



Project Report
Economic and Fiscal Impact Study –
Construction of the Phoenix Convention
Center

Prepared for
Office of Auditor General
State of Arizona

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STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

MELANIE M. CHESNEY
DEPUTY AUDITOR GENERAL

July 27, 2010

The Honorable Robert Burns, President
Arizona State Senate

The Honorable Kirk Adams, Speaker
Arizona House of Representatives

Members of the Arizona Legislature

The Honorable Janice K. Brewer, Governor
State of Arizona

David Krietor, Deputy City Manager
City of Phoenix

Transmitted herewith is a report of the Auditor General, an economic and fiscal impact study of the construction of the Phoenix Convention Center. This study was conducted by the consulting firm AECOM Technical Services, Inc., under contract with the Auditor General and was in response to the requirements of A.R.S. §9-626.

This study focuses only on the economic and fiscal impacts resulting from the construction of the Phoenix Convention Center. A study evaluating the economic and fiscal impacts resulting from the operation of the Convention Center will be conducted in 2014.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on July 29, 2010.

Sincerely,

Debbie Davenport
Auditor General

Attachment

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General & Limiting Conditions

Every reasonable effort has been made to ensure that the data contained in this report are accurate as of the date of this study; however, factors exist that are outside the control of AECOM and that may affect the estimates and/or projections noted herein. This study is based on estimates, assumptions and other information developed by AECOM from its independent research effort, general knowledge of the industry, and information provided by and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives, or any other data source used in preparing or presenting this study.

This report is based on information that was current as of June 2010, and AECOM has not undertaken any update of its research effort since such date.

Because future events and circumstances, many of which are not known as of the date of this study, may affect the estimates contained therein, no warranty or representation is made by AECOM that any of the projected values or results contained in this study will actually be achieved.

Possession of this study does not carry with it the right of publication thereof or to use the name of "AECOM" or "Economics Research Associates" in any manner without first obtaining the prior written consent of AECOM. No abstracting, excerpting or summarization of this study may be made without first obtaining the prior written consent of AECOM. Further, AECOM has served solely in the capacity of consultant and has not rendered any expert opinions. This report is not to be used in conjunction with any public or private offering of securities, debt, equity, or other similar purpose where it may be relied upon to any degree by any person other than the client, nor is any third party entitled to rely upon this report, without first obtaining the prior written consent of AECOM. This study may not be used for purposes other than that for which it is prepared or for which prior written consent has first been obtained from AECOM. Any changes made to the study, or any use of the study not specifically prescribed under agreement between the parties or otherwise expressly approved by AECOM, shall be at the sole risk of the party making such changes or adopting such use.

This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.

I. Executive Summary

This study estimates the total economic and fiscal impacts which accrued within the State of Arizona from the construction project to expand the Phoenix Convention Center. It should be noted that the total impact of the construction project is considerably larger than expressed in this report, however. A portion of the impacts accrue to other states or even countries, while the purpose of this impact study is to focus only on benefits to Arizona residents, job holders, and governmental jurisdictions.

The most obvious impacts of the project are the direct expenses associated with development and construction. This category includes construction spending, purchase of materials and FF&E (furniture, fixtures, and equipment), and soft costs (architecture, engineering, consulting, and legal expenses). These direct impacts are allocated to the State of Arizona based on the level of in-state labor, goods, and services purchased.

In addition to direct economic impacts, project spending reverberates through the economy as inter-industry support spending and spending of wages earned because of the project. These are indirect and induced impacts, respectively.

The measurement of economic impacts can also take various forms. Output is a common measurement and is akin to GDP or total spending. In addition, AECOM has quantified labor income and total jobs created by the construction project.

Total economic impacts accruing to the State of Arizona generated by the design, development, and construction of the Phoenix Convention Center are summarized in the next table, as is estimated job creation.

Table 1. Economic Impacts and Job Creation – State of Arizona

| | <u>Output</u> | | | <u>Labor Income</u> | | |
|----------------|---------------|----------------------|---------------|---------------------|----------------------|---------------|
| | Direct | Indirect and Induced | Total | Direct | Indirect and Induced | Total |
| Phase 1 | \$170,013,664 | \$156,131,734 | \$326,145,398 | \$64,328,082 | \$53,526,322 | \$117,854,404 |
| Phase 2 | \$332,215,338 | \$300,380,646 | \$632,595,984 | \$122,433,159 | \$102,996,019 | \$225,429,178 |
| Total | \$502,229,001 | \$456,512,380 | \$958,741,382 | \$186,761,241 | \$156,522,341 | \$343,283,582 |
| | <u>Jobs</u> | | | | | |
| | 2004 | 2005 | 2006 | 2007 | 2008 | |
| Phase 1 | 295 | 1,496 | 714 | 0 | 0 | |
| Phase 2 | 0 | 0 | 610 | 2,000 | 1,893 | |
| Total | 295 | 1,496 | 1,324 | 2,000 | 1,893 | |

Source: IMPLAN, AECOM.

In addition to economic impacts, the construction project also generates taxes and fees payable at the state, county, and local levels. These are the project's fiscal impacts. Fiscal impacts can include sales tax, income tax, and a number of other common levies. The following table summarizes the estimated fiscal impacts focusing on those that flow to the State of Arizona from the construction project.

Table 2. Summary of Statewide Fiscal Impacts

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| State General Fund | | | | | | |
| Sales Tax | \$524,141 | \$2,814,771 | \$2,717,279 | \$4,453,403 | \$3,920,977 | \$14,430,571 |
| Income Tax | \$466,554 | \$2,450,070 | \$2,233,920 | \$3,461,532 | \$3,402,849 | \$12,014,925 |
| Subtotal For General Fund | \$990,695 | \$5,264,841 | \$4,951,199 | \$7,914,935 | \$7,323,826 | \$26,445,497 |
| Additional Revenue | | | | | | |
| Education Tax | \$74,482 | \$399,671 | \$385,326 | \$630,824 | \$556,873 | \$2,047,176 |
| Unemployment Tax | \$55,736 | \$282,782 | \$250,217 | \$377,962 | \$357,683 | \$1,324,380 |
| Gasoline Tax | \$5,659 | \$29,674 | \$28,624 | \$44,510 | \$43,732 | \$152,199 |
| Total State Resources | \$1,126,572 | \$5,976,968 | \$5,615,366 | \$8,968,232 | \$8,282,114 | \$29,969,251 |

Source: IMPLAN, AECOM.

The two largest sources of revenue, derived from the sales tax and the income tax, flow directly into the State of Arizona's General Fund. The General Fund expanded by over \$26 million during the years of construction. Other revenues that contributed additional resources to the state were the education tax, unemployment tax and the gasoline tax. The economic impact from the construction of the Phoenix Convention Center allowed the State to recapture over \$26 million, or nine percent of its investment, through its routine tax sources.

II. Economic and Fiscal Impacts of Construction of the Phoenix Convention Center's Expansion

The Phoenix Convention Center (PCC), located in downtown Phoenix, originally opened in 1972. Since then, a number of expansion projects have added to its offerings and size. The most recent facility expansion, which is the subject of this study, was fully complete in late 2008 after two phases of construction.

In 2001, Phoenix voters authorized the City of Phoenix to spend up to \$300 million from City sources, with the understanding that up to another \$300 million would be available from state or other non-City sources, to expand the PCC. In 2003, the Arizona Legislature and Governor Janet Napolitano approved the non-City share of funding. The expansion was implemented as follows:

- **Phase 1:** the new West Building, completed in July 2006, contains an atrium that connects to Symphony Hall, a 45,200-square foot ballroom, a 21,000-square foot conference center, 27,200 square feet of meeting space, and 64,000 square feet of exhibit space.
- **Phase 2:** the former North Building was replaced with new event space that connects to the West Building via an underground exhibit hall and a pedestrian bridge. The new facility combines with the West Building to form a 312,500-square foot exhibit hall, and also has two identical 43,000-square foot pads of meeting space, a 45,600-square foot ballroom, and 190,000 square feet of exhibit space on its top level. Phase 2 was completed in December 2008.

The resulting PCC is now one of the country's 20 largest convention centers, after nearly tripling in size to more than 868,000 rentable square feet of event space.

Impact Methodology

Fundamentals of Economic Impact

This report evaluates the economic impact of the site development within the State of Arizona. Economic impact goes beyond simply the number of dollars spent within a defined study area. The term "economic impact" describes the series of events and changes that occur in an economy as a result of a particular stimulus. In this report, the stimulus we examine is the two-phased construction effort to expand the Phoenix Convention Center.

Direct economic and fiscal impacts include the actual project expenses such as construction labor and material to build the Phoenix Convention Center expansion. However, the story of a dollar spent does not end at this first transaction between businesses. The dynamic nature of the economy within the State is such that the dollar reverberates through multiple sectors, generating wages, profits, and subsequent spending on other goods and services. The process continues until all spending is

leaked out. A “leak” simply means that the money exited the system and is no longer being spent on subsequent turnovers in the model. In this case, the system is the economy of Arizona. Therefore, leaks can take several forms. Money spent by Arizona firms on goods and services produced out of state count as “leaks,” as do dollars that flow out of the country—supplies bought overseas or back office services outsourced overseas. Additionally, profits taken by Arizona owners of capital (landlords, business owners and the like) are also considered “leaks,” not because they exit the state but because they exit the system of repeat-spending.

This reverberation across sectors is the study of economic impact. AECOM’s analysis quantifies the changes in Arizona’s economy that potentially will take place in response to the spending by businesses involved in the expansion effort. The underlying driver of economic impact analysis is the direct spending, with subsequent reverberations estimated by the “multiplier.” Multipliers usually are between 1.0 and 3.0. A 1.0 multiplier means that there is 100 percent leakage after the first round of spending—that all the goods and services in the second turnover come from out of state (including overseas). High multipliers indicate that local firms are well integrated and that goods and services are closely linked to other, complementary goods and services within the state. Different industries can have significantly different multipliers. It follows that a dollar spent in an industry with a high multiplier has a greater effect on the local economy than one spent in an industry with a low multiplier.

AECOM examines the estimated economic impact in Arizona for the construction timeframe based on both spending and employment. It determines the following for each year:

- **Total output** resulting from on-site business activity. This is the overall value of the transactions that result from the industries that locate at the site. Total output is akin to “gross sales” measurements in the industry.
- **Total employment added.** This is measured in terms of total jobs and extends across all industries. This is not an estimate of Full Time Equivalent (FTE) positions. Rather, the jobs estimate counts part-time and temporary workers the same way as FTE positions. The number of jobs does not necessarily correspond to that exact number of workers being hired; however, it is the measurement of the increase in employment.
- **Labor income.** This is measured in terms of dollars paid to workers of the businesses in the analysis.

IMPLAN: Calculating Economic Impacts

AECOM uses IMPLAN, a software program first developed by the USDA Forestry Service to perform impact analysis for planning. IMPLAN’s database includes state-level data for 528 industrial sectors and, critically, the ways in which those sectors interact with each other. The state-level data is specific

to Arizona. The national and state-level data allow AECOM to quantify the effects of adding jobs or final demand in any industry, and to model those changes across all 528 industrial sectors.

IMPLAN uses social accounting matrices, or a set of social accounts, to generate multipliers and to describe economic relationships. Put simply, social accounts track monetary flows between sectors and institutions in the economy. These monetary flows occur because of final demand for goods and services, or producers' demand for goods and services. Final demand is consumers' demand, whereas producers' demand is the necessary trades that take place in order to meet final demand.

IMPLAN's modeling allows researchers to define given trade areas (in this case, the entire state of Arizona) and to model transactions in relevant industries. The IMPLAN multipliers are based on data from the Bureau of Labor Statistics, the U.S. Census, and other government agencies.

IMPLAN Methodology

IMPLAN is a software and data package that applies the principle of input-output models to describe and quantify changes in an economy. These models quantify the relationships among industries and institutions in a given study area. They include the following:

- **Industrial spending patterns.** In what ways, and in what proportions, does each industry spend money? For example, heavy manufacturing spends money in wholesale trade, retail trade, food and beverage services, truck transportation, and a host of other industries. The input-output models measure the proportions of spending in each industry via a series of coefficients. These coefficients (called a production function when grouped together) are the basis of generating economic multipliers to determine the indirect and induced impacts in other industries.
- **Wage and employment distribution.** The models measure the proportion of income each industry spends on wages and the distribution of these wages throughout household income brackets. This information is the basis for employment forecasts: it is possible to quantify the number of jobs and the level of wages that would be paid to employees as a result of an economic activity.
- **Inter-institutional trade flows.** Money changes hands between several societal institutions—private industry, government entities, and households of varying income levels. These trade flows are modeled in IMPLAN to determine the fiscal impacts (flows from industries and households to government entities) and induced impacts (from households to private industries).

All changes are measured in terms of a “change in final demand.” For example, if any given business requires 10 hotel room-nights at \$100 each, the hotel and motel industry would experience a \$1,000

positive change in final demand. Given this, the IMPLAN model would evaluate the industrial spending pattern for the hotel and motel industry, and apply the \$1,000 spending to all supporting industries in the proper proportion. A portion of the final demand could be spent in other industries; a portion could be paid as wages; and a portion could be distributed as profits to the owners (the latter two could flow to households and ultimately to governments based on inter-institutional transfers).

This social accounting model allows researchers to measure the changes in income, employment, and tax revenues in detail. However, it is important to note that IMPLAN, like all economic modeling systems, measures the institutional relationships that currently exist. Large economic projects, such as the addition of a several million dollar heavy manufacturing facility, could precipitate structural changes in the economic relationships in the local and state economies. Therefore, as industries adapt and mature to a very large project, the impacts could be greater still.

Study Area: State of Arizona

AECOM examined the impacts of the construction of the Project in terms of impacts to the State of Arizona. The state impacts cover all direct spending and indirect effects.

AECOM calculated the direct impacts based on information supplied by the Client, data available regarding industries relevant to the development plan, and information from the IMPLAN economic models. Indirect impacts are generated by a series of multipliers specific to the state or local study areas. The multipliers are specific to the study area and are included in the IMPLAN economic model.

Economic Impacts

This report will reference both direct and indirect impacts. Direct impacts are related to spending on-site to support their core activities. Only spending made within the boundaries of a given study area are considered “direct” impacts. The direct economic impacts from the construction of the Phoenix Convention Center expansion include expenditures on labor and material related to the construction effort, purchases of FF&E, and soft costs including architect, engineer, and legal expenses.

Assumptions

In order to estimate the impacts that accrue specifically within the State of Arizona, it is necessary to make some assumptions about the percentage of spending and labor that was procured within the state. Largely, these assumptions were based on information obtained from firms involved in the construction project or from parties otherwise related to the project. In addition, some general assumptions were made where necessary to complete the analysis. Major study assumptions include the following:

- Construction spending labor %: 45%

- Construction spending materials %: 55%
- Phase 1 Local (in-state) Labor %: 93.6%
- Phase 2 Local (in-state) Labor %: 96.5%
- Construction materials local %: 50%
- Furniture, fixtures, and equipment local %: 50%
- Soft costs local %: 75%

Output

For the purpose of this impact study, the following are assumed to be the gross direct impacts generated by the project. This includes all direct spending, and these amounts are in nominal US dollars based on the year the expense was paid. For example, a \$10 million payment to the project's general contractor in 2006 reflects the \$10 million in 2006 US dollars. This amount is later adjusted for in-state vs. out-of-state spending. These nominal value direct expenses are summarized in the following table.

Table 3. Direct Construction Expenditures (nominal values)

| Expenditure Type | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Phase 1 | | | | | | |
| Construction Cost | | | | | | |
| Labor | \$8,592,202 | \$46,627,363 | \$23,630,266 | \$0 | \$0 | \$78,849,832 |
| Materials | \$10,501,580 | \$56,989,000 | \$28,881,437 | \$0 | \$0 | \$96,372,016 |
| FF&E | \$616,982 | \$3,348,181 | \$1,696,824 | \$0 | \$0 | \$5,661,987 |
| Soft Costs | \$3,487,994 | \$18,928,323 | \$9,592,678 | \$0 | \$0 | \$32,008,995 |
| Phase 2 | | | | | | |
| Construction Cost | | | | | | |
| Labor | \$0 | \$0 | \$21,817,554 | \$74,945,009 | \$73,061,574 | \$169,824,137 |
| Materials | \$0 | \$0 | \$26,665,899 | \$91,599,456 | \$89,297,480 | \$207,562,835 |
| FF&E | \$0 | \$0 | \$1,319,211 | \$4,531,594 | \$4,417,711 | \$10,268,516 |
| Soft Costs | \$0 | \$0 | \$7,457,916 | \$25,618,527 | \$24,974,710 | \$58,051,153 |
| Total | | | | | | |
| Construction Cost | | | | | | |
| Labor | \$8,592,202 | \$46,627,363 | \$45,447,820 | \$74,945,009 | \$73,061,574 | \$248,673,969 |
| Materials | \$10,501,580 | \$56,989,000 | \$55,547,336 | \$91,599,456 | \$89,297,480 | \$303,934,851 |
| FF&E | \$616,982 | \$3,348,181 | \$3,016,035 | \$4,531,594 | \$4,417,711 | \$15,930,503 |
| Soft Costs | \$3,487,994 | \$18,928,323 | \$17,050,594 | \$25,618,527 | \$24,974,710 | \$90,060,148 |
| Total by Year | \$23,198,758 | \$125,892,867 | \$121,061,785 | \$196,694,586 | \$191,751,475 | \$658,599,471 |

Source: Hunt Russell Alvarez, City of Phoenix EAS, Phoenix Convention Center, IMPLAN, AECOM.

For the purposes of this economic and fiscal impact study, AECOM classified the direct costs based on the estimated proportion that accrues to the State of Arizona. To accomplish this, we interviewed parties involved in the project. However, in some cases, it was also necessary to make assumptions regarding the amount impacting the state vs. those impacts which leave the state boundaries.

The following table shows the estimated direct impacts which involve spending on Arizona firms, labor, and materials only.

Table 4. Direct Output - State of Arizona (nominal dollars)

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|----------------|---------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
| Phase 1 | \$19,353,157 | \$101,074,152 | \$49,586,354 | \$0 | \$0 | \$170,013,664 |
| Phase 2 | \$0 | \$0 | \$43,329,133 | \$145,819,842 | \$143,066,362 | \$332,215,338 |
| Total | \$19,353,157 | \$101,074,152 | \$92,915,488 | \$145,819,842 | \$143,066,362 | \$502,229,001 |

Source: Hunt Russell Alvarez, City of Phoenix EAS, Phoenix Convention Center, IMPLAN, AECOM.

Estimated Indirect and Induced Economic Impacts

Indirect impacts are the changes in inter-industry spending necessary to support the direct impacts. For example, the purchase of construction materials is a direct impact; however, those extra materials must be trucked into the supplier’s warehouse, and that represents an indirect impact in the trucking industry.

In addition, the additional income provided to employees could be recycled back into the economy in the form of additional consumer spending. Employees at the site could make retail purchases in the study areas, creating even more economic benefits. These are induced impacts.

The indirect and induced impacts are quantified by a series of multipliers that describe the level of benefit that results from a change in final demand. The multipliers for the study area (State of Arizona) are included in Appendix A of this report. A large study area (a state, for example) could have high multipliers because a greater portion of activity required to support the change in final demand could come from within the study area’s boundaries. However, for a small study area like a county, multipliers could be lower because the county’s economy is not as diverse and large. The following table shows indirect and induced impacts from the construction project accruing to the State of Arizona.

Table 5. Indirect and Induced Output - State of Arizona (nominal dollars)

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|----------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Phase 1 | \$17,690,154 | \$92,760,216 | \$45,681,364 | \$0 | \$0 | \$156,131,734 |
| Phase 2 | \$0 | \$0 | \$39,082,378 | \$131,802,535 | \$129,495,734 | \$300,380,646 |
| Total | \$17,690,154 | \$92,760,216 | \$84,763,742 | \$131,802,535 | \$129,495,734 | \$456,512,380 |

Source: Hunt Russell Alvarez, City of Phoenix EAS, Phoenix Convention Center, IMPLAN, AECOM.

Labor Income

The following table shows estimated labor income generated within the State of Arizona by the construction of the Phoenix Convention Center.

Table 6. Labor Income - State of Arizona (nominal dollars)

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| Phase 1 | | | | | | |
| Direct | \$7,264,866 | \$38,200,748 | \$18,862,468 | \$0 | \$0 | \$64,328,082 |
| Indirect | \$2,943,590 | \$15,408,119 | \$7,575,346 | \$0 | \$0 | \$25,927,055 |
| Induced | \$3,121,651 | \$16,393,137 | \$8,084,478 | \$0 | \$0 | \$27,599,267 |
| Total | \$13,330,107 | \$70,002,004 | \$34,522,293 | \$0 | \$0 | \$117,854,404 |
| Phase 2 | | | | | | |
| Direct | \$0 | \$0 | \$15,902,467 | \$53,708,265 | \$52,822,426 | \$122,433,159 |
| Indirect | \$0 | \$0 | \$6,539,172 | \$22,032,192 | \$21,633,976 | \$50,205,340 |
| Induced | \$0 | \$0 | \$6,862,360 | \$23,160,469 | \$22,767,850 | \$52,790,679 |
| Total | \$0 | \$0 | \$29,303,998 | \$98,900,927 | \$97,224,253 | \$225,429,178 |
| Total | | | | | | |
| Direct | \$7,264,866 | \$38,200,748 | \$34,764,935 | \$53,708,265 | \$52,822,426 | \$186,761,241 |
| Indirect | \$2,943,590 | \$15,408,119 | \$14,114,518 | \$22,032,192 | \$21,633,976 | \$76,132,394 |
| Induced | \$3,121,651 | \$16,393,137 | \$14,946,838 | \$23,160,469 | \$22,767,850 | \$80,389,946 |
| Total | \$13,330,107 | \$70,002,004 | \$63,826,291 | \$98,900,927 | \$97,224,253 | \$343,283,582 |

Source: Hunt Russell Alvarez, City of Phoenix EAS, Phoenix Convention Center, IMPLAN, AECOM.

Job Creation

Based on the estimate of total direct output entered into the IMPLAN model and the percentage spent within the State of Arizona, AECOM quantified total job creation within the state. The following table summarizes employment for Arizona residents generated by the project. These job estimates represent total annual jobs and not full-time equivalent jobs (FTEs). Additionally, jobs generated by the construction are per annum and should not be summed to estimate ongoing or permanent job creation.

Table 7. Employment Generation - State of Arizona

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------------|--------------|----------------|----------------|----------------|----------------|
| Phase 1 | | | | | |
| Direct | 142.1 | 720.4 | 343.5 | 0.0 | 0.0 |
| Indirect | 63.9 | 324.3 | 154.9 | 0.0 | 0.0 |
| Induced | 88.9 | 451.5 | 215.7 | 0.0 | 0.0 |
| Total | 294.9 | 1,496.2 | 714.1 | 0.0 | 0.0 |
| Phase 2 | | | | | |
| Direct | 0.0 | 0.0 | 294.9 | 966.5 | 914.3 |
| Indirect | 0.0 | 0.0 | 131.8 | 432.5 | 409.4 |
| Induced | 0.0 | 0.0 | 183.1 | 600.8 | 568.8 |
| Total | 0.0 | 0.0 | 609.8 | 1,999.8 | 1,892.5 |
| Total | | | | | |
| Direct | 142.1 | 720.4 | 638.4 | 966.5 | 914.3 |
| Indirect | 63.9 | 324.3 | 286.7 | 432.5 | 409.4 |
| Induced | 88.9 | 451.5 | 398.8 | 600.8 | 568.8 |
| Total | 294.9 | 1,496.2 | 1,323.9 | 1,999.8 | 1,892.5 |

Source: Hunt Russell Alvarez, City of Phoenix EAS, Phoenix Convention Center, IMPLAN, AECOM.

Fiscal Impacts

In addition to output, income, and employment, a major construction project such as the Phoenix Convention Center can generate significant tax revenue for various local and state jurisdictions. Quantifiable fiscal impacts for this project within the State of Arizona include the following four distinct tax categories:

- **Sales tax:** Sales or Transaction Privilege Tax is levied at the State, County, and often City levels in Arizona. The State tax rate is 5.6% with 0.6% allocated for education, except in the case of lodging which is 5.5% with none allocated for education. In addition, the State shares these revenues with counties and cities based on population. Of the 5% state tax collected, between 67% and 87% flows to the state general fund depending on the category of spending. This tax applies to retail sales, restaurant/bar sales, utilities, construction activity, lodging, and a number of additional categories.
- **Income tax:** State income tax is applied based on a weighted average rate of 3.5%.
- **State unemployment tax:** 2.7% of the first \$7,000 of income.
- **Gasoline Tax:** 18 cents per gallon for the years of Convention Center construction.

Taxable Sales

To quantify the fiscal impacts of the construction project, it is first necessary to inventory relevant taxable amounts from direct spending, as well as estimate taxable amounts generated from indirect and induced impacts. These amounts include construction spending, taxable retail sales, restaurant and bar, utilities, transportation, telecommunications, and transient lodging (hotel/motel). In the case of construction spending, only 65 percent is estimated to be taxable. Taxable amounts that serve as the basis for the fiscal impacts in this report are shown in the next table.

Table 8. Annual Taxable Direct, Indirect and Induced Spending by Major Taxable Category (nominal dollars)

| Spending Impacts in Arizona | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|-----------------------------------|---------------------|---------------------|---------------------|----------------------|---------------------|----------------------|
| Construction (65% of Total) | \$8,640,509 | \$46,889,513 | \$46,114,599 | \$76,779,080 | \$65,122,062 | \$243,545,763 |
| Retail | \$2,209,053 | \$11,533,306 | \$10,606,331 | \$16,655,734 | \$16,339,618 | \$57,344,043 |
| Restaurant and Bar | \$197,424 | \$1,035,284 | \$945,997 | \$1,470,806 | \$1,303,836 | \$4,953,347 |
| Utilities | \$366,422 | \$1,918,307 | \$1,757,352 | \$2,743,071 | \$2,693,526 | \$9,478,678 |
| Transporting | \$395,059 | \$2,061,260 | \$1,897,595 | \$2,984,602 | \$2,927,258 | \$10,265,774 |
| Telecommunications | \$605,134 | \$3,174,224 | \$2,899,058 | \$4,504,040 | \$4,425,874 | \$15,608,331 |
| Lodging | \$14,404 | \$75,926 | \$68,870 | \$105,828 | \$104,171 | \$369,200 |
| Total for Major Categories | \$12,428,006 | \$66,687,821 | \$64,289,802 | \$105,243,162 | \$92,916,345 | \$341,565,136 |

Source: AZ Dept. of Revenue, Auditor General, IMPLAN, AECOM.

State Sales Tax and Distribution

The State of Arizona charges a total of 5.6% on qualified purchases within the state, with 5.0% being the sales tax rate and 0.6% being the education tax. Each taxable category has a different formula for how tax revenues get shared among state and local jurisdictions. For example, for taxable retail sales, 60% flows directly to the state and 40% flows into a “Distribution Base.” Of the Distribution Base amount, another 34.49% also flows to the state, but 40.51% is shared with counties and 25.00% is shared with cities (based primarily on population). Thus, for taxable retail sales, the state receives a total of 73.80%.

Lodging has a slightly different tax rate, at 5.5% with nothing flowing to the education fund, and also has a different portion allocated to the Distribution Base.

The following table shows the tax rates and ultimate percentage that flows to the state for each taxable category, and then presents the estimated amounts that flowed to the State of Arizona during

each year of the Phoenix Convention Center construction. Total tax revenues accruing to the State of Arizona from project-related sales tax receipts amounted to \$14.4 million.

Table 9. Sales Tax Flowing to the State of Arizona (nominal dollars)

| Tax Category | Tax Rate | % That Flows to State | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|-----------------------------|-----------------|------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Construction (65% of Total) | 5.00% | 86.90% | \$375,430 | \$2,037,349 | \$2,003,679 | \$3,336,051 | \$2,829,554 | \$10,582,063 |
| Retail | 5.00% | 73.80% | \$81,514 | \$425,579 | \$391,374 | \$614,597 | \$602,932 | \$2,115,995 |
| Restaurant and Bar | 5.00% | 73.80% | \$7,285 | \$38,202 | \$34,907 | \$54,273 | \$48,112 | \$182,778 |
| Utilities | 5.00% | 86.90% | \$15,921 | \$83,350 | \$76,357 | \$119,186 | \$117,034 | \$411,849 |
| Transporting | 5.00% | 86.90% | \$17,165 | \$89,562 | \$82,451 | \$129,681 | \$127,189 | \$446,048 |
| Telecommunications | 5.00% | 86.90% | \$26,293 | \$137,920 | \$125,964 | \$195,701 | \$192,304 | \$678,182 |
| Lodging | 5.50% | 67.25% | \$533 | \$2,808 | \$2,547 | \$3,914 | \$3,853 | \$13,656 |
| Totals | | | \$524,141 | \$2,814,771 | \$2,717,279 | \$4,453,403 | \$3,920,977 | \$14,430,571 |

Source: AZ Dept. of Revenue, Auditor General, IMPLAN, AECOM.

A similar analysis is conducted in the next table in order to estimate the amount flowing to the State through the Education Tax collected on the same taxable spending categories.

Table 10. Education Tax Flowing to the State (nominal dollars)

| Tax Category | Tax Rate | % That Flows to State | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|-----------------------------|-----------------|------------------------------|-----------------|------------------|------------------|------------------|------------------|--------------------|
| Construction (65% of Total) | 0.60% | 100.00% | \$51,843 | \$281,337 | \$276,688 | \$460,674 | \$390,732 | \$1,461,275 |
| Retail | 0.60% | 100.00% | \$13,254 | \$69,200 | \$63,638 | \$99,934 | \$98,038 | \$344,064 |
| Restaurant and Bar | 0.60% | 100.00% | \$1,185 | \$6,212 | \$5,676 | \$8,825 | \$7,823 | \$29,720 |
| Utilities | 0.60% | 100.00% | \$2,199 | \$11,510 | \$10,544 | \$16,458 | \$16,161 | \$56,872 |
| Transporting | 0.60% | 100.00% | \$2,370 | \$12,368 | \$11,386 | \$17,908 | \$17,564 | \$61,595 |
| Telecommunications | 0.60% | 100.00% | \$3,631 | \$19,045 | \$17,394 | \$27,024 | \$26,555 | \$93,650 |
| Lodging | 0.00% | 0.00% | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Totals | | | \$74,482 | \$399,671 | \$385,326 | \$630,824 | \$556,873 | \$2,047,176 |

Source: AZ Dept. of Revenue, Auditor General, IMPLAN, AECOM.

State Income Tax

The State of Arizona levies a progressive tax on income for wages earned within the state boundary. The rates vary by income level, and the income tax rates in effect during the construction project are shown in the next table. These rates are layered; for example, a person earning \$15,000 in 2008 paid 2.59% on the first \$10,000 of taxable income and 2.88% on the next \$5,000.

Table 11. State of Arizona Marginal Income Tax Rates During Construction Years

| If Taxable Income Is: | | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
| Over | But Not Over | | | | | |
| \$0 | \$10,000 | 2.59% | 2.59% | 2.73% | 2.87% | 2.87% |
| \$10,000 | \$25,000 | 2.88% | 2.88% | 3.04% | 3.20% | 3.20% |
| \$25,000 | \$50,000 | 3.36% | 3.36% | 3.55% | 3.74% | 3.74% |
| \$50,000 | \$150,000 | 4.24% | 4.24% | 4.48% | 4.72% | 4.72% |
| \$150,000 | + | 4.54% | 4.54% | 4.79% | 5.04% | 5.04% |

Source: AZ Auditor General (Note: example shown is for single taxpayers.)

Based on the income tax table, AECOM distributed the tax rates based on population within the state. This exercise generated a weighted average rate approximately 3.5%. For simplicity and because a breakdown of project wage earners by total income is unavailable, this weighted average estimate is used to calculate the income tax revenue from wages generated by the Phoenix Convention Center project through direct, indirect, and induced economic impacts. State income tax collections are summarized in the next table.

Table 12. State of Arizona Income Tax Collections

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---------------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Income Tax Revenue | \$466,554 | \$2,450,070 | \$2,233,920 | \$3,461,532 | \$3,402,849 | \$12,014,925 |

Source: AZ Dept. of Revenue, Auditor General, IMPLAN, AECOM.

State Unemployment Tax Collections

The State of Arizona levies an additional tax on income in the form of a state unemployment tax. The unemployment tax rate is 2.7% of the first \$7,000 of income earned, or \$189 per job each year. Based upon the number of annual jobs reported above, total unemployment tax attributable to the Convention Center construction amounted to over \$1.3 million.

Table 13. State Unemployment Taxes

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|------------------------------|-----------------|------------------|------------------|------------------|------------------|--------------------|
| Number of Annual Jobs | 294.9 | 1,496.2 | 1,323.9 | 1,999.8 | 1,892.5 | |
| Tax Each Year | \$189 | \$189 | \$189 | \$189 | \$189 | |
| Unemployment Tax | \$55,736 | \$282,782 | \$250,217 | \$377,962 | \$357,683 | \$1,324,380 |

Source: AZ Dept. of Revenue, Auditor General, IMPLAN, AECOM.

State Gasoline Tax Collections

A similar analysis is conducted below for a relatively minor source of additional state revenue, the gasoline tax. The state gasoline tax is levied at a rate of \$0.19 per gallon purchased, up from \$0.18 in 2004 and 2005. Total gasoline purchases within the state stimulated by direct, indirect, and induced impacts of convention center construction were divided by an approximate average gas price of \$2.75 per gallon, and the appropriate 18 or 19 cent gas tax was applied to the number of gallons estimated through this method. This revenue source contributed another \$152,000 to the state during the construction.

Table 14. Estimation of Gasoline Tax Flowing to the State of Arizona

| | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|--------------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Gasoline | \$86,458 | \$453,351 | \$414,294 | \$644,230 | \$632,963 | \$2,231,295 |
| Approximate Price per Gallon | \$2.75 | \$2.75 | \$2.75 | \$2.75 | \$2.75 | |
| Estimated Gallons | 31,439 | 164,855 | 150,652 | 234,265 | 230,168 | 811,380 |
| Tax at \$0.18-0.19 per Gallon | \$5,659 | \$29,674 | \$28,624 | \$44,510 | \$43,732 | \$152,199 |

Source: IMPLAN, AECOM.

Appendix A – State of Arizona IMPLAN Output Multipliers

| Industry Code | Description | Direct | Indirect | Induced |
|---------------|--------------------------------------------------|--------|----------|----------|
| 34 | Construction of new nonresidential commercial | 1 | 0.420312 | 0.480193 |
| 299 | Institutional furniture manufacturing | 1 | 0.347158 | 0.317660 |
| 369 | Architectural, engineering, and related services | 1 | 0.473920 | 0.685074 |

Source: IMPLAN.