



**Technical Memorandum:
Economic Impact of the
Tutankhamun and the Golden Age of the Pharaohs
Exhibition**

Prepared for:

The Franklin Institute Science Museum

Prepared by:

Urban Partners

November 2007

Introduction

Urban Partners was retained by the Franklin Institute Science Museum to independently assess the economic impact of the Museum's *Tutankhamun and the Golden Age of the Pharaohs* Exhibition, which was on view to the public from February 3, 2007, to September 30, 2007. This technical memorandum underscores the very significant economic impact of this special exhibition on the cultural and economic vitality of the region, providing a direct benefit to the public, the City of Philadelphia, and the Commonwealth of Pennsylvania.

During the exhibition's eight month run, the *King Tut* exhibit drew more than 1,300,000 visitors, who came from all across the United States, Puerto Rico, and at least 13 foreign countries on five continents. Approximately 15% of visitors were residents of Philadelphia; the remaining 85% were visitors who traveled from outside the City to experience the *King Tut* exhibition.

Visitors directly motivated to come to Philadelphia because of the *King Tut* exhibition brought new dollars into the regional economy, generating and enhancing activity in the hotel, restaurant, transportation, and retail industries, as well as at other local cultural attractions. *King Tut* exhibition-motivated visitors utilized approximately 99,700 room nights during the exhibition.

The benefit to the Philadelphia region is reflected in the total economic activity calculated at a minimum of \$127.0 million. This estimate conservatively includes out-of-Museum spending only for those visitors who came to Philadelphia specifically to see *King Tut*; it is possible and, indeed, probable, that many visitors who came to Philadelphia for other reasons extended their stay in Philadelphia in order to visit *King Tut*—increasing total economic activity beyond the \$127.0 million. This activity resulted in the creation of 1,995 full-time equivalent jobs with nearly \$52 million in salary and wages, and in the \$11.7 million in tax revenues generated for the City and the Commonwealth of Pennsylvania.

Summary of Impacts

The *King Tut* exhibition hosted by the Franklin Institute Science Museum generated extremely significant economic impact within the Philadelphia region. This analysis of economic impact focuses on three factors: 1) the overall spending impact generated as a result of the exhibition; 2) employment generated by this activity; and 3) tax benefits received by the City of Philadelphia and the Commonwealth of Pennsylvania as a result of the exhibition. The *King Tut* exhibition:

- Attracted approximately 1,300,000 visitors, including **790,000 general audience visitors who live outside Philadelphia and came to the City specifically to see *King Tut***
- Motivated more than **540,000 visits to other area cultural attractions** by individuals who came to Philadelphia specifically to see *King Tut*:
 - 160,000 visits to the Independence National Historical Park
 - 135,000 visits to the Philadelphia Museum of Art & the Rodin Museum
 - 42,000 visits to the Academy of Natural Sciences
 - 40,000 visits to the National Constitution Center
 - 24,000 visits to the Please Touch Museum
 - 17,000 visits to the Pennsylvania Academy of the Fine Arts, and
 - 125,000 visits to other area attractions and performances.
- Generated **total economic impact of \$127.0 million** within the Philadelphia region, produced by the activities of the Franklin Institute, the in-facility spending of all *King Tut* visitors, and the out-of-Museum spending of those visitors who came to Philadelphia specifically to see *King Tut*:
 - total direct economic impact of \$67.9 million
 - total indirect economic impact of \$59.1 million
- Created, directly or indirectly, **1,995 full-time equivalent jobs** of which:
 - 1,715 positions are estimated to be located within Philadelphia
 - 1,195 are estimated to be held by City residents
- Produced a total local and state **tax benefit of \$11.71 million**:
 - \$5.876 million in tax revenue for the City of Philadelphia
 - \$5.835 million in tax revenue for the Commonwealth of Pennsylvania
- Generated the booking of approximately **99,700 hotel room nights** in Philadelphia by individuals coming specifically to see *King Tut*:
 - average rate of \$134 per room night
 - average length of stay of 1.8 days and average size of hotel party of 3.7 persons
- Motivated 54,000 additional overnight visitors who came to Philadelphia specifically to see *King Tut* and stayed with friends and family in Philadelphia and the region.

Economic Impact

The overall economic impact (spending impact) of the *King Tut* exhibition is derived from several interrelated components:

- the direct organizational economic impact of the Franklin Institute and its partners, especially that portion of economic activity occurring in the Philadelphia region and elsewhere in Pennsylvania; and
- the significant spending of visitors to the exhibition, in the Franklin Institute itself and elsewhere in the City as a direct result of their visit to *King Tut*.

These two components of economic activity constitute the **direct economic impact** of the *King Tut* exhibition. An important third impact—the **indirect economic activity** stimulated by this direct spending—can also be traced through the regional economy. **The total direct and indirect economic impact of the *King Tut* exhibition is \$127.0 million** (see Table 1).

| Table 1 | |
|---|----------------|
| Economic Impact of King Tut Exhibition for Philadelphia Region | |
| (All Estimates In Millions) | |
| Direct Economic Impact | |
| Organizational Economic Impact | \$11.7 |
| Audience Spending (Outside Venue) | \$56.2 |
| Total Direct Economic Impact In Region | \$67.9 |
| Indirect Economic Impact | |
| Indirect Impact of Organizational Expenditures | \$10.8 |
| Indirect Impact of Audience Spending (Outside Venue) | \$48.3 |
| Total Indirect Economic Impact | \$59.1 |
| Total Economic Impact | \$127.0 |

Direct Economic Impact

This analysis was informed greatly by the significant audience survey completed during the *King Tut* exhibition. The Franklin Institute conducted nearly 1,100 on-site surveys to obtain information about *King Tut* visitors' spending habits at the Franklin Institute and elsewhere in Philadelphia and the region. Urban Partners has analyzed available information to identify various categories of *King Tut* exhibition visitors and determine the typical spending characteristics of each category. These spending characteristics have been applied to the estimated number of visitors to the exhibition from each category, using self-identifying geographic data provided by survey participants and the Franklin Institute's ticket sales tracking system.

King Tut drew a wide range of visitors to the Franklin Institute and to Philadelphia. The incremental economic impact of a specific visitor on the Philadelphia and Pennsylvania economy varies depending on several important factors. Was the visitor motivated to come to Philadelphia predominantly because of *King Tut*? How long did the visitor stay in Philadelphia? Did the visitor stay overnight in a hotel? How far did the visitor travel to Philadelphia?

To allow for these various levels of economic impact, *King Tut* visitors were analyzed in these major categories:

- residents of Philadelphia
- individuals living outside Philadelphia, but within a one-hour radius, including:
 - those who stayed in a hotel for whom the primary purpose of their visit was to view the *King Tut* exhibition
 - those who stayed in a hotel who visited *King Tut* in conjunction with a planned visit to another Philadelphia attraction
 - those who did not stay in a hotel for whom the primary purpose of their visit was to attend the *King Tut* exhibition
 - those who did not stay in a hotel who visited *King Tut* in conjunction with a planned visit to another Philadelphia attraction or activity
- individuals living beyond a one-hour radius, including:
 - those who stayed in a hotel for whom the primary purpose of their visit was to view the *King Tut* exhibition
 - those who stayed in a hotel who visited *King Tut* in conjunction with a planned visit to another Philadelphia attraction
 - those who did not stay in a hotel for whom the primary purpose of their visit was to attend the *King Tut* exhibition
 - those who did not stay in a hotel who visited *King Tut* in conjunction with a planned visit to another Philadelphia attraction or activity
- other individuals who visited *King Tut* as part of a group or special program, including:
 - organized group tours
 - school groups.

Total visitor spending within the Franklin Institute was calculated based on extensive in-facility operational data. In addition, for those categories of visitors that were *King Tut*-driven—that is, those out-of-town visitors who traveled to Philadelphia specifically to view *King Tut*—out-of-Museum expenditures related to lodging, dining, shopping, local transportation, and attendance at other regional attractions have also been included as components of the exhibition’s direct economic impact. Approximately 76% of all individual visitors to the *King Tut* exhibition were identified as *King Tut*-driven.

As shown in **Table 1**, taken together, the calculated **total direct economic impact of organizational and audience expenditures on the regional economy that are attributable to the *King Tut* exhibition is \$67.9 million.**

Indirect Economic Impact

Assessing the indirect economic impact of these expenditures is complex and involves tracking the additional rounds of spending within the region induced by businesses and their employees as a result of these direct expenditures. In its September 1998 report, “*Greater Philadelphia’s Competitive Edge: The Nonprofit Culture Industry and Its Economic Value to the Region*,” the Pennsylvania Economy League (PEL) undertook the calculation of these indirect economic multipliers using the IMPLAN economic model of the regional economy. In that analysis, PEL concluded that the appropriate multiplier for indirect economic activity resulting from cultural institutions’ organizational expenditures was 1.08 and that the appropriate multiplier for indirect economic activity resulting from audience expenditures was 0.86.

Applying PEL’s multipliers to the organizational and audience expenditures of the *King Tut* exhibition results in a **total indirect economic impact of \$59.1 million.**

Employment Impact

The *King Tut* exhibition resulted in significant employment within the region and within Philadelphia (see **Table 2**). The Franklin Institute and its food services vendor internally supported 145 full-time equivalent positions during the preparation and execution of the *King Tut* exhibition and the direct organizational expenditures by the Museum and its food services vendor related to the exhibition supported an additional 60 full-time equivalent positions. Employment supported off-site by the very substantial out-of-Museum spending of the *King Tut*-driven visitors is estimated at 1,080 full-time equivalent positions.

Taken together, these **direct employment impacts total 1,285 full-time equivalent jobs**. Due to the location of the Franklin Institute and the fact that much of the audience spending is concentrated in Center City Philadelphia, this employment is concentrated within Philadelphia. Based on the Franklin Institute’s employment patterns, the locations of its contractors, and the employment patterns within the key industries in which audience spending was concentrated, we estimate that 1,270 of the total 1,285 full-time equivalent jobs supported by *King Tut* were located within Philadelphia and 885 full-time equivalent positions were filled by City residents.

| | Within Region | Within Philadelphia | Philadelphia Residents |
|---|--------------------------|--------------------------------|-----------------------------------|
| Direct Employment Impact | | | |
| Organizational Employees (Annualized FTE Including Food Service Vendor) | 145 | 145 | 100 |
| FTE Employment Due To Non-Payroll Organizational Expenditures Within The Region | 60 | 45 | 30 |
| Employment Due To Audience Spending (Outside Venue)—Annualized FTE | 1,080 | 1,080 | 755 |
| Total Direct FTE Employment Impact In Region | 1,285 | 1,270 | 885 |
| Indirect Employment Impact | | | |
| Indirect Impact of Organizational Expenditures | 130 | 80 | 55 |
| Indirect Impact of Audience Spending | 580 | 365 | 255 |
| Total Indirect Employment Impact | 710 | 445 | 310 |
| Total Employment Impact | 1,995 | 1,715 | 1,195 |

The **indirect economic impact of the *King Tut* exhibition resulted in the creation of a total of 710 full-time equivalent positions**—130 indirectly from the Franklin Institute’s organizational expenditures and 580 due to the indirect impact of audience spending outside the Museum. Because this indirect economic activity is more diffuse—both in terms of industrial sectors and business location—this employment is spread more broadly throughout the region. We estimate that 445 of the 710 full-time equivalent positions supported indirectly by the *King Tut* exhibition were located within Philadelphia and that 310 were filled by City residents.

Totaling the direct and indirect economic impacts of the *King Tut* exhibition, we estimate that the exhibition supported a **total of 1,995 full-time equivalent positions, including 1,715 located within Philadelphia and 1,195 held by City residents**.

Tax Revenue Impact

The *King Tut* exhibition generated approximately \$11.71 million in tax revenues—\$5.876 million in increased tax revenue for the City of Philadelphia and \$5.835 million for the Commonwealth of Pennsylvania (see **Table 3**).

| | For City of Philadelphia | For State of Pennsylvania | Total City & State |
|---|-----------------------------|------------------------------|-----------------------|
| Taxes on Wages & Salaries | \$1,782,000 | \$1,595,000 | \$3,377,000 |
| Sales & Hotel Taxes | \$2,077,000 | \$3,592,000 | \$5,669,000 |
| Business Privilege Taxes | \$701,000 | | \$701,000 |
| Net Profits Taxes | \$52,000 | | \$52,000 |
| Real Estate Taxes Paid On Business Property | \$604,000 | | \$604,000 |
| Use & Occupancy Taxes Paid On Business Property | \$339,000 | | \$339,000 |
| State Corporate & Other Business Taxes | | \$648,000 | \$648,000 |
| Parking Taxes | \$321,000 | | \$321,000 |
| Total Tax Benefits | \$5,876,000 | \$5,835,000 | \$11,711,000 |

Wage Tax Revenue Impact

The 1,995 full-time equivalent jobs supported directly and indirectly by the *King Tut* exhibition are estimated to have generated wages & salaries of approximately \$51.96 million (see **Table 4**).

| | Within Region | Within Philadelphia | Philadelphia Residents |
|---|------------------|------------------------|---------------------------|
| Direct Wage & Salary Impacts | | | |
| Organizational Payrolls | \$4.37 | \$4.37 | \$3.01 |
| Wages & Salaries Due To Non-Payroll Organizational Expenditures Within The Region | \$1.84 | \$1.38 | \$0.92 |
| Wages & Salaries Due To Audience Spending (Outside Venue) | \$24.03 | \$24.03 | \$16.80 |
| Total Direct Wage & Salary Impacts | \$30.24 | \$29.78 | \$20.73 |
| Indirect Wage & Salary Impacts | | | |
| Indirect Wage & Salary Impact of Organizational Expenditures | \$3.98 | \$2.45 | \$1.68 |
| Indirect Wage & Salary Impact of Audience Spending | \$17.75 | \$11.17 | \$7.80 |
| Total Indirect Wage & Salary Impacts | \$21.73 | \$13.62 | \$9.49 |
| Total Wage & Salary Impacts | \$51.96 | \$43.40 | \$30.22 |

These estimates of wage and salary impact were derived using industrial sector factors developed as part of the PEL IMPLAN analysis adjusted to 2007 dollars. Of this \$51.96 million in wages and salaries, \$43.4 million is estimated to be earned within Philadelphia and \$30.22 million is estimated to be earned by Philadelphia residents.

This employment activity is estimated to have generated \$1,782,000 in wage tax revenue for the City of Philadelphia and another \$1,595,000 in income tax revenue for the Commonwealth of Pennsylvania (see **Table 5**).

| | Total Paid Within Philadelphia Region | Total Paid Within Philadelphia | Total Paid To Philadelphia Residents | Total Paid Within Philadelphia To Non-Philadelphia Residents |
|---|---------------------------------------|--------------------------------|--------------------------------------|--|
| Total Direct Wages & Salaries | \$30,240,000 | \$29,780,000 | \$20,730,000 | \$9,050,000 |
| Total Indirect Wages & Salaries | \$21,725,000 | \$13,615,000 | \$9,485,000 | \$4,130,000 |
| Total Wages & Salaries | \$51,965,000 | \$43,395,000 | \$30,215,000 | \$13,180,000 |
| Wage Taxes Paid To City of Philadelphia | | \$1,782,000 | \$1,287,000 | \$495,000 |
| Income Taxes Paid To State of Pennsylvania | \$1,595,000 | | | |

Sales and Hotel Tax Impact

Additionally, sales and hotel taxes directly and indirectly resulting from the on-site spending of all *King Tut* visitors and the out-of-Museum spending of *King Tut*-driven visitors is estimated to have generated another \$5,669,000 in increased public revenue, including \$2,077,000 in revenue collected by the City of Philadelphia and \$3,582,000 in revenue collected by the Commonwealth of Pennsylvania (see **Table 6**).

Table 6
Sales Tax & Hotel Tax Benefits
Generated By King Tut Exhibition

| | Total | Total Paid To City of Philadelphia | Total Paid To State Of Pennsylvania |
|--|--------------------|---------------------------------------|--|
| Direct Economic Activity | | | |
| Sales Tax On In-Facility Sales | \$866,000 | \$124,000 | \$742,000 |
| Sales Tax On Audience Shopping (Outside Venue) | \$536,000 | \$77,000 | \$459,000 |
| Sales Tax On Audience Food Spending (Outside Venue) | \$1,337,000 | \$191,000 | \$1,146,000 |
| Liquor Tax On Audience Retail Spending (Outside Venue) | \$477,000 | \$477,000 | |
| Amusement Tax On Audience Spending (Outside Venue) | \$38,000 | \$38,000 | |
| Sales Tax on Hotel Rooms | \$936,000 | \$134,000 | \$802,000 |
| Gasoline Tax | \$136,000 | | \$136,000 |
| Hotel Tax | \$936,000 | \$936,000 | |
| Total Sales Taxes On Direct Economic Activity | \$5,262,000 | \$1,977,000 | \$3,285,000 |
| Indirect Economic Activity | | | |
| Sales Tax On Taxable Indirect Economic Activity | \$338,000 | \$31,000 | \$307,000 |
| Liquor Tax On Indirect Economic Activity | \$7,000 | \$7,000 | |
| Hotel Tax | \$62,000 | \$62,000 | |
| Total Sales Taxes On Indirect Economic Activity | \$407,000 | \$100,000 | \$307,000 |
| Total Sales Taxes | \$5,669,000 | \$2,077,000 | \$3,592,000 |

Business and Real Estate Tax Impact

Of the \$127.0 million in total direct and indirect economic impact, \$107.38 million is estimated to support private for-profit business activity, including \$87.23 million in business activity within Philadelphia (see **Table 7**).

Table 7
For-Profit Business Activity Generated By King Tut Exhibition
(In Millions of Dollars)

| | Within Region | Within Philadelphia |
|---|------------------|------------------------|
| Direct For-Profit Business Activity | | |
| For-Profit Business Activity Due To Non-Payroll Organizational Expenditures | \$3.92 | \$2.94 |
| For-Profit Business Activity Due To Audience Spending | \$52.34 | \$52.34 |
| Total Direct For-Profit Business Activity | \$56.26 | \$55.28 |
| Indirect For-Profit Business Activity | | |
| Indirect For-Profit Business Activity Due To Organizational Expenditures | \$9.34 | \$5.84 |
| Indirect For-Profit Business Activity Due To Audience Spending | \$41.78 | \$26.11 |
| Total Indirect For-Profit Business Activity | \$51.12 | \$31.95 |
| Total For-Profit Business Activity | \$107.38 | \$87.23 |

This for-profit business activity generated an estimated \$1,696,000 in additional tax revenue for the City of Philadelphia and \$648,000 for the Commonwealth of Pennsylvania (see **Table 8**).

| | Within Region | Within Philadelphia |
|---|------------------|---------------------|
| Table 8 | | |
| Business Tax & Real Estate Tax Benefits | | |
| Generated By King Tut Exhibition | | |
| Direct For-Profit Business Activity | | |
| For-Profit Business Activity Due To Non-Payroll Organizational Expenditures | \$3,920,000 | \$2,940,000 |
| For-Profit Business Activity Due To Audience Spending | \$52,340,000 | \$52,340,000 |
| Total Direct For-Profit Business Activity | \$56,260,000 | \$55,280,000 |
| Indirect For-Profit Business Activity | | |
| Indirect For-Profit Business Activity Due To Organizational Expenditures | \$9,340,000 | \$5,840,000 |
| Indirect For-Profit Business Activity Due To Audience Spending | \$41,780,000 | \$26,110,000 |
| Total Indirect For-Profit Business Activity | \$51,120,000 | \$31,950,000 |
| Total For-Profit Business Activity | \$107,380,000 | \$87,230,000 |
| Annual Business Privilege Taxes Paid | | \$701,000 |
| Annual Net Profits Taxes Paid | | \$52,000 |
| Annual Real Estate Taxes Paid On Business Property | | \$604,000 |
| Annual Use & Occupancy Taxes Paid On Business Property | | \$339,000 |
| State Corporate and Other Business Tax Paid | \$648,000 | |

Additional Impacts

In order to conservatively calculate the economic impact of the *King Tut* exhibition, it was determined that out-of-Museum expenditures would be calculated only for *King Tut*-driven visitors—those who came to Philadelphia specifically to see *King Tut*. Off-site expenditures by those *King Tut* visitors in Philadelphia primarily for another purpose were excluded. It is possible and, indeed, probable, that some of these visitors extended their stay in Philadelphia in order to visit *King Tut*; however, any additional economic benefits attributable to these lengthened stays have not been measured in this analysis.

Total Impacts

In summary, the *King Tut* exhibition generated these significant economic impacts within the Philadelphia Region:

- Attracted approximately 1,300,000 visitors, including approximately 790,000 general audience visitors who live outside Philadelphia and came to the City specifically to see *King Tut*;
- Motivated nearly 540,000 visits to other area cultural attractions by individuals who came to Philadelphia specifically to see *King Tut*;
- Generated total economic impact of \$127.0 million within the Philadelphia region, through the activities of the Franklin Institute, the in-Museum spending of all *King Tut* visitors, and the out-of-Museum spending of those visitors who came to Philadelphia specifically to see *King Tut*;
- Created 1,995 full-time equivalent jobs of which 1,715 were located within Philadelphia
- Produced a total local and state tax benefit of \$11.71 million:
 - \$5,876,000 in tax revenue for the City of Philadelphia
 - \$5,835,000 in tax revenue for the Commonwealth of Pennsylvania
- Generated the booking of approximately 99,700 hotel room nights in Philadelphia by individuals coming to Philadelphia specifically to see *King Tut*; and
- Motivated 54,000 additional overnight visitors who came to Philadelphia specifically to see *King Tut* and stayed with friends and family in Philadelphia and the region.