

Fiscal Impact of NBA Team and Arena

Prepared for:

Memphis and Shelby County Governments

Prepared By:

The University of Memphis
Regional Economic Development Center

May 2001



U.S. Department of Commerce
Economic Development Administration

The Regional Economic Development Center was established in 1967 as a research and outreach unit of The University of Memphis to provide management and technical assistance to both the public and private sectors. The Center is located within the Graduate Program in City and Regional Planning. The findings of technical and research efforts are those of the Center and represent the opinions of practicing professionals. These opinions are not necessarily shared by the University or the funding agencies. Information concerning any of the Center's activities may be obtained by calling or writing:

Regional Economic Development Center
Graduate Program in City and Regional Planning
The University of Memphis
226 Johnson Hall
Memphis, TN 38152

Tel. 901-678-2056

Fax. 901-678-4162

e-mail address: gpearson@memphis.edu

Web Site: <http://planning.memphis.edu/redcplan>

This study was partially funded by the Economic Development Administration of the U.S. Department of Commerce.

REDC STAFF

Gene Pearson, AICP

Director

Luchy Burrell

Research Director

Steve Redding

Senior Research Associate

Sonya Schenk

Research Associate

Contents

Section	Page
I. Introduction and Executive Summary	1
II. Public Good Benefits	3
III. Construction Benefits	6
IV. Spectator Expenditures	7
V. Team Operation	10
VI. Arena Operation	11
VII. Visiting Team Expenditures	12
References	13
Appendix A. Incremental Tax Revenue Impacts of Spectator Expenditures	15
Appendix B. Sensitivity Analysis, NBA Spectator Expenditures	23

I. INTRODUCTION

This report presents the amount of new government revenues that will be generated from the operation of an NBA team and the construction of a new arena in Memphis, Tennessee. As such, this report does not analyze the full revenue potential of ticket sales and ancillary sales at the new arena for non-NBA events throughout the year.

The purpose of this study has been to measure the incremental taxes (sales and property) and other government revenues that will be created by new expenditures in the local economy.

The report includes expenditures that will be made during the short-term construction period for labor and materials. These expenditures are converted into sales tax for local and state governments. In addition, long-term annual expenditures are converted to sales tax and property tax from the following sources:

Visitor Spending. This covers NBA game spectators who live outside the Memphis area. Estimates of their expenditures at the arena and outside the arena are presented. Likewise, visiting team and media expenditures outside the arena are estimated. All visitor spending is converted to new taxes generated during the NBA season.

Team Expenditures. Salaries and administrative costs are used to estimate purchases in the local economy for housing and retail goods. These purchases are converted to local taxes realized from the team's year-round operation.

Arena Expenditures. The operation of the arena will create new jobs over and above the jobs currently supported by the Pyramid. The new salaries and the new administrative costs are used to estimate purchases in the local economy. These purchases are converted to local taxes realized from the arena's year-round operation.

In addition to fiscal benefits, public good benefits are discussed, which include both quantitative and qualitative benefits. These benefits represent a huge potential for the future growth of the Memphis and Shelby County economy, especially in downtown Memphis.

Executive Summary

The total value of new (incremental) expenditures made each year in the local economy at NBA games and by team/arena operations will be approximately **\$103 million**. This will generate almost **\$2.1 million in local government revenues** and **\$1.9 million in state revenues**.

The next page shows the total fiscal impacts generated by new dollars flowing through the economy, which are attributable to the NBA team. These new dollars are long-term annual benefits and do not include short-term construction benefits, which will last only two years.

Executive Summary

Projected Annual NBA Generated Expenditures				
NBA Generated Expenditures	Total Expenditures	Incremental Expenditures		
		Incremental Expenditures	Indirect Impact	Total Impact
1. Spectator In Arena Expenditures	\$43,552,595	\$12,436,199	\$3,162,615	\$15,598,814
2. Spectator Off Arena Expenditures	5,514,907	5,514,907	5,214,982	10,729,889
3. Team Operation Expenditures	62,296,437	62,296,437	4,225,242	66,521,679
4. Arena Operation Expenditures	5,092,684	5,092,684	2,009,169	7,101,853
5. Visiting Team/Media Expenditures	1,666,080	1,666,080	1,309,474	2,975,554
Total Expenditures	\$118,122,703	\$87,006,307	\$15,921,482	\$102,927,789
Projected Annual NBA Generated Government Revenue				
NBA Generated Government Revenue	Total Revenue	Incremental Government Revenue		
		Incremental Revenue	Indirect Impact	Total Impact
1. Spectator In Arena Expenditures				
Ticket Surcharge	\$704,000	\$661,077		\$661,077
State Sales Tax Revenue	2,377,663	679,130	\$71,696	750,826
Local Sales Tax Revenue	891,623	254,674	26,886	281,560
SUB TOTAL	\$3,973,286	\$1,594,881	\$98,582	\$1,693,463
2. Spectator Off Arena Expenditures				
State Sales Tax Revenue	\$294,774	\$294,774	\$118,222	\$412,996
Local Sales Tax Revenue	110,541	110,541	44,333	154,874
Hotel/Motel Tax Revenue	143,645	143,645		143,645
Rental Car Surcharge Revenue	4,406	4,406		4,406
SUB TOTAL	\$553,366	\$553,366	\$162,555	\$715,921
3. Team Operation Expenditures				
State Sales Tax Revenue	\$284,134	\$284,134	\$99,415	\$383,549
Local Sales Tax Revenue	106,550	106,550	37,281	143,831
Real Estate Tax Revenue-Memphis-Shelby	438,008	438,008		438,008
SUB TOTAL	\$828,692	\$828,692	\$136,696	\$965,388
4. Arena Operation Expenditures				
State Sales Tax Revenue	\$179,485	\$179,485	\$47,366	\$226,851
Local Sales Tax Revenue	67,307	67,307	17,762	85,069
Real Estate Tax Revenue-Memphis-Shelby	133,039	133,039		133,039
SUB TOTAL	\$379,831	\$379,831	\$65,128	\$444,959
5. Visiting Team/Media Expenditures				
State Sales Tax Revenue	\$51,980	\$51,980	\$29,685	\$81,665
Local Sales Tax Revenue	19,341	19,341	11,132	30,473
Hotel/Motel Tax Revenue	4,836	4,836		4,836
SUB TOTAL	\$76,157	\$76,157	\$40,817	\$116,974
Total Government Revenue	\$5,811,332	\$3,432,927	\$503,778	\$3,936,705
Summary of Annual Expenditures and Fiscal Impacts				
NBA Generated Impacts	Total	Incremental Impacts		
		Incremental Impact	Indirect Impact	Total Impact
Total Expenditures	\$118,122,703	\$87,006,307	\$15,921,482	\$102,927,789
Total Government Revenue	\$5,811,332	\$3,432,927	\$503,778	\$3,936,705
State Revenue	\$3,188,036	\$1,489,503	\$366,384	\$1,855,887
Local Revenue	\$2,623,296	\$1,943,424	\$137,394	\$2,080,818

II. PUBLIC GOOD BENEFITS

There is potential for benefits beyond the direct and indirect purchases associated with the operation of the arena and NBA team.

Both the academic and professional communities of economists, accountants and city planners agree that major league sports teams can have numerous positive benefits for the local community.

The experts agree that **national and international media exposure, community pride and self-esteem, improved business recruiting and higher quality of life** are important qualitative benefits but are difficult to quantify.

The most important intangible benefit of the NBA team is that it signals to the nation and world that Memphis and its region will support a major league sports franchise. In other words, the economy of the Memphis region has reached a stage where household income, business development, and population size are sufficiently advanced as a marketplace to be attractive to other businesses.

There are two public good benefits that can be quantified: **charitable contributions and downtown revitalization.**

Charitable Contributions

Professional teams contribute to local community initiatives in several ways. Professional teams and their players very often lend their time to fund raisers for a wide variety of purposes including literacy programs, toy drives, charity auctions, etc. Estimates of these contributions range between \$500,000 to \$900,000 per year according to industry sources. Dwight Drinkard, an official with ALSAC here in Memphis believes that having an NBA team in Memphis will have a big impact for fund raising purposes.

The proposed NBA team for Memphis has established the Grizzlies Foundation that will continue its community outreach begun in Vancouver. This outreach includes partnerships with local charities in a variety of youth development programs.

Individual players and other team officials might also make monetary contributions to organizations of their choice locally and/or nationally, but no data are available on the amount of these contributions. Based on Internal Revenue Service data for households with incomes of \$1 million or more in 1999, each gave an average of \$119,830 in charitable contributions.

Downtown Revitalization

The construction of an NBA arena in downtown Memphis will directly stimulate job creation and increased property value.

The creation of jobs in downtown Memphis produces benefits important to the economic development of the entire metropolitan area.

- employment opportunities for inner city residents will increase household income and avoid the high cost of commuting to jobs that have shifted to the suburbs.
- sales tax and property tax increases in a concentrated area will have a higher square foot value and lower public service costs than the suburbs.
- employment and population growth that would have been in low density suburbs will be shifted back to the higher density downtown.

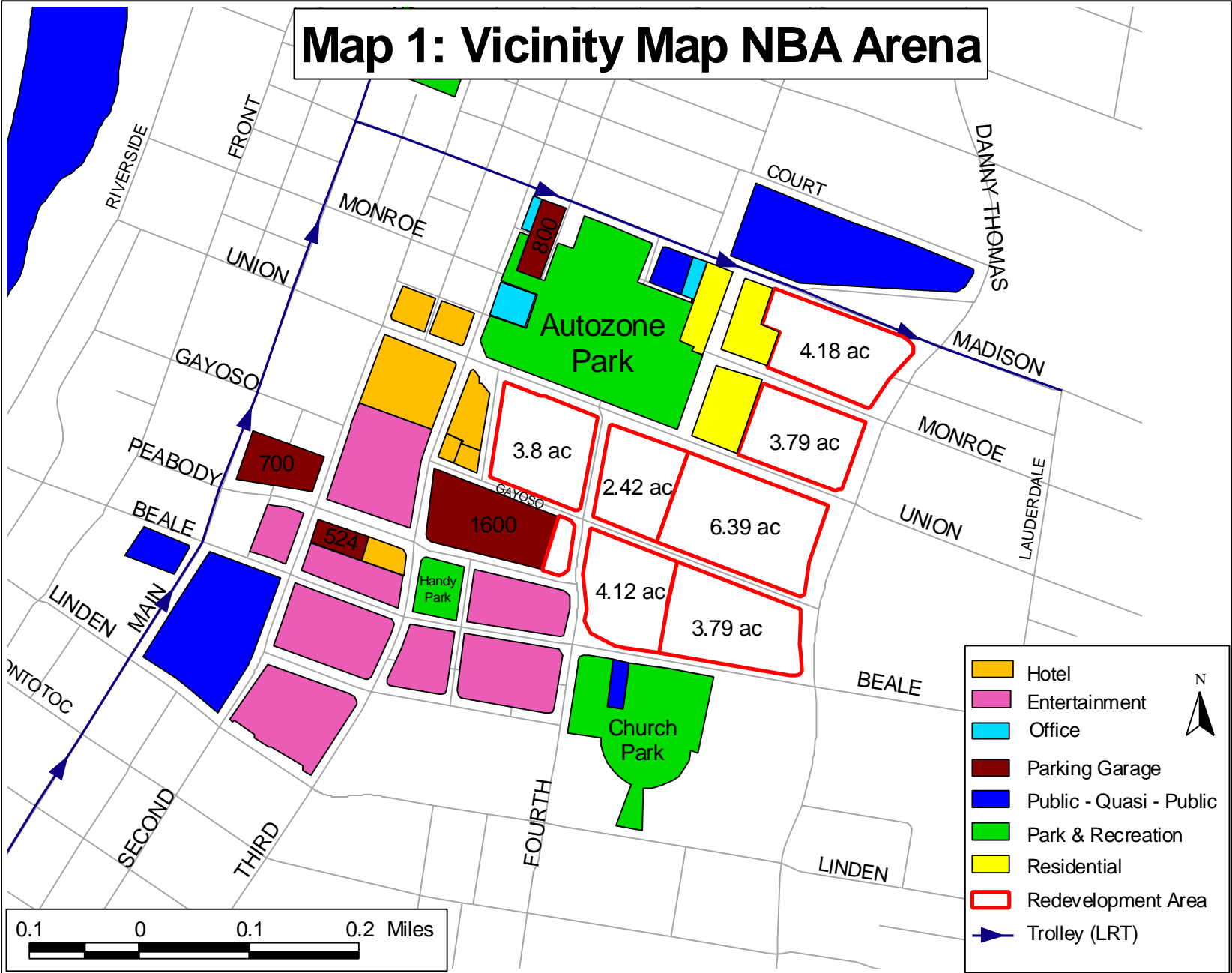
In the long run downtown revitalization offers the best opportunity to improve the economy of the entire metropolitan area. A strong core leads to less urban sprawl and less urban sprawl leads to lower public service costs.

Map 1, which follows, shows the vicinity of one potential NBA arena site. The map depicts property that has recently been redeveloped plus property labeled “redevelopment area” that would have greatly enhanced potential from an NBA arena. The “redevelopment” properties contain 28.49 acres that is currently valued at \$406,669 per acre by the Shelby County Assessor of Property. If the new arena uses seven acres, the remaining 21.49 acres would have a current total value of \$8,739,317.

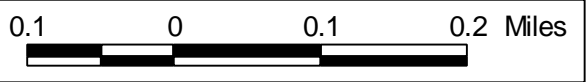
At present, there are 226.71 acres in downtown Memphis that have received a property tax freeze to help stimulate their development over the past two decades. These properties are currently appraised at \$460,400,500, which is \$2,030,790 per acre. If the “redevelopment” properties achieve the same level of development as a result of the NBA arena, their total appraisal would be about \$43.6 million, an increase of \$34.9 million in 2001 dollars. This represents a increase in property tax potential of almost \$1 million in downtown Memphis.

A strong core reestablishes Memphis as the capital of the Mid-South and thus, produces a stronger regional economy as tourists and businesses seek opportunities within the Memphis region.

Map 1: Vicinity Map NBA Arena



- Hotel
- Entertainment
- Office
- Parking Garage
- Public - Quasi - Public
- Park & Recreation
- Residential
- Redevelopment Area
- Trolley (LRT)



III. Construction Benefits

The construction of a new arena will result in wages and the purchase of building materials in the local economy. Both expenditures will be short-lived and only have benefits for the two-year construction period. The main fiscal benefit will be sales taxes from these expenditures. There will be no increased property value from the direct expenditures, although residential vacancy should decline during the construction period. Table 1 below shows the impact from labor and materials expenditures.

Table 1
Short Term Construction Impacts

	Initial Round (Direct)	Successive Rounds (Indirect)	Total Impacts
Labor Expenditures	\$65,000,000	\$62,985,000	\$127,985,000
Retail Expenditures	\$30,550,000	\$25,760,865	\$56,310,865
State Sales Tax Revenues	\$1,693,303	\$1,427,854	\$3,121,156
Local Sales Tax Revenues	\$634,988	\$535,445	\$1,170,434
Total Material Purchases	\$165,000,000		
Material Purchases Shelby County	\$65,000,000	\$57,089,500	\$122,089,500
State Sales Tax Revenues	\$3,602,771	\$1,294,204	\$4,896,976
Local Sales Tax Revenues	\$1,351,039	\$485,327	\$1,836,366
Other Expenses Total	\$15,395,800	\$11,092,520	\$26,488,320
State Sales Tax Revenues	\$853,347	\$251,465	\$1,104,811
Local Sales Tax Revenues	\$320,005	\$94,299	\$414,304
Total Construction Impacts	\$145,395,800	\$131,167,020	\$276,562,820
Total State Sales Tax Revenues	\$6,149,421	\$2,973,523	\$9,122,944
Total Local Sales Tax Revenues	\$2,306,033	\$1,115,071	\$3,421,104

Source: REDC estimates for expenditures. Expenditure breakouts for labor, materials and other expenses are based on other large construction projects. Indirect impacts are based on multipliers contained on the Regional Input/Output Modeling System II (RIMS II) prepared by the Bureau of Economic Analysis for Shelby County, U.S. Department of Commerce.

Assumptions:

1. Construction expenditures include improvements made at the Pyramid plus building the new arena less land costs.
2. Wages equal 28% of total construction costs.
3. 39% of materials purchases will be made in the local economy.
4. "Other expenses" include equipment rental, equipment replacement, utilities, etc. of which 54% will generate sales taxes.

IV. Spectator Expenditures

Annual revenue impacts of spectator spending are presented in Table 2. These impacts are incremental and include expenditures that are new to the local economy. Spectator impacts include the ticket surcharge, total spending both in and out of the arena by non-local spectators (from outside the Memphis economy), including those who return home the same day (Day Trippers) and those who will spend the night in Memphis (Overnighters). Also, incremental spending by local spectators is assumed to represent 10% of their spending in the arena, and reflects that portion of local retail and amusement spending that would not have occurred in Shelby County without an NBA franchise.

Several additional assumptions were used to calculate the spectator impact. First, it was assumed that there will be 44 NBA home games (pre-season and regular). Second, there will be no new arena events in Memphis beyond the NBA games. Third, new visitor spending will be from 20% of the spectators during NBA games. This is based on studies of other NBA arenas and an analysis of a pre-season NBA game at the Pyramid in the Fall 2000.

Map 2, which follows, shows the home (three digit zip code) for a sample of spectators attending the October 2000 NBA pre-season game at The Pyramid. These data are based on spectators who purchased tickets through TicketMaster, and may not be representative of all who attended the game. However, a significant regional draw is demonstrated by the attendance at this game with almost 38% of TicketMaster customers coming from outside Shelby County, and 20% from beyond a 75 mile radius of The Pyramid.

Detailed calculations of spectator impacts, assumptions, and explanatory notes can be found in **Appendix A** to this report. Sensitivity analysis of key spectator variables is included in **Appendix B**.

Table 2
Annual Spectator Expenditure Impacts

	Initial Round (Direct)	Successive Rounds (Indirect)	Total Impacts
1 In-Arena Incremental Expenditures	\$12,436,199	\$3,162,615	\$15,598,813
Ticket Surcharge Revenue	\$661,077	\$0	\$661,077
a Local Resident Incremental Expenditures	\$3,553,200	\$903,604	\$4,456,804
Ticket Revenue	\$2,569,952	\$0	\$2,569,952
Local Resident Incremental Impacts	\$983,248	\$903,604	\$1,886,852
Food and Beverage	\$524,480	\$443,500	\$967,980
Merchandise	\$248,976	\$218,675	\$467,651
Parking	\$209,792	\$241,429	\$451,221
Tax Revenues			
State Sales Tax Revenues	\$194,037	\$20,484	\$214,522
Local Sales Tax Revenues	\$72,764	\$7,682	\$80,446
b Non-Local Resident Incremental Expenditures	\$8,882,999	\$2,259,010	\$11,142,009
Ticket Revenue	\$6,424,880	\$0	\$6,424,880
Non-Local Resident Impacts	\$2,458,119	\$2,259,010	\$4,717,130
Food and Beverage	\$1,311,200	\$1,108,751	\$2,419,951
Merchandise	\$622,439	\$546,688	\$1,169,127
Parking	\$524,480	\$603,572	\$1,128,052
Tax Revenues			
State Sales Tax Revenues	\$485,093	\$51,211	\$536,304
Local Sales Tax Revenues	\$181,910	\$19,204	\$201,114
2 Outside-Arena Expenditures	\$5,514,907	\$5,214,982	\$10,729,889
a Day-Trippers	\$983,400	\$848,150	\$1,831,550
State Sales Tax Revenues	\$50,873	\$19,227	\$70,101
Local Sales Tax Revenues	\$19,078	\$7,210	\$26,288
Food and Beverage	\$655,600	\$554,375	\$1,209,975
Other Spending	\$327,800	\$293,774	\$621,574
b Overnight Visitors	\$4,531,507	\$4,366,833	\$8,898,340
State Sales Tax Revenues	\$243,901	\$98,995	\$342,896
Local Sales Tax Revenues	\$91,463	\$37,123	\$128,586
Hotel/Motel	\$2,386,384	\$2,444,373	\$4,830,757
All Other Taxable Spending	\$2,145,123	\$1,922,459	\$4,067,583
Hotel/Motel Tax	\$143,645	\$0	\$143,645
Incremental Rental Car Surcharge	\$4,406	\$0	\$4,406
3 Total Incremental Spectator Expenditures	\$17,951,106	\$8,377,597	\$26,328,703
Total Spectator Expenditure Impacts	\$8,956,274	\$8,377,597	\$17,333,871
State Sales Tax Revenues	\$973,904	\$189,918	\$1,163,822
Local Sales Tax Revenues	\$365,214	\$71,219	\$436,433
Ticket and Rental Car Surcharge and Hotel/Motel Tax	\$809,127	\$0	\$809,127
Total Local Tax and Surcharge Revenues	\$1,174,341	\$71,219	\$1,245,561

Source: REDC estimates. Indirect impacts are based on RIMS II multipliers for Shelby County

V. Team Operations

The NBA team will be a new business for Memphis whose employees will make purchases in the local economy for housing (property tax impact) and retail goods and services (sales tax impact). In addition, the team (front office) will have operational expenditures, a portion of which will generate sales taxes. Table 3 shows the impacts of the team's year round operation in Memphis.

Table 3
Annual Team Operations Impacts

	Initial Round (Direct)	Successive Rounds (Indirect)	Total Impacts
1 Players and Coaches Salaries	\$50,220,000	N/A	N/A
Retail Expenditures	\$981,455	\$862,012	\$1,843,467
State Sales Tax Revenues	\$54,399	\$19,542	\$73,941
Local Sales Tax Revenues	\$20,400	\$7,328	\$27,728
Estimated Total Property Value	\$9,980,000	N/A	\$9,980,000
Property Tax Revenues Shelby County	\$88,323	N/A	\$88,323
Property Tax Revenues Memphis	\$84,082	N/A	\$84,082
2 Front Office Salaries	\$5,125,000	\$1,073,688	\$6,198,688
Retail Expenditures	\$1,538,015	\$504,633	\$2,042,648
State Sales Tax Revenues	\$85,248	\$27,970	\$113,218
Local Sales Tax Revenues	\$31,968	\$10,489	\$42,457
Estimated Total Property Value	\$15,375,000	N/A	\$15,375,000
Property Tax Revenues Shelby County	\$136,069	N/A	\$136,069
Property Tax Revenues Memphis	\$129,534	N/A	\$129,534
3 Operating Expenditures	\$6,951,437	N/A	N/A
Taxable Portion of Expenditures	\$2,606,789	\$2,289,543	\$4,896,332
State Sales Tax Revenues	\$144,487	\$51,903	\$196,390
Local Sales Tax Revenues	\$54,183	\$19,464	\$73,646
4 Total Team Impacts			
State Sales Tax Revenues	\$284,134	\$99,415	\$383,550
Local Sales Tax Revenues	\$106,550	\$37,281	\$143,831
Property Tax Revenues Shelby County	\$224,392	N/A	\$224,392
Property Tax Revenues Memphis	\$213,616	N/A	\$213,616
Total Local Sales and Property Tax Revenue	\$544,558	\$37,281	\$581,839

Source: REDC estimates based on conversations with NBA officials throughout the league. Indirect impacts are based RIMS II multipliers for Shelby County. (N/A – Not Applicable)

Assumptions:

1. Team salaries include players (14) and coaches (5). Three players and all coaches will purchase homes in Memphis and 11 players will rent year round.
2. Front office salaries include 6 executives, 15 middle management personnel, and 40 junior/support staff.
3. 75% of operating expenses will be made in the local economy and 50% of these expenditures will produce sales tax.

VI. Arena Operations

This section outlines annual incremental sales and property taxes attributable to the operation of the new arena. Direct impacts reflect sales taxes from both employee spending and local spending on taxable goods and services to operate the arena. Property taxes reflect housing values based on employee salary levels. Indirect impact sales taxes represent taxable items purchased in successive rounds of spending in Shelby County.

Table 4
Annual Arena Operations Impact

	Initial Round (Direct)	Successive Rounds (Indirect)	Total Impacts
1 Wages and Salaries	\$2,567,099	\$537,807	\$3,104,906
Retail Expenditures	\$1,325,527	\$252,769	\$2,489,738
State Sales Tax Revenues	\$73,470	\$14,010	\$87,481
Local Sales Tax Revenues	\$27,551	\$5,254	\$32,805
Estimated Total Property Value	\$7,701,297		\$7,701,297
Property Tax Revenues Shelby County	\$68,156		\$68,156
Property Tax Revenues Memphis	\$64,883		\$64,883
2 Operating Expenditures	\$2,525,585	\$1,471,362	\$3,996,947
Taxable Portion of Expenditures	\$1,912,685	\$601,787	\$2,514,472
State Sales Tax Revenues	\$106,015	\$33,355	\$139,370
Local Sales Tax Revenues	\$39,756	\$12,508	\$52,264
3 Total Arena Impacts	\$5,092,684	\$2,009,169	\$7,101,853
State Sales Tax Revenues	\$179,485	\$47,366	\$226,851
Local Sales Tax Revenues	\$67,307	\$17,762	\$85,069
Property Tax Revenues Shelby County	\$68,156	\$0	\$68,156
Property Tax Revenues Memphis	\$64,883	\$0	\$64,883
Total Local Sales and Property Tax Revenues	\$200,347	\$17,762	\$218,109

Source: REDC estimates based on conversations with arena managers at similar sized arenas. Indirect impacts are based on RIMS II multipliers for Shelby County.

Assumptions:

1. Arena operations include both full time arena staff and part-time event related employees hired by arena management for NBA games.

2. Expenditures generated by food and beverage concessionaires and merchandise vendors are not included in this section, but rather are incorporated into the indirect impacts associated with spectator spending.

NOTE: In addition to the benefits presented in Table 4, local government may realize other financial benefits through increased revenue by MLGW. Inasmuch as MLGW is a municipal corporation, its excess of revenue over direct (marginal) costs represent a public good. Arena construction and operation will require large utility purchases from MLGW and, depending on rate structures, could generate significant benefits.

VII. Visiting Team Expenditures

Each home game of the season will produce spending from the visiting team, media and referees. This group will spend money for hotels, transportation and food/beverage outside the arena. Table 5 presents the expenditure impacts from these visitors.

Table 5
Annual Visiting Team/Media Expenditure Impacts

	Initial Round (Direct)	Successive Rounds (Indirect)	Total Impacts
1 Visiting Team Expenditures	\$130,733	\$122,249	\$252,981
Food/Beverage/Entertainment	\$78,297	\$68,540	\$146,837
Hotel/Motel	\$52,435	\$53,709	\$106,144
State Sales Tax Revenues	\$7,246	\$2,771	\$10,017
Local Sales Tax Revenues	\$2,717	\$1,039	\$3,757
Hotel/Motel Tax	\$3,245		
2 Media Expenditures	\$1,505,052	\$1,158,900	\$2,663,952
Food/Beverage/Entertainment	\$20,373	\$17,834	\$38,207
Hotel/Motel	\$13,582	\$13,912	\$27,494
TV Production Costs	\$1,456,531	\$1,115,994	\$2,572,526
Radio Production Costs	\$14,565	\$11,160	\$25,725
State Sales Tax Revenues	\$43,055	\$26,272	\$69,327
Local Sales Tax Revenues	\$15,994	\$9,852	\$25,846
Hotel/Motel Tax	\$841		
3 NBA Referees/Scouts/Officials	\$30,296	\$28,325	\$58,621
Food/Beverage/Entertainment	\$18,178	\$15,912	\$34,090
Hotel/Motel	\$12,118	\$12,413	\$24,531
State Sales Tax Revenues	\$1,679	\$642	\$2,321
Local Sales Tax Revenues	\$630	\$241	\$871
Hotel/Motel Tax	\$750		
4 Total Visiting Team Impacts	\$1,666,080	\$1,309,474	\$2,975,554
State Sales Tax Revenues	\$51,980	\$29,685	\$81,666
Local Sales Tax Revenues	\$19,341	\$11,132	\$30,473
Hotel/Motel Tax	\$4,836		
Total Local Tax and Surcharge Revenues	\$24,177	\$11,132	\$35,309

Source: REDC tabulation based on a study of actual expenditures at Charlotte Hornets' home games in 1989, adjusted to 2001 dollars.

List of References

- _____. “Annual Report Pursuant to Section 13 or 15(d) of the Securities and Exchange Act of 1934 for Fiscal Year ended June 30, 2000. Boston Celtics Limited Partnership” Form 10-K, Securities and Exchange Commission.
- Coates, Dennis and Humphreys, Brad. “The Stadium Gambit and Local Economic Development” Regulation Vol 23. No 2.
- Coates, Dennis and Humphreys, Brad. “The Effect of Professional Sports on Earnings and Employment in U.S. Cities” Department of Economics, University of Maryland Baltimore County June 27, 2000.
- Connaughton, John. “The Economic Impact of the Charlotte Hornets on Charlotte, North Carolina.” 1989.
- Cook, Suzanne and Joerchel, Todd. “Profile of Travelers Who Attend Sports Events.” Travel Industry Association of America. Washington, D.C. May, 1999.
- _____. “The Economic Impact of Travel on Tennessee Counties in 1998.” Travel Industry Association of America. Washington, D.C. June 2000.
- Crompton John L. “Economic Impact Analysis of Sports Facilities and Events: Eleven Sources Of Misapplication”. Journal of Sports Management, 1995, 9, 14-35.
- CSL International. “Report to the City of Charlotte Mayor and City Council.” New Arena Committee. July 1999.
- CSL International. “Report to the New Arena Committee.” New Arena Finance Subcommittee. May 1999.
- Doshi, Kokila, et al. “Economic Impact Study.” National Association of Sports Commissions. April 2000.
- Higgins, Ron. “Building a Better Bear.” The Commercial Appeal. Scripps Howard Publishing Company. April 15, 2001
- Lane, Michael, ed. Inside the Ownership of Pro Sports. Team Marketing Report, Inc. 2001
- _____. “Memphis Market Analysis for an NBA Team.” Arthur Andersen. Memphis, Tennessee. March 2001.
- _____. “Memphis and the NBA: A Business Community Perspective.” The Memphis Area Chamber of Commerce. April 2001.

Noll, Roger and Zimbalist, Andrew, eds. Sports, Jobs and Taxes The Economic Impact of Sports Teams and Stadiums. Brookings. 1997.

Oliver Richard W. “They Shoot! They Score! NHL Nashville Predators Score Winning Goal for Middle Tennessee! July 16, 1999.

Peterson, David. Sports, Convention and Entertainment Facilities. Urban Land Institute. 1996.

Price Waterhouse Coopers LLP. “Louisville NBA Study.” Greater Louisville Inc. May 2000.

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

_____Regional Multipliers: A User Hand Book for the Regional Input-Output Modeling System (RIMSII). U.S. Department of Commerce. Third Edition. March 1997.

Santo, Charles. “Evaluating Stadium Subsidy Proposals.” Public Investment. American Planning Association. December 1999.

Skelton, Chad and Mackie, John. “Grizzlies’ Departure Brings Spinoff Losses.” Vancouver Sun. April 19, 2001.

Simmons Market Research Bureau, Inc. Sports Events: Attendance (Adults). 1993.

_____“Summary of Economic and Fiscal Impacts: RDV Sports.” Convention Sports and Leisure, Inc. (CSL International) October 30, 2000.

_____“The Effects of The Construction, Operation and Financing of New Sports Stadium on Cincinnati Economic Growth.” The Center for Economic Education University of Cincinnati. January 2, 1996.

_____2001 Property Appraisals for Shelby County, Shelby County Assessor of Property.

Appendix A

INCREMENTAL TAX IMPACT OF SPENDING AT ARENA

INCREMENTAL MEMPHIS MSA RESIDENT SPENDING IN ARENA

	Per Capita Spending	Sales Tax		Incremental Local Gov't Revenues	Direct Impact Excl. Ticket
		Local	State		
Game Ticket (Arena Average)	49.00				
F&B Concessions	10.00				\$524,480
Merchandise Concessions	4.75				248,976
Parking	4.00				209,792
Average Spending/Person	67.75	\$1.39	\$3.70		
Incremental Memphis MSA Expenditures @	8.0%	52,448	52,448		
Total Spending/Taxes in Arena	\$3,553,200	\$72,764	\$194,037	\$72,764	\$983,248

NON-MEMPHIS MSA RESIDENT SPENDING IN ARENA

	Per Capita Spending	Sales Tax		Incremental Local Gov't Revenues	Direct Impact Excl. Ticket
		Local	State		
Game Ticket (Arena Average)	49.00				
F&B Concessions	10.00				\$1,311,200
Merchandise Concessions	4.75				622,439
Parking	4.00				524,480
Average Spending/Person	67.75	\$1.39	\$3.70		
Non-Memphis MSA Spectators @	20.00%	131,120	131,120		
Total Spending/Taxes in Arena	\$8,882,999	\$181,910	\$485,093	\$181,910	\$2,458,119

SPENDING OUT OF ARENA (NON MSA VISITORS)

DAY TRIPPERS

	Per Capita Spending	Sales Tax		Incremental Local Gov't Revenues	Direct Impact Excl. Ticket
		Local	State		
Food & Beverage	10.00				\$655,600
Other Entertainment	0.00				0
Other Spending	5.00				327,800
Avg. Spending/Person	<u>\$15.00</u>		\$0.29	\$0.78	
Day Trippers @ 10.0%	65,560	65,560	65,560		
Total Spending/Taxes of Day Trippers	\$983,400	\$19,078	\$50,873	<u>\$19,078</u>	<u>\$983,400</u>

OVERNIGHT STAY

Spending Allocation:	Per Capita Spending	Sales Tax		Hotel/ Motel Tax 6.70%	Incremental Local Gov't Revenues	Direct Impact Excl. Ticket
		Local	State			
Hotel/Motel/B&B (wt.avg. = \$91/room)	\$36.40	\$0.74	\$1.96	\$2.19		\$2,386,384
All Other Taxable Spending	\$32.72	\$0.66	\$1.76			2,145,123
Avg. Spending/Person Night	<u>\$69.12</u>	<u>\$1.40</u>	<u>\$3.72</u>	<u>\$2.19</u>		
Total Overnight Visitors @ 10.0%	65,560	65,560	65,560	65,560		
Total Spending/Taxes of Overnights	\$4,531,507	\$91,463	\$243,901	\$143,645	<u>\$235,108</u>	<u>\$4,531,507</u>
Incremental Rental Car Surcharge	% Renting	Rental Days	Avg. Rental	Surcharge	Revenue	
Surcharge From Overnights	3.0%	1,573	\$40.00	7.0%	\$4,406	<u>\$4,406</u>

TOTAL INCREMENTAL IMPACTS OF ARENA & VISITOR SPENDING

	Total Incremental Spending	Sales Tax		Surcharges & Hotel/Motel Taxes	Incremental Local Gov't Revenues	Total Economic Impact (Excl. Ticket) *
		Local	State			
Total Spending/Taxes	\$17,951,106	\$365,214	\$973,904	\$809,127	\$1,174,341	\$8,956,274
Weighted Avg. Indirect Impact Multiplier (RIMS II)						0.9347
Indirect Impact						\$8,371,729
Sales Tax Multiplier - Indirect Expenditures		0.4091	0.4091			
Sales Tax Rate		0.0225	0.0600			
Sales Tax - Indirect Expenditures		71,185	189,826		71,185	
Total Tax Revenue (Direct + Indirect)		\$436,399	\$1,163,730	\$809,127	\$1,245,526	

Calculation of Shelby County Weighted Avg. Indirect Impact Multiplier (RIMS II)

I/O Industry Name	I/O No.	Final Demand Multiplier	Total Direct Impact Excl. Ticket	Indirect Impact	Total Direct & Indirect Impact
Hotels & Lodging Places	72.0100	2.0243	2,386,384	2,444,373	4,830,757
Eating & Drinking Places	74.0000	1.8456	3,206,321	2,711,265	5,917,586
Retail Trade Excl. Eat. & Drink.	69.0200	1.8783	1,914,256	1,681,291	3,595,546
Automobile Parking	75.0003	2.1508	734,272	845,000	1,579,272
Other Amusement & Rec. Svcs.	76.0206	1.9647	715,041	689,800	1,404,841
Totals	Wt. Avg.-->	1.9347	8,956,274	8,371,729	17,328,003
Calculated Weighted Average Multipliers			1.0000	0.9347	1.9347

* The indirect economic impact of ticket expenditures (e.g. spending by the team and arena) is reflected in the other components of this study.

**INCREMENTAL TAX REVENUE IMPACTS OF SPECTATOR EXPENDITURES
NBA ARENA**

Notes to Calculations

Attendance Assumptions (General)

Arena Seating Capacity – maximum proposed seating in arena

Average Tickets Purchased – tickets subject to surcharge

Average Game Attendance – deducts “no shows” from tickets purchased

Average Percent Capacity – average attendance / seating capacity

Regular Season Games – NBA regular season home games

Pre/Post Season Games - Assumes 3 of 8 pre-season games will be played in Memphis.

Total Season Spectators – average game attendance times total NBA home games. Basis for all spectator expenditures except ticket surcharge.

Penetration Ratio – total season spectators as a proportion of the 2000 Memphis MSA population.

Attendance Assumptions (Incremental Spending)

Incremental Shelby County Resident Expenditures – estimated percentage of increased expenditures by local residents that are attributable to the NBA team. Conservative REDC estimate which includes recapturing a portion of local consumer expenditure leakage to other cities with professional sports teams and Tunica County casinos, and reduced savings or increased credit purchases by local residents. Quantitative data is not available on this incremental benefit, however, our assumption is within the range accepted by sports economists.

Non-Metro Attendance – estimated percentage of spectators from outside the Memphis MSA. Based on data from the Charlotte Hornets and other NBA teams, Nashville Predators (NHL), Simmons Market Research Bureau, and REDC analysis of the home Zip Code of TicketMaster patrons attending the October, 2000 NBA pre-season game at The Pyramid.

Day Trippers – estimated non-metro spectators that return home after attending game. Based on analysis of data from sources referenced under Non-Metro Attendance.

Overnight Visitors - estimated non-metro spectators staying overnight in Shelby County. Based on analysis of data from sources referenced under Non-Metro Attendance.

Incremental Ticket Surcharge Revenue

Total Tickets Sold – All tickets subject to the surcharge.

Less Sales Tax On MSA Spectators – Removes tax revenue local government would have received if surcharge was spent elsewhere in local economy.

Incremental Tax Impact Of Spending At Arena (local and non -local spectators)

Game Ticket (Arena Average) – Estimate from local ownership group

F&B Concessions – REDC estimate based on various industry sources and economic impact analyses.

Merchandise Concessions – REDC estimate based on various industry sources and economic impact analyses.

Parking – expected parking rates in arena and downtown garages divided by 2.5 persons per car.

Incremental Shelby County Expenditures – calculation based on 10% incremental local expenditures with local spectators accounting for 80% of total spectators. Average spending and taxes per capita is multiplied by the number of spectators equivalent to 8% (10% x 80%) of total attendance.

Non-Shelby County Spectators – number of spectators from outside MSA.

Spending Out Of Arena (Non Shelby County Visitors)

Day Trippers - REDC estimate based on data from Tennessee Department of Tourism, Travel Industry Association of America, and Federal Reserve Bank of Kansas City.

Overnight Stay - Spending Allocation:

Hotel/Motel/B&B – based on weighted average hotel/motel rates for the metro Memphis area and downtown Memphis, weighted for a greater proportion of downtown room nights. REDC estimate based on room rate data from Memphis Convention & Visitors Bureau.

All Other Taxable Spending – Based on spending data from Tennessee Department of Tourism, Travel Industry Association of America, and Federal Reserve Bank of Kansas City.

Incremental Rental Car Surcharge – REDC revenue estimate based on above tourism sources. Reflects proposed 7% surcharge.

Total Incremental Impacts Of Arena & Visitor Spending

Total Spending/Taxes – sum of above calculations of spending and revenues.

Weighted Avg. Indirect Impact Multiplier (RIMS II) – Shelby County Final Demand Multipliers for the five retail and service industry sectors weighted by each sector's incremental revenue from NBA spectator spending in Shelby County.

Indirect Impact – successive rounds of expenditures in Shelby County attributable to above incremental spending.

Sales Tax Multiplier - Indirect Expenditures – calculates expenditures in successive rounds of indirect spending that are subject to sales tax. Based on the ratio of the total value of sales taxable goods and services sold in Tennessee to Gross State Product.

Sales Tax Rate – Shelby County sales tax rates.

Sales Tax - Indirect Expenditures – incremental sales taxes due to indirect spending in Shelby County.

Total Tax Revenue (Direct + Indirect) – total incremental revenues to local and state government.

Shelby County RIMS II Multipliers – regional input-output multipliers for the Shelby County economy generated by Bureau of Economic Analysis of the U.S. Department of Commerce.

Appendix B

Sensitivity Analysis, NBA Spectator Expenditures

This section provides sensitivity or “what if” analysis for incremental spectator spending. The following schedule shows the results of adjusting seven key variables related to attendance, spectator spending, and the ticket surcharge.

Each variable has been adjusted from the base case scenario for either one or two best case scenarios and a worse case scenario. Generally, these best and worse cases depict values close to the full expected range of reasonable possibilities for each variable, and may not indicate a likely occurrence. In all scenarios, except for attendance, only one variable has been adjusted, leaving other variables the same as with the base case. Base case assumptions were represented in the previous sections of this report.

Variance from the base case direct impact is shown in both dollars and percentage change in the second and third columns. The fourth column translates variance into a dollar amount per defined unit of change, i.e., percentage points or a \$1 per person spending change.

Several variables were found to have only minimal impact on incremental local government revenue, even when rather extreme changes were made in the best or worse case scenario (e.g. percentage of Incremental MSA Resident Expenditures, Spending in Arena, and Overnighter Spending Excluding Hotel).

Clearly, changes in the ticket surcharge potentially have the greatest influence on incremental local government revenue, with each \$1 change yielding a \$661,078 impact. Changes in the ticket surcharge have an almost one for one change in local government revenue as it is incremental for all tickets sold and accounts for 56% of total direct impact in the base case. Other variables may apply to only a portion of total spectators and local government revenue is only a small percentage of the spending change (i.e., sales tax or hotel/motel tax).

**SUMMARY OF SENSITIVITY ANALYSIS - SPECTATOR SPENDING
INCREMENTAL LOCAL GOVERNMENT REVENUES**

	Total Direct Impact of Spectator Spending	Variance From Base Case		Variance Per Unit of Change
		\$	%	
Base Case	\$1,174,341			
Average Attendance:				
Base Case = 16,000 Purchased & 14,900 Attendance				
Tickets Purchased & Attendance @ 18,500	\$1,401,645	\$227,304	19.4%	\$41,318 for each 1,000 change in tickets sold, and \$34,447 for each 1,000 change in average game attendance.
Tickets Purchased = 17,000; Attendance = 16,000	\$1,253,551	\$79,210	6.7%	
Tickets Purchased = 11,000; Attendance = 10,000	\$798,963	(\$375,378)	-32.0%	
Non-Metro Attendance:				
Base Case = 20% non-metro attendance				
Non-Metro Attendance @ 40%	\$1,607,382	\$433,041	36.9%	\$21,652 Per percentage point chg.
Non-Metro Attendance @ 10%	\$957,821	(\$216,520)	-18.4%	(\$21,652) Per percentage point chg.
Incremental MSA Resident Expenditures:				
Base Case = 10% Incremental				
Incremental MSA Resident Expenditures @ 50%	\$1,465,397	\$291,056	24.8%	\$7,276 Per percentage point chg.
Incremental MSA Resident Expenditures @ 0%	\$1,101,578	(\$72,763)	-6.2%	(\$7,276) Per percentage point chg.
Spending In Arena:				
Base Case = \$67.75 Including Ticket				
\$10 Upside in Arena Spending (\$77.75)	\$1,212,496	\$38,155	3.2%	\$3,816 Per \$1 spending chg.
\$20 shortfall in Arena Spending (\$47.75)	\$1,098,031	(\$76,310)	-6.5%	(\$3,816) Per \$1 spending chg.
Overnighter Spending (Excl. Hotel):				
Base Case = \$32.72				
\$20 Upside in Spending (\$52.72)	\$1,201,595	\$27,254	2.3%	\$1,363 Per \$1 spending chg.
\$20 Shortfall in Spending (\$12.72)	\$1,147,088	(\$27,253)	-2.3%	(\$1,363) Per \$1 spending chg.
Overnighter Spending (Hotel Only):				
Base Case = \$91 / Room				
Four Star Hotel Spending (\$182 / Room)	\$1,371,645	\$197,304	16.8%	\$2,168 Per \$1 spending chg.
Budget Motel Spending (\$32 / Room)	\$1,046,094	(\$128,247)	-10.9%	(\$2,174) Per \$1 spending chg.
Ticket Surcharge:				
Base Case = \$1 per Ticket Sold (approx. 2.3%)				
Surcharge @ \$2 per Ticket (approx. 4.5%)	\$1,835,419	\$661,078	56.3%	\$661,078 Per \$1 surcharge chg.
Surcharge @ \$3 per Ticket (approx. 6.8%)	\$2,496,496	\$1,322,155	112.6%	\$661,078 Per \$1 surcharge chg.
Surcharge @ \$0.50 per Ticket (approx. 1%)	\$843,803	(\$330,538)	-28.1%	(\$661,076) Per \$1 surcharge chg.