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## Optimal Markets for NBA Expansion and Relocation

Regardless of the state of the economy, many cities continue their pursuit to entice big league sports franchises to locate within their metropolitan area. For instance, Louisville has been trying to lure a National Basketball Association (NBA) franchise to its city for more than seven years. More recently, New Orleans was successful in attracting the former Charlotte Hornets to move into a new arena in the city. Both Northern Virginia and Washington D.C. are currently looking to house a Major League Baseball (MLB) team. Moreover, Paul Allen was interested in bringing a National Hockey League (NHL) or MLB team to the city of Portland in an effort to provide content for his regional sports network.

Since professional basketball began in the United States in 1946 with eleven teams, three of which are still in existence, some teams have gone out of business while others have moved to different cities and have changed names. Instances of relocation are infrequent. Some of the recent team relocations include the Clippers final move to Los Angeles from San Diego (1984); and the Kings final move to Sacramento from Kansas City (1985). The Vancouver Grizzlies move in 2001 was the most recent, with the team choosing to relocate in Memphis over the cities of Louisville and New Orleans.

One key impetus for relocation is to increase arena-related team revenues. Some owners argue that the increased revenues from a new arena will put a franchise in a better position to bid for quality players, resulting in a better team, drawing more fans, resulting in more revenues and so on. The type of sports facility and lease arrangements are as important as the quality of the market in an owner's location decision.

Team relocations, and the threat thereof, have commensurately increased the value of major league clubs. Moreover, the Hornets move from Charlotte to New Orleans was primarily due to a more appealing facility agreement with New Orleans for a state-of-the-art facility, however, the relocation placed the team in a smaller media market and a less affluent city. The Oakland A's and Montreal Expos (MLB), the Minnesota Vikings (NFL), and numerous NHL franchises are also considering new locations. This is primarily due to the fact that the four major sports leagues control the supply of teams, the placement of franchises, and the number of teams that are permitted to locate in any market. In spite of demand, the leagues are reluctant to increase the rate of creating expansion teams. In fact, since the NFL and AFL merged in 1966, the NFL has added only seven other teams, even

1. The third time was a charm for New Orleans. Twice before the city attempted to land an NBA team since losing the Jazz to Utah in 1979. The NBA blocked an attempt to bring the Minnesota Timberwolves to New Orleans in 1994, and the city made a major effort in 2000 to land the Vancouver Grizzlies, who instead moved to Memphis.
2. Teams still in existence include the Boston Celtics, New York Knicks, and the Golden State Warriors (by way of Philadelphia and San Francisco).
3. The agreement is for a 10-year lease, with the team paying \$2 million annual rent and receiving all the revenue from premium seating, advertising, naming rights, concessions, novelty and parking - a guarantee of at least \$18 million in annual arena revenue for the team. The rent is subject to adjustment if attendance is under 11,000 a game -- but not less than \$1 million. All expenses to move the team were covered by the city of New Orleans, as were all incidentals incurred as a result of the relocation. The team moved into New Orleans Arena, which the city spent \$15 million to upgrade to NBA-quality.

New Orleans' median household income is \$38,800 a year, below the national average and below Charlotte's median income of \$51,000. New Orleans' TV market, ranked 43rd nationally, is the smallest in the NBA; Charlotte's TV market ranks 27th.

though several markets desire franchises. MLB is currently considering contraction by a few teams in order to help manage its competitive balance and related financial issues. In this regard, the NHL is unlike the other leagues, in that it has endeavored to match the demand for its sport, expanding into the southern United States in hopes of increasing its presence in this lucrative region.

Which cities should teams choose when considering their ideal locale? The choice of a city depends on at least three major factors: the owner's personal preference, the political climate, and the economics of the location. While many team owners are profit-maximizers and make decisions accordingly, some owners may be more personally motivated, perhaps choosing to move a team to a city because it is where they live. For instance, Georgia Frontiere, a majority owner of the St. Louis Rams, moved the team from Los Angeles to her hometown of St. Louis, Missouri. Similarly, the Minnesota Vikings are considering a move to San Antonio, Texas because owner Billy Joe "Red" McCombs is from there. Personal preference, as in these cases, is idiosyncratic and was not investigated in this analysis.

Political support for a major league team within a city is very important because arenas and stadiums are often financed in part or in full by local governments. The locational decision is usually the result of a bidding competition between the governments of various cities, each offering a range of amenities in order to attract a team to their locale. In fact, the moves by the Oilers, Rams, and Raiders were all to smaller markets, but the stadium leases were better for the teams (either by offering cheaper rent, a higher percentage of stadium revenue streams, greater government financing, etc.) in these markets, despite the reduced size of the new markets in which they were relocating.

Finally, the economics of the market matters. Regions with larger, richer populations containing large businesses or numerous corporate headquarters are assumed to be able to more easily support a team than a smaller city that lacks these desirable demographic features. However, the three overarching decision criteria can be interrelated. For instance, the degree of public funding is likely to correspond to the size and economic demographics of the market.

This article examines the economics of each potential market to determine which cities are likely to be the best prospects for expansion or relocation of NBA teams. Two models are employed. The first model, the Location Model, uses the 25 current U.S. markets that have NBA franchises to examine the relationship between the aforementioned underlying factors. Within these 25 NBA markets, there are 29 teams, with two located in Canada (the Vancouver team has since relocated to Memphis, Tennessee), and two each in the Los Angeles and New York areas. The model is then used to forecast the relative likelihood of other cities being similar enough to NBA cities to be able to support a team (again based on economic factors, not personal preference or political factors).

One problem with the Location Model is that it gives equal weight to financially marginal franchises as it does to very successful franchises. For example, including the Charlotte Hornets in the model gives credence to the underlying economic factors in Charlotte, which are apparently not satisfactory to its current owners, as they are currently considering relocation. Therefore, the second model, the Financial Success Model, examines the financial success of each current NBA team to see which factors are most important in determining financial success. A forecast model is then generated that can be used to measure the likely success of various non-NBA cities that rank high in the Location Model.

One objective of the overall analysis is to be able to aid in the financial decision regarding league expansion or team relocation. The current methodology used in the field involves separate comparisons of cities by population and a few other measures as opposed to an integrated approach that captures the relationships between the factors and relative importance of each factor. A set of models such as described in this article can be used to rank cities for further, more in-depth analysis, across many sports in many countries.

### **Theory**

Franchises of the same company have the incentive and desire to locate at least some minimum geographic distance away from each other, but want to maintain similarity in terms of quality and products offered so that uncertainty is reduced for customers. For instance, Domino's

Pizza franchises are not allowed to locate near each other unless they are owned by the same franchisee. The Financial Success Model is essentially a model of demand (proxied by attendance and gate receipts) analyzing factors that vary across cities.

Sports teams or franchises operate in a similar manner, and each of the leagues has developed rules regarding franchise movement and location. In the NBA, there is a radius of 75 miles surrounding each NBA team in which no other NBA team is permitted to locate. Moreover, no team can move into the market area of another franchise without the consent of that owner. The power of leagues to prohibit such moves has been limited by court decisions that have upheld the right of owners to relocate. To understand the rationale as to why NBA teams chose their current locations, the Location Model takes into consideration the information that is available from current teams and uses that data to determine the common underlying economic factors of existing NBA locations, and applies those factors to the cities currently without NBA teams. An assumption of the model is that team locations are at or near equilibrium in that there are not more suitable places for them to locate. In order to discern between successful locations of current NBA teams and less successful ones, the revenue equation within the Location Model accounts for the relative success of each location. A testable assumption is that there is commonality across NBA cities that allows them to maintain a team over a long period of time.

### **Location Model**

The cross-sectional data for the Location Model consists of 49 observations, with 25 being cities with NBA teams and 24 being cities, those with the highest metropolitan statistical area (MSA) populations, currently without NBA teams that potentially are the most eligible cities for league expansion or team relocation. Twelve potential explanatory variables, some of which are correlated (e.g., income and population are correlated - people in big cities have higher incomes), were used in this analysis. Each observation represents information for the year 1999 (except where specified).

In developing a forecasting model for the existence of an NBA team, these twelve explanatory variables were chosen based on a

review of the literature, on the availability of data, and on knowledge regarding the theory of demand. Among the variables examined are five population variables (1990 city population, 1999 city population, MSA population for the years 1995 and 2000, and the MSA population growth over that period); typical household income and average pay per worker of the MSA; a measure of the relative cost of living in these metropolitan areas; the number of Fortune 500 companies headquartered in a relevant city; the number of companies within an MSA with more than 25 employees and earning more than \$5 million in annual revenues, referred to as "Mid-sized Corporations", and companies with more than 50 employees and earnings in excess of \$10 million annually, referred to as "Large Corporations"; the distance in miles to the nearest city with an NBA team; a measure of sports entertainment competition using the number of teams in the other major sports leagues; an index of the recreational assets available within an MSA; an index of basketball fanaticism; and the average Nielsen television ratings for each city with an NBA team for the entire 1999-2000 season.

It is assumed that cities with higher populations will increase the probability of an NBA team choosing to locate in a particular area, as is the growth of a community, especially if annual growth is significant and consistent. Alternatively, a city that has significant negative growth (declining population) could decrease the probability of an NBA team choosing to locate in the city.

Typical household income and average pay per worker of the MSA are also considered to be significant factors in determining attendance at sporting events, with the expected effect being that a higher typical household income in an MSA will increase the probability of an NBA team choosing to locate there. Similarly, a measure of the relative cost of living in these metropolitan areas is considered, the theory being that regions with higher disposable income may choose to allocate a higher percentage of their budget towards recreational and leisure activities, such as attending an NBA game.

The success of sports teams in the modern era is largely dependent on corporate support via the purchase of luxury suites, club seats, sponsorship (including naming rights) and other premium

services. The locational analysis includes a measure of corporate supply by using the number of Fortune 500 companies that are headquartered in a relevant city, with the assumption that large corporations may want to entertain clients in the luxury suites of a professional sports franchise located within the city in which they are headquartered. Also included are two measures of the number of companies (Mid- and Large-Sized corporations) that are considered to be large enough to be interested in premium services such as luxury seats, and profitable enough to be able to afford such services.

As in any spatial model of competition, the distance between competitors can affect the success of a business. The distance in miles to the nearest city with an NBA team is used as a measure of spatial competition, as is the number of competing major professional sports teams (NHL, NFL, and MLB) and recreational alternatives located in the same area. All else equal, it is expected that franchises that are located far distances from other franchises will be most likely to be successful, as are teams with the fewest number of sports entertainment options, such as other major professional sports teams.

An index of basketball fanaticism, created by Scarborough Sports Marketing, is a measure of the importance of basketball to the local citizenry. The index is used as a measure of consumer demand, as are the average Nielsen ratings for each city with an NBA team to show the percentage of households in the particular city that watched NBA games (i.e., ratings point).

### **Financial Success Model**

The Financial Success Model utilizes a panel data set consisting of 19 variables for each team in the NBA over the years 1997-1999. Excluding the two Canadian teams, for lack of comparable data, there are 27 teams. Therefore, there are 81 observations (27 teams for three seasons). The focus of this part of the research is to create a forecasting model of financial success in the NBA with the proxy for success being total (average) game attendance and gate receipts. Unlike the NFL, in which the 32 franchises share approximately 80% of gross revenues, total revenues in the NBA are highly correlated with gate receipts because there is not a significant amount of revenue sharing in the NBA, where approximately 35% of league revenues are shared.

Average attendance is being used as a dependent variable, rather than total attendance, because there was a lockout during the 1999 season causing approximately 32 games of the 82 game season to be cancelled, including the All-Star Game but not the playoffs. Gate receipts, the second dependent variable, is estimated using actual attendance and average ticket price for all three years.

The independent variables used to predict financial success or to measure demand are prices (ticket price, the price of a 12 oz. beer, the price of a hot dog, the price of a 12 oz. soda, and the price of parking), team winning percentage, a measure of the quantity of 'star' players, the age of the venue, the year of the season, and the following factors from the Location Model: basketball fanaticism, household income, number of other professional sports teams located in the MSA, 2000 MSA population, recreational and cost of living indexes, number of Fortune 500 companies headquartered in MSA, and the number of Mid- and Large- sized corporations in MSA.

Winning percentage is expected to be an important proxy for the quality of the home team. We used the winning percentage in the year each season began, for years 1997 through 1999. Also used was lagged winning percentage, because the previous season's performance affects season ticket sales and the appeal of early season games.

Relative to other major professional sports, the NBA markets its product by focusing on the individual talent of the players more so than the quality of each team. It is expected that the star power of the players on a team affects the demand for games above and beyond their skill in producing wins. The analysis uses the number of All-Star votes that each team received as a proxy for the individual star power of each team. Because of the lockout in 1999, there are no All-Star votes available for that season.

Sports teams in the U.S. have been on a construction spree in the last decade. The older, sterile domes have given way to newer, higher quality, entertainment oriented facilities. These facilities increase the revenue streams for teams by as much as 50% because they offer better amenities including premium seating, parking, food, drink, and non-game entertainment. The analysis uses the age of the sports venue as a proxy for the quality of the experience that the fan receives that is unrelated to the game itself.

## Analysis & Results

The forecasts for which cities are "best" for NBA expansion or relocation are shown in Table 1. The cities of San Diego and Louisville lead the list of potential candidates. Just to reiterate, the model does not account for the political climate or ownership idiosyncrasies that would be part of the decision of where to expand into or relocate to.

The Vancouver Grizzlies of the NBA had to make a location decision before the 2001-2002 season. The team decided to move out of Canada and created a short list of possible locations, including the cities of San Diego, Las Vegas, New Orleans, Memphis, and Louisville. The city of San Diego showed no interest in obtaining the Grizzlies because at the time the city was embroiled in a half-built publicly financed baseball stadium issue. The NBA ruled out the city of Las Vegas because of its ties to gambling. The three final locations were quickly narrowed to two, as New Orleans was unable to generate an offer that was suitable to the Grizzlies.

The decision between Memphis and Louisville was tipped in favor of Memphis when Federal Express (FedEx), whose headquarters are in Memphis, made a naming rights offer and equity purchase of the team. Memphis had attracted enough investors to buy a 49 percent interest in the team, while Louisville investors were only able to offer a 20 percent stake in the team. FedEx helped to seal the deal for Memphis by agreeing to pay \$100 million for naming rights for a new stadium in Memphis and the team (Memphis Express). Tricon Global Restaurants reportedly offered \$100 million for the naming rights of the new arena if the team would come to Louisville.

City	Forecast of Best City for an NBA Team	City	Forecast of Best City for an NBA Team
Boston	1.000	Miami	0.575
Chicago	1.000	San Antonio	0.503
Dallas	1.000	<b>Norfolk</b>	0.426
Detroit	1.000	<b>Las Vegas</b>	0.406
Houston	1.000	Milwaukee	0.385
Los Angeles	1.000	<b>Baltimore</b>	0.379
Minneapolis	1.000	<b>St Louis</b>	0.294
New York City	1.000	<b>Pittsburgh</b>	0.282
Philadelphia	1.000	Cleveland	0.273
Washington D.C.	1.000	<b>Memphis</b>	0.245
Atlanta	0.999	Sacramento	0.191
Portland	0.999	<b>Hartford</b>	0.135
Seattle	0.992	<b>Austin</b>	0.118
Phoenix	0.984	<b>Nashville</b>	0.094
Salt Lake City	0.954	<b>Kansas City</b>	0.024
Charlotte	0.900	<b>Cincinnati</b>	0.002
Indianapolis	0.889	<b>Columbus</b>	0.002
<b>San Diego</b>	0.850	<b>New Orleans</b>	0.002
Orlando	0.845	<b>Jacksonville</b>	0.000
Denver	0.688	<b>Abuquerque</b>	0.000
<b>Louisville</b>	0.649	<b>Buffalo</b>	0.000

Note: Bolded cities are those currently without NBA teams.

The Financial Success Model picks up where the Location Model leaves off. One failure of the Location Model is that it does not delineate successful NBA franchises from struggling ones. Expansion or relocation cities that rank high in terms of the Financial Success Model are shown in Table 2. The cities of Memphis, Hartford, and Louisville lead the list of potential candidates. Also note that Charlotte has recently been struggling financially (as the model predicts) and considered Louisville and Norfolk (Northern Virginia) before agreeing to terms with New Orleans, which is much further down the list than either of the two other suitors.

City/Team	Forecasted Gate Receipts for 1999 Season	City/Team	Forecasted Gate Receipts for 1999 Season
New York Knicks	\$49,024,538	<b>Nashville</b>	\$31,698,967
Los Angeles Lakers	\$46,357,204	Milwaukee Bucks	\$31,517,460
New Jersey Nets	\$45,337,323	<b>San Diego</b>	\$31,322,885
Golden State Warriors	\$35,207,063	Charlotte Hornets	\$30,431,502
Chicago Bulls	\$43,093,845	<b>Las Vegas</b>	\$29,699,532
Seattle SuperSonics	\$41,606,586	Dallas Mavericks	\$29,052,835
Indiana Pacers	\$41,588,265	Orlando Magic	\$28,869,917
Washington Wizards	\$41,410,265	<b>Honolulu</b>	\$28,122,737
Portland Trail Blazers	\$41,258,765	<b>St. Louis</b>	\$28,068,388
Philadelphia 76ers	\$40,539,495	<b>Norfolk</b>	\$26,855,605
Houston Rockets	\$40,519,456	<b>Austin</b>	\$26,283,589
Utah Jazz	\$39,399,324	<b>Cincinnati</b>	\$26,242,696
Detroit Pistons	\$38,517,947	<b>Jacksonville</b>	\$24,878,285
Miami Heat	\$37,363,462	<b>New Orleans</b>	\$24,755,326
Boston Celtics	\$36,876,514	<b>Kansas City</b>	\$24,744,046
San Antonio Spurs	\$36,678,635	<b>Abuquerque</b>	\$23,742,476
Minnesota Timberwolves	\$36,639,788	Cleveland Cavaliers	\$21,861,578
Phoenix Suns	\$35,901,121	Denver Nuggets	\$20,949,368
<b>Memphis</b>	\$35,711,447	<b>Columbus</b>	\$19,626,389
<b>Hartford</b>	\$35,214,659	<b>Pittsburgh</b>	\$19,540,899
Atlanta Hawks	\$34,029,739	<b>Omaha</b>	\$18,393,084
<b>Louisville</b>	\$33,449,722	<b>Buffalo</b>	\$17,512,869
<b>Baltimore</b>	\$32,834,776	<b>Oklahoma City</b>	\$10,400,869
Los Angeles Clippers	\$32,593,004	<b>Tucson</b>	\$8,258,029
Sacramento Kings	\$31,830,426	<b>El Paso</b>	\$5,188,555

Note: Bolded cities are those currently without NBA teams.

## Conclusion & Discussion

Based on the Location Model, Louisville, San Diego, Norfolk, Pittsburgh, Las Vegas and Baltimore appear to be structurally similar to current NBA cities. The cities of Memphis, Hartford, Louisville, Baltimore, Norfolk, and San Diego rank high using the Financial Success Model, giving credence to the Grizzlies' choice of a new home. It is interesting to note that New Orleans, the new choice for Charlotte's relocation, ranking low in both models.

These models examined the underlying economic structure of the cities to create forecasts for expansion or relocation of NBA teams. Models of this sort could be used for many other sports in the U.S. or other countries.

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# National Football League Finance: The Impact of New Facilities

During the past 10 years, 13 stadiums have been built or remodeled for National Football League (NFL) franchises. In addition, 12 NFL teams have plans to remodel their current facilities, to move into new facilities, or to actively pursue new facilities within the next three years. NFL owners have often decried that the financial survival of an organization depends upon a team acquiring a new facility. Even the Dallas Cowboys, a team consistently in the top 15% of NFL team revenues, have discussed the possibility of expanding Texas Stadium or constructing a new facility to maximize its revenues. The current mantra in the NFL is to build a facility to create revenue that will maintain financial solvency and potentially improve the team's chances on the playing field. Ideally, teams will acquire financial assistance for facility projects from the local government or taxpayers, but the NFL has also established the G3 fund to provide low-interest loans for use by teams in need of additional funding for facility construction or improvements. To contribute to this effort, the NFL borrowed an additional \$150 million in 2001 to contribute to stadiums using the \$18.3 billion in television revenue over the next eight years as collateral.

The stadium construction and remodeling boom can be attributed to the NFL's revenue sharing system. Although the NFL shares a greater percentage of its total revenue among its teams than the other major North American professional sports leagues, the current financial structure of the league has encouraged teams to expand the revenues generated from their individual stadiums. The NFL equally distributes revenues from national broadcasting contracts and maintains a 60-40 split of home/visitor ticket revenue (recently altered from individual teams retaining 40% to a league-wide "visiting" pool of money for all teams) to more fairly distribute ticket revenue. However, some team stadium-related revenues (such as parking, concessions, luxury suites, club seats, PSLs, advertising and the like) and naming rights deals are not shared with other owners - accounting for \$40-\$60 million annual differences between franchises. Although the NFL now allows

teams to become exclusive distributors of their licensed merchandise, only the Dallas Cowboys appear interested in assuming control of the potential of this unshared revenue source. While the NFL shares 86% of its total proceeds, teams have portrayed the remaining unshared 14% that is primarily derived from stadium revenues as the primary reason to maximize opportunities through new or refurbished facilities.

Until recently, the ability to analyze the impact of a new stadium upon NFL revenues and expenses was educated guesswork. Teams were unwilling to release confidential financial records, even while claiming a significant operating loss during labor negotiations. Fans, members of the media, and even NFL team officials have speculated and discussed the financial adjustments that will result when teams occupy a new facility. However, the ability to accurately assess these changes was not possible until the Oakland Raiders released the 1995-1999 financial information for each NFL franchise during a recent lawsuit against the NFL. Although NFL owners and other consultants disputed the accuracy of the expense and profit portions of the report, the accuracy of revenues for each team has not been challenged. This article attempts to investigate changes in a NFL teams' non-shared revenue - the critical component for NFL owners' cries for a new or improved facility.

Seven NFL franchises opened new stadia during the 1995-1999 timeframe: the Washington Redskins, Carolina Panthers, Tampa Bay Buccaneers, Baltimore Ravens, St. Louis Rams, Tennessee Titans, and Cleveland Browns. In 2004, stadiums in Chicago, Philadelphia, and Green Bay (with a renovated Lambeau Field), were completed, with Arizona and San Francisco close behind. The financial information released during the Oakland Raiders lawsuit was examined to determine the changes in team incomes after moving into a new facility. To control for inflation, the financial data for the seven teams was first converted to 2000 dollars using the Consumer Price Index.

The financial statements released during the Raider's suit included revenue (local and shared) and expense statements for each NFL team. In the court documents, local team revenue was divided into ticket sales, local television and radio, loge boxes, concessions, advertising/parking/other, and miscellaneous. A statistical analysis of this data, using the Wilcoxon matched-pairs signed-ranks test, indicated there were significant increases in revenue after the new stadium opened in several reported categories. For the seven teams opening new stadia from 1995 to 1999, significant increases in total local revenue occurred (Table 1). The average increase in total local revenue was found to be 85%, with a 54% increase in ticket sales, a 623% increase in loge box revenue, and a 202% increase in advertising/parking/other.

**Table 1. Percent Increase in Total Local Revenue of Teams Moving into New Stadia (1995 - 1999)**

Team	%increase
Baltimore Ravens	62%
Carolina Panthers	77%
Tampa Bay Buccaneers	83%
Tennessee Titans	134%
Washington Redskins	109%
Cleveland Browns*	NA
St. Louis Rams**	NA

\* Began play in new Cleveland Stadium in 1999  
 \*\* Moved into new stadium in middle of season

This data indicated that new stadia significantly increase owner income in the NFL. However, and more importantly, the revenue-generating power of an NFL franchise is primarily predicated upon stadium economics rather than factors traditionally associated with market size (population, media outlets, etc.). Prior to moving into the new stadia, the range of local revenue for the seven teams was \$27.2 million to \$38.1 million. After the move to the new stadia, the range was \$42.3 million to \$72.0 million (Table 2). Each of these teams generated more local revenue than the New York Jets (\$40.4 million), a team located in the largest metropolitan market in the United States. Also interesting to note, of the seven teams opening new stadia during the timeframe of this

analysis, three teams, St. Louis, Baltimore and Tennessee, were teams that relocated to new cities that had fewer Nielson households than their previous cities, because of the willingness of those municipalities to build new facilities for the franchises.

**Table 2. Local revenue\* Pre- and Post- Move to New Stadium (\$MM)**

Team	Pre-Move	Post-Move
Baltimore Ravens	\$34.90	\$56.50
Carolina Panthers	\$38.10	\$67.20
Tampa Bay Buccaneers	\$35.60	\$65.30
Tennessee Titans	\$27.20	\$63.60
Washington Redskins	\$32.70	\$68.40
Cleveland Browns**		\$72.00
St. Louis Rams***		\$42.30

\* Adjusted to 2000 dollars  
 \*\* Began play in new Cleveland Stadium in 1999  
 \*\*\* Moved into new stadium in middle of season

The importance of new stadia for increasing local, unshared revenue is evident. However, there is a need to continue to examine this financial data. It is unknown if the increase in local revenue will be maintained over time. Once the initial interest in the new facility fades, fans will require other qualities from their entertainment experience to continue to attend games in person (a winning team, promotions, etc.).

In addition, despite their generous revenue sharing system currently in place, the NFL may once again need to revisit their sharing plan after every (or nearly every) team builds a new facility. In that case large market teams in new facilities would more than likely be able to maintain football "income" superiority to those in small markets. Of course, the willingness of municipalities to fund new facilities may wane now that financial data exists which indicates that a new facility dramatically changes an individual NFL owners' football income.

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# Examination of Economic Impact

Economic impact studies are often used in the field of sports to measure and publicize the economic benefits of events like the Olympics and the Super Bowl, as well as of facilities and teams. Regardless of the methodology used by researchers, all economic impact studies have one thing in common - they all measure impact on a specific area or "local economy".

One struggle for those commissioning these studies, often the event holders or the city holding such events, is to define the best area of impact. The area of impact should be representative of the region directly affected by the event. Often, there is not a clear answer. A city, a county, a metropolitan statistical area (MSA), a region, or a state can all be defined as a local economy. Moreover, the area of impact that is ultimately chosen often depends on the region from which the funding for hosting the event comes. This is because the stakeholder wants to undertake an appropriate cost-benefit analysis that compares the costs from a certain region (e.g., a county) to the gains to that same region, not to a larger or smaller region.

The following case studies provide some insight into choosing the optimal and most accurate area of impact.

## Background

The case studies below compare different components of economic impact. Therefore, it is important to first explain the concepts of economic impact, the steps taken in determining economic impact, and the definitions of each of the terms used.

Economic impact is based on the theory that a dollar flowing into a local economy from outside of the local economy is a benefit to the locality. In order to measure economic impact, the cause of the impact must first be identified. In sports economics, the cause is generally the existence of an event, a team, or a stadium.

The second step involves identifying the local economy for which the economic impact will be measured. Choosing the area of economic impact is one of the earliest steps because it affects the sampling methodology, the surveying techniques, and ultimately the definition of a visitor and a resident.

The first component of economic impact is total direct spending. Total direct spending is measured by adding direct visitor spending and direct organizational spending. Direct visitor spending is the amount visitors spend at games or events as well as the amount spent for an entire stay on hotel rooms, food, rental car, etc. Direct visitor spending can be calculated by counting the number of visitors and multiplying by the average length of stay and the average spending per person per day. Organizational spending is the amount spent by the team or local organizing committee in their normal course of business.

Total direct spending is the largest component of economic impact, but is also the easiest component to miscalculate. Measuring direct spending requires careful delineation between local area residents and out of area visitors. Often, only the money originating outside of the local economy and spent within the local economy is considered economic impact. Money spent by local area residents is simply a re-circulation of the existing economy and should be excluded from economic impact calculations (unless it can be shown otherwise that the spending is new spending). For that reason, it is not gross spending at an event that is measured, but is instead the net gain to the locality, attributable to the event or team, from non-local sources.

The direct spending, both by visitors and organizations, will generate secondary effects as new revenues from businesses immediately

impacted (e.g., lodging, restaurants, gift shops) find their way to expenditures elsewhere in the local economy. For instance, a dollar spent by a visitor at a restaurant will work its way from the restaurant, to the hostess, to her family, to a grocery store, and finally to a produce grower in an adjoining county. This is just one example of the path a dollar can take upon entering the local economy. Whereas the money spent by visitors and organizations is direct spending, the money that re-circulates, similar to the above example, is considered indirect spending.

The progression from direct spending to indirect spending is achieved through a process that involves applying spending multipliers. The appropriate multipliers to be used are dependent upon certain regional characteristics and also the nature of the expenditure. The use of multipliers allows for the calculation of the full economic and fiscal impacts by each industry throughout the local economy. Thus, indirect spending is calculated by multipliers and is added to direct spending to arrive at total economic benefit.

Most studies fail to make a distinction between economic benefit and economic impact. The differentiation is a very important one:

- Economic benefit is only the economic gain in a predefined local economy;
- Economic impact is the total economic loss or gain after costs have been accounted for.

A true economic impact study accounts for losses to the local economy due to the measured event.

In the case studies below, only economic benefits are calculated, not economic impact. Costs are left out in an attempt to draw relationships between two disparate events.

### Case Study 1 - Annual National Event in a Major MSA

The first case study involves a national event that is held each year in a different city in the United States. In the year measured here, the event was held in one of the top five MSA markets.

There are two calculations performed for economic benefit. The first is the entire five-

county MSA and the second is the single county in which the event took place. See Table 1 for details.

	<b>MSA Area</b>	<b>One-County Area</b>	<b>% change</b>
Visitors	15,526	16,801	8%
Residents	3,139	1,864	-41%
Visit Days	4.4	4.3	-2%
Average Spending/person/day	\$162.10	\$151.90	-6%
Direct Visitor Spending	\$11,073,563	\$10,973,552	-1%
Total Direct Spending	\$12,999,663	\$12,899,645	-1%
Average Multiplier	1.845684	1.673663	-9%
Total Economic Benefit	\$23,146,354	\$20,810,847	-10%

The first effect of changing from an MSA to a single county area is an increase in visitor attendance and a decrease in residents. Because economic benefit is measured by the spending of visitors, it is generally assumed that a larger number of visitors will lead to a higher economic benefit for the area of impact.

The decrease in area of impact from an MSA to a single county area causes the number of visit days to decrease. Local MSA residents, who are now classified as visitors, will be more likely to be defined as day-trippers, or those who attend an event without spending the night because they live close enough to drive from home. With more day-trippers in the visitor sample, the average spending per person per day by visitors decreases as well.

Direct visitor spending is a simple function of the number of visitors, their average length of stay, and the average spending per person per day. Therefore, fewer visit days and a lower spending per person per day would normally lead to a decrease in direct visitor spending, if not for the increase in number of visitors. In this example, the direct visitor spending remains statistically unchanged. As mentioned above, total direct spending is the sum of visitor spending and organizational spending. In this case, organizational spending remains unchanged between the different local economies.

Multipliers, which are industry-specific and local economy-specific, generally decrease in a smaller area of impact. It is assumed that in a larger

area of impact a single dollar will re-circulate more times before "leaking" out of, or leaving, the local economy. The more times a dollar re-circulates the higher the multiplier. Therefore, in a smaller economy it is generally observed that a dollar leaks faster, leading to smaller multipliers.

In this example, a larger economic benefit is achieved by choosing the MSA as the area of impact. In a large MSA, the larger multipliers provide a boost to economic benefit that cannot be compensated for by the larger number of visitors in the single county model. But the area of economic impact that is ultimately chosen should take into consideration the area from which the funding for hosting the event comes, not simply the area which provides the largest economic impact.

### Case Study 2 - Minor League Team in a Small Market

The second case study involves a minor league team playing in one of the 100 largest MSA's, but in a city generally assumed to be a small market. The team plays roughly 40 home games each year.

In Table 2 there are two calculations performed. The first is for the entire seven-county MSA and the second is for the single county in which the team physically plays.

	<b>MSA Area</b>	<b>One-County Area</b>	<b>% change</b>
Visitors	34,163	75,770	122%
Residents	136,889	95,287	-30%
Visit Days	1.47	1.21	-18%
Average Spending/person/day	\$24.30	\$20.56	-15%
Direct Visitor Spending	\$1,220,337	\$1,884,976	54%
Total Direct Spending	\$1,798,707	\$2,463,336	37%
Average Multiplier	1.545112	1.552598	1%
<b>Total Economic Benefit</b>	<b>\$2,718,962</b>	<b>\$3,718,370</b>	<b>37%</b>

As in the event case study above, the change from an MSA to a single county area causes a clear increase in the number of visitors. In this case, the increase is dramatic due to the fact that the team draws game attendees from a wide regional base.

By decreasing the area of impact, a higher number of MSA residents will be classified as

day-trip visitors. These day-trippers are less likely to spend money locally on food and other services and will not spend money on lodging because the games are within close commuting distance. Therefore, the number of visit days as well as the spending per person per day decreases.

In spite of the decrease in visit days and spending per person per day, the large increase in visitors actually allows the direct expenditures from visitors to increase. This increase in direct visitor spending added to direct organizational spending causes total direct spending to increase.

As mentioned before, it is generally assumed - although not a rule - that smaller areas of impact will have smaller multipliers. However in this case, contrary to general assumptions, the multipliers for the MSA and for the single county area are virtually identical.

The result is a larger economic benefit for the single county area than for the MSA. Even if the multiplier for the single county area had decreased by 25%, the single county area would still have a larger economic benefit due to the significant increase in visitors.

### Summary

When conducting an economic impact study it is important to fully analyze the market in question as well as the nature of the event. One time events, especially those which draw visitors from significantly outside of the area, will benefit from using a larger area of impact. Teams on the other hand, and especially those which draw from a wide regional base, will benefit from utilizing a smaller area of impact.

Yet it is still vitally important to use an area of impact that properly represents the event being measured. If the annual event in the large MSA was based completely in the single county area, if the visitors were known to stay exclusively in the single county area, and if the expenditures were substantially in the single county area, then it is more truthful to report the economic impact for the single county area. On the other hand, if the

visitors were lodged in widely distributed locations and clearly spent their money in more than one county, it is more honest to report the economic impact for the MSA.

The same level of decision-making also applies to teams. In most cases, minor league and major league teams are viewed as regional entities that affect and benefit more than those simply within arbitrarily drawn city or county lines.

The bottom line is that a knowledgeable researcher informed about the locality being measured, the type of event, and the features of visitor spending can effectively adjust the perceived economic benefits. Often, a formidable solution is to measure the economic impact for many concentric regions so city, county, MSA (e.g., government coalitions), and state officials can all see what the impacts on their regions are.

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