Seven will present a look at the possible future of football stadium development, the proposed 49ers stadium and summary of findings and implications for the future.

Chapter Two: Trends in ownership structures, the political climate and public/private financing, and facility development cost.[6]

In this chapter we 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 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 under scrutiny with the proposed changes in the tax status of municipal debt.[7]

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[6] This thesis was prepared in parallel with James Cole on basketball arena development and Michael Jammen on baseball stadium development, accordingly any statements or conclusions reached by the three of us may be referred to with the pronoun "We".

[7] Keith Olberman. "Tax Free at Last." *ESPNET Sportszone*. July 25, 1996.

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. These theories focus on the number of events at a facility and the development cost of the facility. Baseball and football facilities average 85 and 22 events annually, respectively, while basketball arenas average 173 events annually.[8] 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. Another theory involves the 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;

[8] David C. Petersen. *Sports, Convention and Entertainment Facilities* (Washington, D.C.:ULI-Urban Land Institute, 1996), pp. 29,34.

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.

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 49ers and Paul Allen of the Seattle Seahawks and ridicule them for seeking public assistance to enhance the value of their privately-owned franchises. 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 49ers, 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.[9] 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.

[9] Cary Goldberg. "Billionaire Finances a Vote About Replacing a Stadium." *The New York Times*, May 23, 1997, p. 1.

Year	City/Team(s)	Outcome	Issue
1995	Cleveland/ Browns	Approved	Extension of alcohol and cigarette sales tax that would raise $175 million for a new downtown football stadium in 1999
1996	Cincinnati/ Reds and Bengals	Approved	Hamilton County approves half-cent sales tax that would raise approximately $50 million/year to build new baseball stadium and new football stadium
1996	Detroit/Tigers	Approved	$40 million bond issue for baseball stadium
1996	San Francisco/ Giants	Approved	Change in city ordinances so that new baseball stadium may be built at China Basin
1996	Nashville/ Oilers	Approved	$80 million bond issue for new football stadium
1996	Tampa/ Buccaneers	Approved	Half-cent increase in sales tax increase for 30 years to finance football stadium and other civic needs.
1996	Detroit/Lions and Tigers	Approved	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
1996	Houston/ Astros and new football team	Approved	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
1997	Columbus	Rejected	Three year, half-cent sales tax for hockey arena and soccer stadium
1997	Miami/Heat	Approved	Dade County use of county taxes and bonds for new basketball arena
1997	San Francisco/ 49ers	Approved	$100 million bond issue to help finance stadium and shopping/entertainment complex
1997	Seattle/ Seahawks	Approved	$300 million bond issue for a new football stadium
1997	Denver/ Broncos	TBD	Fate of new football stadium
1997	Pittsburgh/ Steelers and Pirates	TBD	Fate of new football and baseball stadium
1998	Phoenix/ Cardinals	TBD	Fate of new football stadium and multiple use entertainment complex

Sources: NFL; Horrow Sports Ventures

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.

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).[10] For baseball stadiums the diagram below indicates that development costs rose steadily from 1991 to 1997. Facilities to be completed in 1999 and 2000 are projected to be less expensive then their most recent counterparts. Interestingly, the public financing component of these facilities is also less 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.

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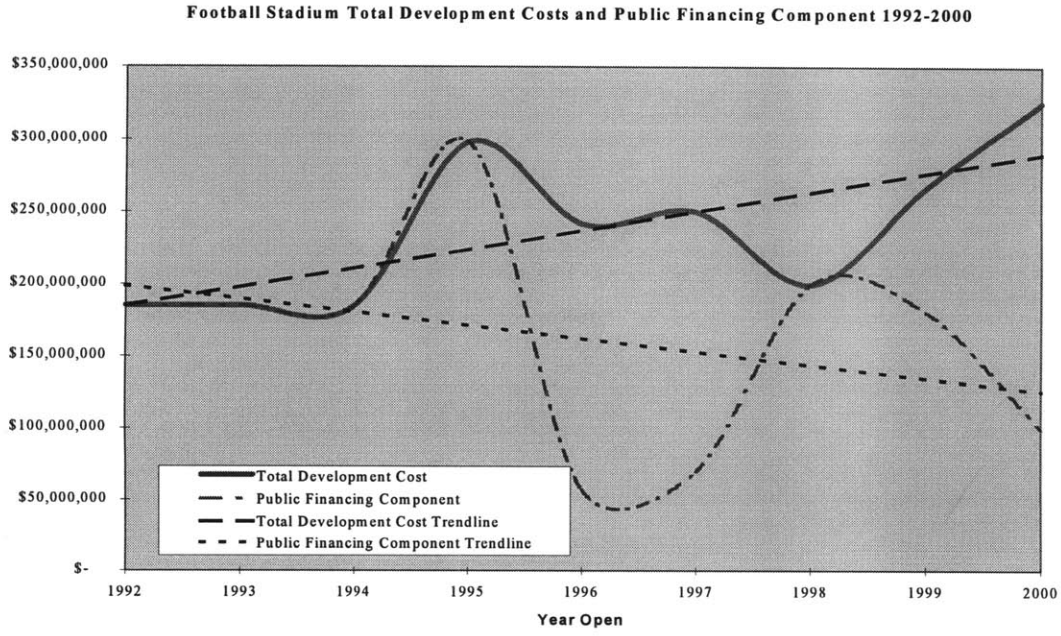
[10] Robert A. Baade. "What Explains the Stadium Construction Boom?," *Real Estate Issues*, December 1996, p. 9.

The next chart indicates that the development cost for football facilities is also unrelated to the public financing component of the deal. Development costs are rising while the amount of public financing is declining for football facilities. The slope of the both trend lines are less than their basketball counterparts, suggesting that the trends of increasing development costs and decreasing public financing are not as strong as in basketball.



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 owner is substantial and their liability limited. In Chapter Five, we 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.

In 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. The recent football stadium deals struck in Baltimore, Nashville, and Seattle support this conclusion. The TWA Dome in St. Louis is discussed in detail in Chapter Six and this may represent the most generous deal ever received by a sports franchise. For baseball stadiums, development costs appear to be related to the size of the public financing component. The increasing costs of basketball and football facilities do not exhibit the same relationship. Does the decision of the public to participate in the financing of sports facilities affect the design of the facilities? In the next chapter, we 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.

Chapter Three: The Economics of Facilities

In Chapter Two, we discussed the recent trends in public and private financing structures for new sports facilities. In this chapter, we discuss the various financing mechanisms employed by the public and private participants and overview facility economics and fiscal impacts. We also detail the innovative revenue streams driving the demand for new facilities. Throughout the discussion, we cite examples where a particular strategy was used. We 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.[11] 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? We 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.[12]

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[11] 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.

[12] Frank So, et al, ed., The Practice of Local Government Planning, Washington, DC; 1979, pp.131-132.

We also include a table on the following page to 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 under it 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 using general obligation bond financing. 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

Facility	General Obligation Bonds	Sales Revenue	Other Revenue	Grants	Lottery	Land	Infrastructure	Project Revenues	Team Obligation	PSL's	Sponsor ship	Vendor
Baseball												
Ballpark in Arlington		✓					✓	✓		✓		✓
Coors Field		✓					✓				✓	✓
Jacobs Field			✓					✓		✓	✓	✓
Comiskey Park			✓									
Camden Yards	✓			✓	✓		✓					
Turner Field	✓							✓			✓	
Football												
Trans World Dome	✓					✓				✓	✓	
Pro Player Park						✓		✓	✓		✓	
Georgia Dome			✓			✓	✓	✓				
Ericsson Stadium						✓				✓	✓	
Allnet Stadium	✓										✓	
Basketball												
Alamodome		✓										
America West Arena			✓						✓		✓	
ARCO Arena								✓	✓		✓	
Bradley Center	✓		✓			✓	✓	✓	✓			
Charlotte Coliseum	✓		✓				✓					
CoreStates Center								✓	✓		✓	
Delta Center				✓				✓	✓		✓	
Fleet Center							✓	✓	✓		✓	
Gund Arena	✓	✓		✓		✓	✓	✓			✓	
Miami Arena	✓		✓									
Orlando Arena			✓									
Palace at Auburn Hills								✓	✓			
Target Center			✓			✓	✓	✓	✓		✓	
Rose Garden			✓			✓	✓		✓			
United Center									✓		✓	

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.[13] 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 Funding comes from the federal or state government 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.

[13] 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.[14] 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.[15] 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.[16] 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

[14] Telephone interview with Michael O'Sullivan of Arthur Andersen on June 25, 1997.
[15] Arthur Andersen, Economic Impact Report on Target Center, Unpublished Paper, February 1994, p. 5.
[16] Michael Lowrey, "Economic Consequences of NFL Team/Don't Expect the Panthers to Bring an Economic Windfall to the Carolinas," *Greensboro News & Record*, p. A18.

discussed in Chapter Six, 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 we turn to private mechanisms and ask how they differ from public mechanisms from a design and real estate perspective. Here, we refer to privately financed facilities as those where at least two-thirds of the development cost is funded from private sources. We do not believe that any facility is totally devoid of public investment.[17] 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.[18] In Chapter Two, we 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

[17] Again, considering roads and other infrastructure as well as favorable zoning.
[18] Moody's Investor Service, Perspective on Entertainment and Tourism, Moody's Approach to Rating Stadium, Arena, and Convention Center Bonds, February 13, 1995.

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.[19] 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.[20] Uniting ownership of the facility and ownership of the franchise, as in the case of the United Center, creates a successful venue. [21]

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.[22] 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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[19] Petersen, p. 96.
[20] Comments from Angela Brock-Kyle, Associate Director - Private Placements of TIAA at Sports Facilities Finance Conference, New York City, May 6, 1997.
[21] The Bulls ranked fifth in the NBA in venue revenue according to Financial World.
[22] 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."[23] 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.[24] 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.[25] After the fact, they discovered that PSL revenue was taxable as income when received. Because the

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[23] Alan Snel. "High-Tech Playgrounds," *The Denver Post*, January 2, 1997.
[24] Public Financial Management, Inc., Draft - Report on Financing Options for Professional Sports Stadium, Prepared for the City of Philadelphia, April 2, 1996, p. 8.
[25] Public Financial Management, Inc., p. 9.

payments were received in advance, the tax liability was significant.[26] 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.[27] 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, considering new office space may prefer to lease nearer the facility 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

[26] Comments from Mark Richardson, Director of Business Operations, Richardson Sports, at Sports Facilities Finance conference, New York City, May 6, 1997.
[27] 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 argue that professional sports is a small industry in the scope of a larger metropolitan economy.[28] 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.[29] 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.[30]

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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[28] Samuel Nunn and Mark S. Rosentraub. "Sports Wars: Suburbs and Center Cities in a Zero Sum Game," Indiana University School of Public and Environmental Affairs, October, 1995, p. 6.
[29] Nunn and Rosentraub, pp. 7,9.
[30] Mark S. Rosentraub, David Swindell, Michael Przbylski, Daniel R. Mullins. "Sports and Downtown Development Strategy," *Journal of Urban Affairs*, vol. 16, number 3, p. 237.

he concluded that there was no significant relationship between the presence of a sports team and real, trend-adjusted, per capita personal income growth.[31] 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.[32]

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

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[31]Robert A. Baade. "Stadiums, Professional Sports, and Economic Development: Assessing the Reality," April 4, 1994, p. 15.

[32] "Professional Sports in the United States: A Welfare System for the Rich," National Council for Urban Economic Development, vol. XXI, number 22, December 1, 1996, pp. 2,7.

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."[33]

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

[33] Adam Smith, *An Inquiry into the Nature of Causes of the Wealth of Nations*, ed. Edwin Cannan, vol. 2 (Chicago: University of Chicago Press, 1976), p. 24.

risks by investing huge sums in new venues. They are using 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, we 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 we 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. We 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. Our 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, we now examine the design of certain representative urban sports facilities.

Camden Yards is located in an urban setting and features an architectural design reminiscent of the former Ebbets Field in Brooklyn. It 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.[34] 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."[35]

Camden Yards started the trend of the return to urban sited ballparks. Jacobs Field in Cleveland and Coors Field in Denver also follow this trend. The goal of these developments is to recreate the ambiance of the original urban ballparks; Wrigley Field in Chicago, Fenway Park in Boston, and Tiger Stadium in Detroit. However, the aforementioned "classic" parks are located within neighborhoods that included residential, commercial, and civic buildings. The classic parks are built up to the street, to the edges of their property lines and are shaped in part by the physical constraints of the urban blocks in which they are located. New baseball facilities 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

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[34] John McCarron. "Expert Offers His Dream Sox Stadium," *Chicago Tribune*, July 26, 1987.
[35] Moss, Irv. "Baltimore Planning Old-fashioned Ballpark," *Denver Post*, January 1, 1989.

be 30-40 feet taller than the previous generation. Rather than being located in neighborhoods, they tend to be located in underutilized land such as old railroad yards. For example, Camden Yards and Coors Field 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 purely 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 from 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.[36] 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 from 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 the 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

[36] Baade, December 1996, p. 9.

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 design 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 live in harmony with 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, to advertising opportunities.

The tables that follow list the top five football 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.

Football franchise	*Venue Revenue*	*Year Open*
Dallas Cowboys	$41,500,000	1971
Miami Dolphins	$20,000,000	1987
Carolina Panthers	$16,200,000	1996
St. Louis Rams	$12,000,000	1995
Jacksonville Jaguars	$11,600,000	1995 *

** = Year renovated*
Source: Financial World

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 Pro Player Park, Ericsson Stadium, and the Palace at Auburn Hills, which are financed either entirely or primarily through private financing, the number of concessions, luxury suites, club seats, and ultimately venue revenue greatly exceed their publicly funded counterparts. This concept has quietly been practiced for some time. Madison Square Garden, Texas Stadium, and Dodger Stadium, the only three facilities with the top venue

revenues that have not been built from the ground up in the last 10 years, were *privately* financed and are *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 our thesis. When linked together, they form a final theory that is the second half of our 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, we have laid the groundwork for our 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. We have presented theories about the influence of public and private financing structures on sports facility siting and design. In the next chapter we examine these theories quantitatively and extend our analysis to the real estate surrounding these facilities. Through regression analysis, we 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, we have suggested interrelationships between financing structure, siting and design and the affect of those variables on the local real estate. In this chapter, we will test data collected for each facility and market through regression analysis. We attempt to substantiate our earlier conclusions while exploring other interrelationships produced from this analysis. The final product of our 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, our sample set is small. Upon examination of the deal structures for each of these facilities, we chose to narrow the sample further. We limited our data set to facilities developed within the last ten years that *replaced* existing facilities, excluding those facilities located in Canada. We 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 our 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. We excluded facilities developed in Canada because differences in governmental involvement and lack of available data could bias our results.

The independent variable in the regression was our measurement of the real estate impact. We 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 being the area within walking distance of the stadium or arena. Potential respondents to our survey included commercial real estate brokers, researchers, appraisers, developers and other real estate professionals. We 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." We term a positive result as *Bonus Rent,* while negative results represent submarket 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.

We 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 our survey methods and questions were qualitative and subjective in nature. Depending on the participant 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.

Our initial attempts at collecting "objective" real estate market specific information were not met with complete success. We began our 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 our 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 our 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 our knowledge, these potential variables are also noisy and are not readily available.

We 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 our 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, our 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). We 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 our 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, our 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, our dependent design variable, was derived from a second survey we 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 our 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 us 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. Our 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 competitions.

Difficulties will always be present in selecting respondents, but future researchers should be cognizant of these issues and attempt to weed out potentially-biased respondents.

%PRIVATE, our financing variable, quantifies the amount of private financing in each sports facility financing deal. This variable is a critical component of our 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, our 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". A "1" being assigned to suburban sites and a "0" being assigned to urban sites. The expected sign of this coefficient is negative. Our 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:

Independent Variable	Coefficient	t Statistic	p-Value
PREMIUM	-0.000168136	-3.927248238	0.002832845
SEAT/CON	0.000620932	3.102950811	0.011194254
URB/SUB	-0.788693052	-2.264199937	0.047031779
DESIGN	0.245447817	1.246962590	0.240826233
%PRIVATE	-0.310406800	-0.985570041	0.347589368
Intercept	-0.723449020	-0.973203868	0.353404410
	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 our 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 our survey.

The design survey score comes through our 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 newer facilities.[37]

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 our 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 our 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.

[37] The equation for this regression was: DESIGN=3.955 – 0.1202 AGE. The t-Statistic for AGE is -2.119.

Our 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 generated from the standardization of premium seating in the newer venues, regardless of the financing source. In the following chapters, we take a closer look at two specific facilities in each sport. In these studies we will explore the impact of each facility on the surrounding real estate from a qualitative standpoint. In the final chapter, we will merge our qualitative observations with the empirical output from this chapter to form the basis for our conclusions.

Chapter Six: Case Studies-Football Stadiums

In Chapter Five, we utilized regression analysis to test our hypotheses on sports stadium development and the related areas of financing, siting and design. This chapter will analyze two completed football stadium case studies: Trans World Dome, a publicly financed, domed stadium located in St. Louis, Missouri and Ericsson Stadium,[38] a privately financed stadium located in Charlotte, North Carolina. Each case study will assess the financing, design and siting characteristics and conclusions will be drawn about how these variables impact the surrounding real estate markets.

TRANS WORLD DOME

The development of the Trans World Dome (the "Dome") could be considered one of the largest speculative development projects the City of St. Louis and State of Missouri has ever seen. At a public cost of nearly $298 million, excluding additional incentives to the Rams, the "deal" that brought the Rams to St. Louis may well have set a precedent for other municipalities abilities to negotiate with professional sports teams. Since the Rams left Los Angeles, their franchise value has increased 59% to $243 million, due in large part to their favorable lease terms at the Dome.[39]

Soon after the Cardinals departure from St. Louis to Phoenix in 1988, government officials began their quest for a replacement team to fill the void that had been created by the loss of the Cardinals. The *NFL Partnership*, which consisted of a group of community business

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[38] I would like to acknowledge James Cole, who dedicated an endless amount of time and effort towards completion of the *Ericsson Stadium Case Study*.

[39] Michael K. Ozanian, "Sports Valuation Scoreboard," *Financial World* (June 1997), Football Valuations.

leaders, was created with the sole objective of enticing a new team to downtown St. Louis and retaining the franchise rights to a new football team.[40] In order to attract a new team, State, County and City officials decided to adopt a "build it and they will come " strategy gambling on their ability to retain a tenant for their new multi-million dollar development project.[41]

In 1989 the St. Louis Regional Convention and Sports Complex Authority ("The Authority") was established by the Missouri Legislature as an independent public entity with a charter to finance, construct and hold title to the planned domed stadium. The Authority would own the improvements, which would also serve as convention space. In April 1990, St. Louis County voters approved an increase in the county hotel/motel room tax from 3.75% to 7.25% with a 75% majority vote, which would assist in covering the County's share of debt service. The voters of St. Louis County were more than happy to approve this additional taxation on out-of-town visitors, thus exporting the funding of the County's portion of the stadium debt.[42]

Groundbreaking for the domed stadium began in July 1992, with site preparation being completed in February 1993. Site preparation included the demolition of the former Sheraton Hotel and Greyhound Bus Terminal. Construction of the main stadium structure began in June 1993 and was completed in the Fall of 1995.[43]

Stadium Financing

Total cost estimates for the construction of the Dome, like any other construction project, depends upon which source one references. The St. Louis Regional Convention and Sports

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[40] Mark S. Rosentraub. *Major League Losers: The Real Cost of Sports and Who's Paying for It*, New York: Basic Books, 1997, p. 299.
[41] Rosentraub, p. 301.
[42] Rosentraub, pp. 303-304.
[43] St. Louis Convention & Visitors Commission Press Release, "Building Hospitality: A Brief History."

Complex Authority, the owner and lessor of the Dome, estimates the total cost of the project at approximately $298 million. This estimate includes design fees, construction management fees, land acquisition, utility re-locations, demolition, site preparation, professional fees and construction costs.[44]

Construction financing was raised through State, County and City bond issues. An initial placement of $258.6 million in August 1991 constituted the lions share of the construction costs. The majority of the 30-year bonds mature in 2021 and carry an average stated coupon rate of 5.5%.[45]

Debt service payments for the retirement of the outstanding bonds is split proportionally, as follows: State of Missouri (50% or $12 million per year) and City and County of St. Louis (25% or $6 million per year). The $24 million public-sector investment includes $20 million to pay for construction and an additional $4 million towards a preservation fund for maintenance, operations, and future renovations and enhancements. When all is said and done the public will have paid out approximately $720 million: Stadium cost $202 million, land, site preparation and professional fees $99 million and an estimated $419 million in interest, maintenance and capital expenses.[46]

The St. Louis County Council recently appropriated $2.716 million from the county hotel tax fund to the Regional Convention and Visitors Commission (CVC), the operator of the Dome, to cover the operating deficit for the America's Center (Convention Center) and the Dome.[47]

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[44] Regional Convention & Sports Complex Authority, March 1997.
[45] Abstracted from State of Missouri Bond Refinancing Prospectus, December 15, 1993.
[46] Rosentraub, pp. 304-305.
[47] Phil Sutin. "County Council Introduces Bill for MetroLink Sales Tax Hike," *St. Louis Post Dispatch,* July 4, 1997, p. 5B.

Andrew McDonell, General Manager of the Trans World Dome, noted that the operating budget for the Dome is estimated at $13.5 to $15 million for 1997. He projects an operating deficit of approximately $1 to $1.15 million for 1997 with a break-even operation in 1998. Mr. McDonell attributes the current deficit to unexpected startup expenses and a hastened timeline to deliver a completed product.[48] It is projected that the Dome will break-even after the 1997-1998 football season.

The deal that was negotiated and executed with the Rams to come to St. Louis may go down in history as one of the most "franchise friendly" deals. Due to St. Louis' need to fill their already completed Dome and the fact that St. Louis had already been overlooked for an expansion team in 1993, bargaining power definitely favored the Rams.

The base rental charge for the Rams 30 year lease at the Dome totals $25,000 per game, plus 50% of direct expenses. The CVC did not implement a CPI clause into the lease, resulting in a flat $25,000 per game rental payment for 30 years.[49] The Rams portion of direct expenses averages $40,000 per game. The team receives 100% of all concession revenue with gross concession revenues per game averaging between $600,000 and $700,000. The Rams also receive all income from the leasing of 123 Suites and 6,400 Club Seats. Suites are leased for 5 to 10 year terms at a price tag of $55,000 to $110,000 per year, depending on location in the stadium. Club Seats are leased for 2,3, 5 and 7 year terms at a price of between $700 per year for end zone seats and $2,200 per year for premium Club Seats. The annual Club Seat charge does not include a per game ticket price. All advertising revenue and expenses are divided

[48] These figures were noted from a July 15, 1997 meeting with Andrew McDonell, Trans World Dome General Manager.
[49] Rosentraub, p. 301.

proportionally between the Rams and the CVC: 75% to the Rams and 25% to the CVC. The largest advertising deal involved the stadium naming rights which were sold to Trans World Airlines (TWA). TWA will pay $1.3 million per year inflated at 3.5% per year for 20 years.[50]

The sale of Personal Seat Licenses (PSL's) played an important role in the total compensation package to the Rams. The demand for Rams tickets was so intense that there was an over-subscription to the PSL offering with nearly 74,000 applications for 45,000 licenses.[51] This is because St. Louis initially did not sell the required PSL's by a certain deadline which ruined their chance to receive an expansion franchise. After this negative experience, St. Louis did not want to make the same mistake twice. Proceeds from the sale of $75 million worth of PSL's went directly to the Ram's for move-related expenses and stadium improvements.[52]

Stadium Design and Siting

St. Louis City officials, under the direction of Mayor Vincent C. Schoemehl, Jr., led a vigorous battle in the mid-1980's to keep the County from building a new football stadium 20 miles from downtown St. Louis. These officials "made an early determination that, whatever the cost, all big league sports facilities would remain downtown and not be recreated in the suburbs of St. Louis County."[53]

The Cervantes Convention Center, known as America's Center, was not meeting space requirement needs of the convention industry. In addition to the 100,000 square foot southward expansion that was completed in February 1993, it was decided that a new domed stadium would be added in an eastward expansion of the convention center. The new sports stadium complex

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[50] Information from interview with Andrew McDonell.
[51] Andrew McDonell, Interview.
[52] Rosentraub, pp. 312-312.
[53] Fred Faust, "St. Louis's Newest Downtown Sports Facilities," *Urban Land* (April 1997), p. 18.

upon completion added an additional 162,000 square feet of convention space. The construction of an attached dome allows for added "event days" which translates into extra income for the stadium owners. Civic leaders understood that a stand-alone football facility would not be self-sustaining. It was hoped that the domed stadium/convention center concept would address these financial concerns.[54]

Mayor Schoemehl labeled the project "an economic engine for the entire St. Louis Region." The site selected for the TWA Dome is located due north from the central business district adjacent to Interstate 70, a north-south roadway running along the Mississippi. The site was home to a Greyhound Bus Terminal and Sheraton Hotel, which were demolished to make way for the new stadium.

The selection of brick as primary facade treatment for the stadium allowed for continuity between the convention center and the stadium. Red brick and glass run uninterrupted between attached structures to match the architecture of adjacent historical structures. HOK Sport, the designer of the stadium, placed emphasis on the structure's walls rather than on the massive dome. "The walls are where the city is and where the people are," states Steven Brubaker, senior designer for HOK. "We wanted the design to encourage urban life and activity in the Dome's surrounding district." Architectural features such as rotundas, turrets, ramps, pillars and portals extend along the entire convention complex in a manner Brubaker describes as "episodic" of "like pearls on a string." "The details relate to the nearby Mississippi River and riverfront, the Eads Bridge and other historic structures, helping to ensure the future viability of nearby rehabilitated areas."[55]

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[54] Rosentraub, p. 300.
[55] St. Louis Convention & Visitors Commission. "Trans World Dome Exterior Design."

Interior Design

In addition to hosting sporting events, the flexible design of the Dome allows it to attract concerts, meetings, political conventions or various forms of family entertainment. Municipal officials held true to their initial promises by designing a stadium that would attract an NFL team, while delivering needed space to the existing undersized Convention Center.

Seating for football events totals approximately 66,500. This includes 29,000 Concourse Level seats, 29,000 Terrace Level seats, 6,400 Club Seats and 123 Suites. Aside from 600 semi-obstructed seats scattered throughout the stands, the seating configuration and sight lines offer the fans above- average views of the field. Views are also improved due to the fact that the first level of seating is 4.5 feet above the playing field.

The level of finish and amenities at the Dome is conservative and functional. Food and merchandise are offered at 67 concession stands, 15 push carts and 8 novelty stands throughout the various levels of the Dome. It was noted during a facility tour that the concession areas were not painted in standard Rams colors (Blue & Yellow). It was explained that painting was completed in advance of the execution of the Rams lease and color selection was meant not to be "offensive" to any football franchise prospect. The concession areas deliberately lack fancy signage, floor covering and ceiling finish. Upgrades are planned for the 1997-1998 season.

Due to the large number of club seat and suite holders, the Ram's decided to convert an existing premium seat concession area into an upscale sit down dining club. This restaurant, dubbed the *Rams Club,* is a 400 seat private, sit-down restaurant catering to game day dining. The Rams paid for the improvements, which cost of approximately $700,000.[56] The *Rams Club*

[56] Andrew McDonell, Interview.

opens prior to games, but is not operational during non-game days. Amenities at the Dome are geared towards attracting fans spending during game day festivities. External retail operations surrounding the Dome benefit greatly from pre and post-game traffic. However, the opportunities afforded by the limited home schedule of professional football teams can be considered negligible.

Impact on Surrounding Real Estate

> *"St. Louis suffers from slow population growth and a dependence on industries that do not hold tremendous promise for the future, such as shrinking defense contracts and exposure to the large, troubled air travel industry. This exposure to downsizing and weak industries has prompted a large out-migration to the far-western and northern corners of the MSA, leaving the downtown much less populated."* [57]

The Dome is located due North of the St. Louis CBD and is bounded by Cole Street to the north, Broadway to the East, Cervantes Convention Center to the West and Convention Plaza to the South. Downtown St. Louis is home to various landmarks: the Gateway Arch, Busch Stadium, the Kiel Center, Union Station, and multiple Mississippi River gaming operations. Although downtown St. Louis has made considerable strides in recent years to strengthen its national reputation, the downtown area is still burdened by problems facing many cities across the United States. Suburban sprawl has greatly affected the St. Louis downtown area and the surrounding real estate market. The population of the City of St. Louis has dropped nearly 8% in the past seven years from 397,000 to 366,000.[58] Many blame the economic and social ills of the city on the lack of residential housing in the urban core. The area north of the Dome holds the

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[57] Aldrich Eastman Waltch Research. "St. Louis Market Contours." Summer 1996.
[58] John Handley. "Open Gateway: St. Louis Downtown Projects Unlock Potential for Chicago-Style Revival," *Chicago Tribune,* June 1, 1997, p. 1.

areas highest concentration of residential units: nearly 1,200 affordable housing units. The majority of the remaining downtown housing units are located a short distance to the west of the Dome near the St. Louis Arch. These projects were constructed prior to the development of the Dome.

There have been a few notable, although small, pockets of residential redevelopment since the arrival of the Dome, with most projects recently announced or completed. An area referred to as the Washington Avenue Loft District, which is located just west of the Dome is experiencing a revitalization. "New uses are being found for obsolete buildings. Vintage factories and warehouses are being converted for residential uses, and new restaurants and night clubs are cropping up."[59] A warehouse conversion project called ArtLoft was completed last year and delivered sixty-three live/work apartments to an area near the Washington Avenue Loft District. Although these projects would be considered small relative to most multi-family projects, the acceptance of the area by residential owners has begun.

The downtown St. Louis office market exhibits extreme economic and physical characteristics. According to Colliers Turley Martin Research, the downtown office market consists of approximately 14.5 million square feet of office space. While low vacancies in Class "A" buildings represents nearly 50% of all office space, class "B" and "C" buildings have average vacancies of 16% and 72%, respectively.[60] This large supply of vacant, obsolescent office buildings leaves owners bearing a huge financial burden with little chance for adequate financial returns. Many of these buildings have been, and will remain, empty for the foreseeable

[59] Handley, p.1.
[60] Colliers Turley Martin Research, July 1997.

future. As with residential projects, there are pockets of office redevelopment throughout certain downtown areas, but this volume is also negligible.

The retail market in the downtown St. Louis area consists primarily of ground floor retail, St. Louis Centre and Union Station. The Union Station development is located approximately one mile southwest of the Dome and is in close proximity to the Kiel Center, a hockey arena built in the early 1990's. The Union Station development is occupied by national retailers and is a destination for both visitors and locals. However, real estate professionals consider the Union Station area its own submarket, with very little interaction with the Dome. St. Louis Centre, a Simon regional mall anchored by Dillard's, is located across from the entrance to America's Center. After a brief tour of the mall and discussions with local real estate sources, it does not appear that the mall is performing well. It is rumored that Dillard's may be looking to move out of the mall.[61] One particular area that has been impacted positively by the completion of the Dome is Laclede's Landing, a historic district located due east of the Dome on the Mississippi. This district contains 22 restaurants and bars, a 300-room hotel and 9 shops and attractions. Planet Hollywood has announced that it will open a 20,000 square foot theme restaurant in the Landing in 1998.

Due to St. Louis' prominence as a convention city, there is a perceived need for a convention hotel. Plans for development of a hotel have been discussed since the late 1980's, with no such plans advancing past the preliminary stages. There are currently two vacant hotels located near the entrance to the America's Center, which could potentially be renovated. The

[61] Information received from market tour and interview. Strictly a subjective assessment of real estate performance.

one issue that could not be addressed was the rationale for demolishing the Sheraton Hotel, which once stood on the current site of the Dome.

Conclusion

The impact of the Trans World Dome on the surrounding real estate market has been negligible. Football related activity in downtown St. Louis is limited to 10 to 12 events per season. Those most positively impacted are retail operators (i.e. restaurants, bars and merchandisers) in Laclede's Landing and a small group of residential owners in the downtown area. When you look at the Dome as an expansion of the Cervantes Convention Center, the stadium structure allows for accommodation of larger events, which translates into a greater economic impact for St. Louis real estate owners.

The design of the dome and thoughtful selection of materials that blend in with surrounding structures make the Trans World Dome a centerpiece for urban renewal. Without the addition of the stadium development to the downtown, St. Louis would have lost its much needed convention business. Although the impact on real estate has been minimal, there has been some positive economic and real estate change.

A direct relationship can be drawn between the public financing of the Dome and the externalization of some economic benefits. Stadium designers and municipal officials did not attempt to limit the economic spillover into the area around the Dome. Local businesses see an increase in activity during game days as a result of the Dome. To say that the introduction of a football stadium has had a large positive impact on the surrounding real estate market would not be a fair assessment. Without the flexibility of the Dome to hold additional events, the positive

effects would not exist. The siting and development of the Trans World Dome is one step in St. Louis' trek towards revitalization and reversal of fortune.

ERICSSON STADIUM

Ericsson Stadium, the model for the rest of the country according to NFL commissioner Tagliabue, has created a fervor within the city after only one year of operation. The Panthers played the 1996-97 season before sellout crowds, reaching the playoffs in only their second season, an unprecedented feat. This on-the-field success has translated into off-field success as well. The Panthers are the fourth most highly valued franchise and rank third in venue revenue.[62] Here, we attempt to qualitatively assess whether or not the enthusiasm associated with the team's early success has spilled over and translated into increases in neighboring real estate values. First, we outline the stadium financing and specific design characteristics. Next we provide the results of our real estate market survey. We conclude with our analysis of possible connections between the design and financing of the stadium and the impact on neighboring real estate.

Ericsson Stadium, home of the Carolina Panthers, is located in the southwestern Charlotte CBD, also known as Third Ward. This submarket is generally bounded by a loop interstate, I-277, on three sides and by I-77 to the west. The stadium was completed in 1996 for the Panthers occupancy in the 1996-97 season. The planning process began eight years earlier. On December 15, 1989, Panthers ownership announced that they would build the stadium in Uptown Charlotte.[63] The franchise was not officially awarded until October 26, 1993,[64] but the City of Charlotte began acquiring land committed for the stadium in

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[62] *Financial World*, National Football League Team Values.
[63] *The Complete PantherPage Website*, "Expansion Timeline."

1989, with a $12 million acreage purchase.[65] The Panthers received additional encouragement on August 25, 1991 from NationsBank Chairman Hugh McColl, who assured team founder Jerry Richardson that NationsBank would finance the stadium.[66] The eventual land assembly would total 33 acres costing the City and County slightly more than $29 million (an average cost of $20.64 psf).[67] Additional infrastructure investments and land improvements from local government brought the total investment to $57 million. The total project cost of the stadium was $185 million.[68]

Stadium Financing

The Panthers financed the $185 million development cost through the use of contractually obligated income, COI, described in Chapter 4. The sale of PSL's raised $142.7 million (before the franchise had been awarded).[69] LM Ericsson Inc., a Swedish telecommunications firm with one employee in Charlotte and 800 employees in the Research Triangle Park purchased the naming rights. The deal was rumored to give Ericsson the naming rights for 10 years at a price of $25 million.[70] Because the stadium is privately owned, actual terms were not disclosed and were likely higher.[71] Between the sale of PSL's and naming rights,

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[64] *The Complete PantherPage Website*, "Expansion Timeline."
[65] Staff Writer, "The National Football League: Coming Soon to a Stadium Near You!," *The Professional Engineer* (January-February 1995), p. 9.
[66] *The Complete PantherPage Website*, "Expansion Timeline."
[67] Teleconference with Walker Wells, a licensed real estate broker, on July 7, 1997.
[68] Carolina Panthers , "A Quick A to Z Look at Ericsson Stadium."
[69] According to *The Complete PantherPage Website*, NationsBank and Wachovia posted a $30 million guarantee to purchase unsold PSL's as of September 22, 1993 after an earlier sales campaign had closed with deposits of $54 million, representing a total pledge of $112.7 million. Given the corporate pledge, total contributions totaled $142.7 million.
[70] Associated Press and Nando.net, "Swedish firm forks over $20 million for name on Panthers Stadium," June 26, 1996.
[71] From Mark Richardson's comments at Sports Facilities Finance Conference, New York, May 5, 1997.

it is likely that the Panthers paid off the majority of the development cost of the stadium. The Panthers lease the land under the stadium from the City for $1 per year with a 99 year term.[72]

Considering the municipal investment of $57 million and the project cost of $185 million, the total cost of the open air, natural grass stadium equals $242 million. Of this amount, the City funded 24% and Richardson Sports contributed the remainder.

Interior Design

Jerry Richardson, founder of the Carolina Panthers and former Baltimore Colts wide receiver, used his playoff money to buy a restaurant franchise in 1961.[73] He built on that franchise and later became President and CEO of TW Services, which was acquired in 1989 for $1.65 billion.[74] Ericsson Stadium seems like an extension of that experience in that it contains a mind-boggling 412 permanent points of sale for food.[75] This ratio of 1 for every 176 fans is almost double other venue averages. In addition, the concession stands sell a wide variety of food items including barbecue, pizza, burgers and Mexican.[76] Sight lines are stated as the "best in the league" according to team owner Jerry Richardson. Although the stadium does not contain a restaurant, it does contain space for one in the future if desired. This space has been used successfully on off-days for banquets and promotional events. The stadium also contains space to add up to 30 more luxury suites.[77] A recent *Your Money* survey revealed that the price of tickets and concessions for a family to attend a Panthers game was the second highest in the league at $234.[78] At this price, the majority of the fans are probably upper-middle class and

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[72] Interview with Jerry Blackmon, a County Commissioner at the time the deal was negotiated.
[73] *1996 Carolina Panthers Media Guide*, p. 6.
[74] *1996 Carolina Panthers Media Guide*, p. 6.
[75] Carolina Panthers, Ericsson Stadium - Fan Amenities.
[76] Carolina Panthers, Ericsson Stadium - Fan Amenities.
[77] Staff Writer. "Panthers Focus on Image," *The Business Journal of Charlotte,* June 16, 1997, p. 66.
[78] The Business Journal of Charlotte, p. 66.

above. These fans probably have more disposable income for shopping and dining out. If they perceive that the area around the stadium is safe and clean, the potential for retail, restaurant and office uses is increased.

The stadium includes state-of-the art scoreboards and a computer controlled sound system. The scoreboards, located in each end zone and along each sideline, are comprised of one, 24' x 32' TV quality replay board, one 17' x 32' black and white animation board and one 10' x 50' black and white scoreboard and game in progress statistics board.[79]

These design elements indicate that Panthers management achieved their goal of building a luxury, fan friendly facility. The absence of restaurant style dining facilities or other fan-oriented attractions within the stadium is curious. The western side of the stadium even includes a picnic area for the promotion of tailgating. The Panthers are clearly encouraging the patrons to eat and drink outside the facility where they do not capture the expenditures. The sizable municipal investment may be the cause of some of this unusual altruism. NationsBank's financing of the franchise and the stadium may have given them an implicit influence on the internal design. According to Richardson, he and his partners "wanted to do something for an area that has been awfully good to [them]."[80]

Exterior Design

The area of Uptown where the stadium sits has been transformed from a "don't go there at night" slum to a sparkling crown jewel of Charlotte. Of the 33 acres used by the Panthers, the stadium footprint is 15 acres, open space comprises 11 acres and practice fields cover another 7

[79] *Charlotte's Web* Website, "Ericsson Stadium."
[80] *1996 Carolina Panthers Media Guide*, p. 7.

acres.[81] The open space is heavily landscaped in a park-like setting. The state tree of North Carolina as well as signature trees of South Carolina and Charlotte are each featured in separate areas of the open space.[82] In addition, over 17,000 bedding plants are replaced four times a year to insure that the setting is maintained year round.[83]

The stadium itself has an impressive exterior design. HOK Sport, the lead designer of the stadium, described its exterior appearance in the following way:

> "With its massive archways, domed towers, and striking black façade, the new Ericsson Stadium stands as a monument to the NFC's Carolina Panthers. Designed to reflect the team colors, the stadium features a black obsidian granite stone façade… A pair of black panthers, seven feet high and perched on ten-foot pedestals, rest on either side of each of the three entryways. The light domes atop the entry towers create a spectacular light show on game nights, visible for miles around."

The domes, referenced by HOK, even remain lit on non-game nights, welcoming visitors to the site.

Ericsson Stadium's interior and exterior design links the facility to the surrounding property aesthetically and economically. The park-like environment and glass and granite facade fit well with the new skyscrapers of Uptown Charlotte. Inside, team ownership created the ultimate fan experience, providing state-of-the art comforts and conveniences. However, they failed to include amenities found in ballparks and arenas such as restaurants and entertainment centers. The absence of these amenities allows game-day traffic to patronize neighboring establishments. It is clear that the focus of this stadium is enjoyment of the event. Whether

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[81] Carolina Panthers, "Ericsson Stadium - Stadium Dimensions."
[82] Carolina Panthers, "A Quick A to Z Look at Ericsson Stadium."
[83] Richardson, Sports Facility Finance Conference.

intentional or not, the stadium appears to benefit adjacent property owners through its interior and exterior design.

Impact on Surrounding Real Estate

The stadium is located within the Uptown submarket. This submarket is comprised of mostly office buildings and contains the greatest amount of office space in the Charlotte region, slightly more than 10 million square feet.[84] Uptown contains only 228,456 square feet of retail space, excluding retail and restaurants uses of less than 30,000 square feet.[85] Uptown is not a primary location of warehouse and industrial property. Residential property has been developed in three of the four wards, but the idea of Uptown living is still peculiar to most long term Charlotte residents.

Several other significant properties were developed or nearing completion at the time Ericsson Stadium opened. A $147 million convention center opened in 1995 only three blocks (about 2000 feet) from the stadium at the corner of Stonewall and College Streets.[86] In addition, office and residential developments totaling over 1.2 million square feet were under construction as close as seven blocks away. New development also occurred in a nearby section known as South End. This area south of Uptown is experiencing gentrification as older industrial buildings are sold and either demolished or redeveloped as a variety of retail, office and residential uses. The generator for the renewal appears be the South End Brewery, a very successful micro-brewery and restaurant, partially owned by the Richardson's, and a popular gathering spot for

[84] Charlotte Chamber of Commerce, *The Charlotte Real Estate Report*, Vol. II 1996-97, p. 76.
[85] Charlotte Chamber of Commerce, p. 87.
[86] Staff Writer. "Summit Ponders City's Destination Pros, Cons," *The Business Journal of Charlotte,* July 14, 1997, p. 32.

players after the games. The growth of Charlotte makes it difficult to separate the Stadium impact from other expansionary movements within the City.

Although some small, fragmented retail-entertainment uses sprang up in the shadow of the stadium during the construction, these pioneers have enjoyed mixed degrees of success.[87] All of the operators interviewed were local, with some having multiple locations. Existing operators reported increased traffic on both home and away game days. Responses ranged from euphoria that "game day business would be enough to keep [the restaurant] open all year long," and "generated long lines before, during and after games" to an expression that year-round business is necessary to exist and that the previous season had been a learning experience. Several operators stated that early Sunday afternoon games generated little new pre-game business. This feeling was tempered by the optimism of Saturday and Monday night games during the coming season. A few operators reported vigorous post-game traffic. The "game day" surge diminished for establishments over one mile away from the stadium. This relatively tight range may be due to the limited public transportation and the abundance of parking available in the Uptown area. If people are driving to the games, they are less likely to stop twice before parking their cars. Tailgating is popular and permitted in most lots. Temporary food vendors and pushcarts are subject to strict health regulations, which limited their use and should have allowed permanent operations to garner most of the business.

Some existing office and decorator showroom uses adjacent to the stadium appeared to benefit from the from the siting of the stadium. The site was previously composed of vacant, aged industrial building. These structures, which acted as a physical barrier to southwestern

[87] Eight local operators within one mile of the stadium were interviewed in person on July 15, 1997.

growth, were razed for the construction. In so doing, the property along Cedar and West Morehead became much safer and more popular. Other older structures on West Morehead have been renovated as office space and rent at levels considerably less than comparable Class B, CBD space. This development appears to be related more to the clean-up of the stadium site than the game-day activity. Absent the employment and population growth in the Charlotte market, this activity would be limited.

Land values have experienced the most significant changes since the planning and opening of the stadium. According to local brokers, prior to the announcement of the stadium, land in Third Ward, including the stadium site and adjacent property, was valued at between $2 and $12 per square foot, or an $8 psf average. The City acquired the stadium land at an average cost of $21 psf. Obviously, the City's purchases drove up prices significantly. Since that time, land prices on the north and west of the stadium have at least doubled due to the excitement in this ward. Some land nearer the center of the CBD has fallen in value slightly as its attractiveness has fallen in the face of other attractive property. Much of the surrounding land is used for surface parking while owners wait for their development options to mature. Overall, it seems as if the siting of the stadium has had a strong positive effect on land prices.

Conclusion

Ericsson Stadium is designed to allow the spillover of benefits to surrounding property owners, consistent with the notion of a public-private development. It provides a first class viewing experience for the fans, but does not attempt to hold them up and shake all the money from their pockets.[88] The exterior aesthetic and lack of internal amenities foster the potential for

[88] Maybe Panthers management did not expect the fans to have much money left after buying PSL's.

spillover benefits to adjacent retailers, restaurateurs and club owners. Existing operators reported increases and new operators reported brisk business. Meanwhile, the increase in property values signals that the stadium is strengthening the Uptown submarket.

Ironically, a lot of the activity around the stadium consists of office, residential and showroom development. We conclude that these users appeared due to the removal of the prior users of the stadium site. The stadium linked the Cedar and West Morehead Streets to Uptown and effectively opened a development corridor for overflow office users that prefer the Uptown location but choose not to pay the CBD rents. The showroom development may have occurred for a completely different reason. According to one operator, she preferred locating in a refurbished warehouse. The Cedar Street area has a number of these and the rent was cheaper than other showroom spaces. However, the clean-up of the stadium site lowered the crime and itinerant traffic in the area, making it more attractive to office, showroom and residential users.

It may be that the limited frequency of football games makes it difficult for a restaurant or entertainment operator to survive solely relying on game-day patrons. In the case of Ericsson, Jerry Richardson's experience in the food service business would have made an in-stadium restaurant seem logical. The absence of a restaurant in a privately financed stadium coupled with the Richardson's ownership interest in a micro-brewery and restaurant located in the South End area, provides additional support for this idea.

It appears that Ericsson, a majority privately financed stadium, internalizes all the benefits that the ownership group perceives are available. But what is the return on the municipal investment? Redevelopment of property southwest of the stadium, in an area that was previously distressed, and increased desirability of property along Cedar Street has sparked

property values and improved public perceptions. Land values have also trended upward significantly in most areas. With a tax re-valuation set for next year, the City is set to realize its payoff.

Chapter Seven: Conclusions and Implications for the Future

Relative to the volume of baseball and basketball facilities completed over the past ten years, football stadium development ranks third. This ranking, however, is changing quickly. At the time of completion of this thesis, there were four football facilities[89] under construction and nearly ten more facilities under proposal. The past decade has been marked with the advent of many new design features, such as premium seating, that was introduced by football stadium owners attempting to derive greater venue revenue from the operation of their facility.

With five football stadiums constructed and three stadiums nearing completion, the topic of football stadium development will certainly be a major topic of interest for many franchise owners and municipal officials for years to come. With the proliferation of urban-sited football stadiums, the decision to site a facility in the suburbs might be questioned from a real estate standpoint. This generalization is, however, difficult to substantiate, with only five projects completed. If this research is continued one day in the not too distant future the number of completed projects is sure to triple. The addition of more completed facilities will allow for a more thorough assessment of trends and relationships.

In the previous chapters, issues were raised and hypotheses formed on the relationship between project financing, design and siting and how these factors influence real estate activity around a football stadium. The TWA Dome and Ericsson Stadium case studies drew a stark contrast between publicly and privately financed stadiums. Both facilities, although great examples of well-designed facilities, have impacted the surrounding real estate to differing

[89] As of August 1, 1997, football stadiums were under construction in Baltimore, MD, Raljon, MD, Nashville, TN and Cleveland, OH.

degrees. The TWA Dome is sited near the urban core of an underperforming midwestern city, while Ericsson Stadium is sited in a growing, urban area on the fringe of the CBD. The other two facilities completed in the last decade,[90] Pro Player Park and Georgia Dome, also exhibit varying impacts on the surrounding real estate. Pro Player, a privately financed stadium situated in suburban Miami, has had nearly no impact on the surrounding real estate, yet is considered a success when assessing its financial return to its owner. Georgia Dome is an example of an urban stadium that has experienced positive external benefits from the introduction of the stadium. However, Atlanta has been experiencing a rising real estate market in lockstep with the area surrounding the facility, so it is difficult to objectively assess the positive benefits to the surrounding real estate market.

It was difficult to draw sport-specific relationships for football, due to the limited number of completed projects over the last decade. However, a few observations were made regarding the siting, financing and design of football facilities. The ratio of urban-to-suburban completed facilities is 3-to-2. The future trend is for municipalities, if financing a large portion of development costs, to push for an urban-sited location. Most politicians wish to use the stadiums as an "anchor" for urban renewal. Whether this belief is perceived or real is still out to jury. The findings of this thesis found that urban-sited, publicly financed stadiums would have a greater impact on the surrounding real estate market. An excellent contradiction of results are Pro Player Park (no real estate impact) and Ericsson Stadium (some real estate impact).

[90] Jacksonville Stadium, now called Allnet Stadium, is considered the fifth stadium completd in the past decade. Some do not consider this project a "new" development because the new stadium was replaced on the exact foundation of the older facility.

How will football stadium development emerge over the next decade? One thing is for certain, with the number of proposed football projects currently underway, football should lead the race in the coming decade in shear volume. Where will football stadiums be sited? How will projects be financed? How will stadium design change?

Siting is probably one of the most interesting components of stadium development. Will municipalities pay franchise owners to move a team to the suburbs, or will governmental officials fight to keep the "benefits" within the city limits? With only 10-12 events per year most football stadiums remain vacant for the vast majority of days in a year. Could the San Francisco 49ers new stadium be the future of stadium development? The 49ers just recently won a referendum vote (by a slim margin) to construct a new $525 million stadium/shopping & entertainment complex on 200 acres adjacent to their current home, 3Com Park. The taxpayers of San Francisco will foot approximately $100 million of the development costs. Are the DeBartolo's, famous for their success in retail development, re-writing the specifications for 21st century football stadium development? Since there are limited event days for football stadiums, are owners trying to capture more fan revenue on non-event days?

Will the public continue to finance stadiums, like in the case of Baltimore or will projects be privately financed, similar to Ericsson Stadium in Charlotte? The design and financing of football stadiums are interrelated. A large portion of development financing, in the case of Ericsson Stadium, was funded through the sale of PSL's for premium seating. How will the design of stadiums change over the next few years that will enable stadium owners to maximize their return on cost?

The implications of stadium development, more specifically football stadium development, have far-reaching effects in the area of design, financing and siting. This thesis has attempted to develop initial hypotheses, relative to the impact of financing, design and siting and how these factors impact the surrounding real estate market. If future researchers can build upon the ideas presented in this paper to more fully assess the questions outlined above, the mysteries of the interrelationships between financing, design and siting can one day be more fully understood.

Appendix

-Broker Survey
-Design Survey
-Regression Data

M.I.T. SURVEY

Facility_____ Respondent_____

Company_____

Submarket_____ 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:

			<5%	>5%,<10%	>10%
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:

			<5%	>5%,<10%	>10%
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:

			<5%	>5%,<10%	>10%
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:

			<5%	>5%,<10%	>10%
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

		<5%	>5%,<10%	>10%
Decreased	*No Change*	*Minimal*⇑	*Moderate*⇑	*Strong*⇑

9) For retail, which type of development has been most prevalent?

Small family owned *Local investors* *National investors*

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SPORTS FACILITY THESIS SURVEY

Please rate only the facilities that you have attended!
Rate each category 1-5
1 being the worst score, 5 being the best

		Access/ Location	Food	Sight Lines/ Views	Comfort/ Seating	Exterior Design/ Attractiveness	Overall Assessment
Baseball Stadia							
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							
Alinet 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.

Stadium Name	Cost	Public	% Public	Year Open	Private	%private	Rel% Pvt	%Pvt -Avg
New Comiskey Park	$137,000,000	$137,000,000	100%	1991	$-	0.00%	0%	-7%
Camden Yards	$205,000,000	$205,000,000	100%	1992	$-	0.00%	0%	-7%
Jacobs Field	$180,000,000	$180,000,000	100%	1994	$-	0.00%	0%	-7%
Ballpark in Arlington	$191,000,000	$135,000,000	71%	1994	$56,000,000	29.32%	400%	22%
Bradley Center	$84,000,000	$26,040,000	31%	1988	$57,960,000	69.00%	96%	-3%
ARCO Arena	$40,000,000	$-	0%	1988	$40,000,000	100.00%	139%	28%
Palace at Auburn Hills	$75,000,000	$-	0%	1988	$75,000,000	100.00%	139%	28%
Delta Center	$168,000,000	$20,000,000	12%	1991	$148,000,000	88.10%	122%	16%
America West Arena	$102,000,000	$46,000,000	45%	1992	$56,000,000	54.90%	76%	-17%
Alamodome	$186,000,000	$186,000,000	100%	1993	$-	0.00%	0%	-72%
Gund Arena	$155,000,000	$120,000,000	77%	1994	$35,000,000	22.58%	31%	-50%
United Center	$180,000,000	$-	0%	1994	$180,000,000	100.00%	139%	28%
The Rose Garden	$262,000,000	$34,000,000	13%	1995	$228,000,000	87.02%	121%	15%
Fleet Center	$160,000,000	$-	0%	1995	$160,000,000	100.00%	139%	28%
Pro Player Park	$181,500,000	$-	0%	1987	$181,500,000	100.00%	200%	50%
Georgia Dome	$188,500,000	$188,500,000	100%	1992	$-	0.00%	0%	-50%
TWA Dome	$298,000,000	$298,000,000	100%	1995	$-	0.00%		-50%
Ericsson Stadium	$180,000,000	$136,000,000	76%	1996	$44,000,000	24.44%		-26%
Coors Field	$215,000,000	$200,000,000	93%	1995	$15,000,000	6.98%		0%
Miami Arena	$53,000,000	$40,000,000	75%	1988	$13,000,000	24.53%		-47%
Target Center	$136,000,000	$136,000,000	100%	1990	$-	0.00%		-72%
Orlando Arena	$100,000,000	$100,000,000	100%	1989	$-	0.00%		-72%
Charlotte Coliseum	$52,000,000	$52,000,000	100%	1988	$-	0.00%		-72%

Stadium Name	Suites	Club Seats	Venue Revenue	Revenue per seat	Total Revenue	% of Total	CS/CAP	Age	Premium	Urban /Sub	Design
New Comiskey Park	93	1,822	$20,900,000	$471.56	$70,300,000	29.73%	4.1%	6	2,938	0	2.1
Camden Yards	66	3,800	$21,400,000	$443.36	$105,300,000	20.32%	7.9%	5	4,592	0	4.3
Jacobs Field	125	2,400	$22,900,000	$545.24	$95,400,000	24.00%	5.7%	3	3,900	0	3.8
Ballpark in Arlington	120	5,386	$25,500,000	$518.52	$87,700,000	29.08%	11.0%	3	6,826	1	3.5
Bradley Center	68	-	$2,800,000	$150.27	$36,400,000	7.69%	0.0%	9	816	0	3.0
ARCO Arena	30	400	$9,400,000	$542.82	$50,400,000	18.65%	2.3%	9	760	1	2.5
Palace at Auburn Hills	180	-	$24,500,000	$1,141.98	$77,300,000	31.69%	0.0%	9	2,160	1	3.0
Delta Center	22	1,176	$11,500,000	$577.57	$61,400,000	18.73%	5.9%	6	1,440	0	4.0
America West Arena	87	700	$10,900,000	$572.99	$78,800,000	13.83%	3.7%	5	1,744	0	3.8
Alamodome	38	3,500	$6,000,000	$290.39	$59,700,000	10.05%	16.9%	4	3,956	0	2.5
Gund Arena	156	3,000	$13,400,000	$651.69	$64,500,000	20.78%	14.6%	3	4,872	0	4.3
United Center	216	3,000	$12,200,000	$561.93	$86,800,000	14.06%	13.8%	3	5,592	0	3.3
The Rose Garden	70	2,400	$15,200,000	$713.62	$86,100,000	17.65%	11.3%	2	3,240	0	3.9
Fleet Center	104	2,441	$7,400,000	$397.34	$64,600,000	11.46%	13.1%	2	3,689	0	3.3
Pro Player Park	215	10,209	$20,000,000	$273.97	$95,400,000	20.96%	14.0%	10	12,789	1	2.8
Georgia Dome	203	5,600	$6,500,000	$91.68	$79,200,000	8.21%	7.9%	5	8,036	0	3.3
TWA Trans World Dome					$85,800,000	13.99%	8.86%	2	7,688	0	3.0
Ericsson Stadium					$75,100,000	21.57%	14.56%	1	13,098	0	3.3
Coors Field					$95,600,000	25.00%	8.76%	2	5,024	0	4.0
Miami Arena					$44,300,000	9.93%	0.00%	9	-	0	2.0
Target Center					$44,000,000	15.45%	0.00%	7	816	0	3.0
Orlando Arena					$62,800,000	7.64%	0.00%	8	312	0	3.0
Charlotte Coliseum					$53,700,000	11.55%	0.00%	9	144	1	3.0

Stadium Name	Ownership	Rev/seat	Sport Var	Avg Loc-Sub	Local -Mkt	Local -sub	CBD	Premium/cap	Potential Attend	Capacity	SEAT/CON
New Comiskey Park	0	471.6	0	0	-1	0	1	6.63%	3,590,001	44,321	738.68
Camden Yards	0	443.4	0	0.5	1	1	0	9.51%	3,909,708	48,268	1856.46
Jacobs Field	0	545.2	0	0.25	0	0	0	9.29%	3,402,000	42,000	1615.38
Ballpark in Arlington	0	518.5	0	-1.75	-2	-2	1	13.88%	3,983,418	49,178	655.71
Bradley Center	0	150.3	1	-0.5	-1	0	0	4.38%	838,485	18,633	1330.93
ARCO Arena	1	542.8	1	0	0	0	1	4.39%	779,265	17,317	1731.7
Palace at Auburn Hills	1	1,142.0	1	0	2	1	1	10.07%	965,430	21,454	1787.83
Delta Center	1	577.6	1	0.25	0	0	0	7.23%	895,995	19,911	765.81
America West Arena	0	573.0	1	-0.25	0	0	0	9.17%	856,035	19,023	422.73
Alamodome	0	290.4	1	-0.25	-1	0	0	19.15%	929,790	20,662	765.26
Gund Arena	0	651.7	1	0.25	0	0	0	23.69%	925,290	20,562	514.05
United Center	1	561.9	1	-0.75	-1	-1	1	25.76%	976,995	21,711	471.98
The Rose Garden	1	713.6	0	0.5	1	1	0	15.21%	958,500	21,300	1121.05
Fleet Center	1	397.3	0	-0.5	0	0	0	19.81%	838,080	18,624	517.33
Pro Player Park	1	274.0	0	-2.5	-2	-2	1	17.52%	730,000	73,000	1825
Georgia Dome	0	91.7	0	0.75	-2	1	0	11.33%	709,000	70,900	2625.93
TWA Trans				0	-0.25	0			700,000	70,000	
World Dome											
Ericsson Stadium				0	0	0			755,200	75,520	
Coors Field				0	2	0			4,066,200	50,200	
Miami Arena				-2.5	-2.5	-2			675,360	15,008	
Target Center				0.25	-0.5	1			855,270	19,006	
Orlando Arena				-0.25	-0.75	1			776,160	17,248	
Charlotte Coliseum				0	0	0			1,081,890	24,042	

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