

# The Contribution of Office, Industrial and Retail Development and Construction on the U. S. Economy

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# **The Contribution of Office, Industrial and Retail Development and Construction on the U. S. Economy**

**Prepared for and Funded by  
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**Construction data provided by  
McGraw-Hill Construction**

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## About NAIOP

The National Association of Industrial and Office Properties is the nation's leading trade association for developers, owners, investors and other professionals in industrial, office and mixed-use real estate. Founded in 1967, NAIOP comprises more than 14,400 members in 53 North American chapters and provides networking opportunities, educational programs, research on trends and innovations and strong legislative representation. For more information, visit [www.naiop.org](http://www.naiop.org).

The NAIOP Research Foundation was established in 2000 as a 501(c)(3) organization to support the work of individuals and organizations engaged in real estate development, investment and operations. The Foundation's core purpose is to provide these individuals and organizations with the highest level of research information on how real properties, especially office, industrial and mixed-use properties, impact and benefit communities throughout North America. The initial funding for the Research Foundation was underwritten by the National Association of Industrial and Office Properties and its Founding Governors with an endowment fund established to fund future research. For more information, visit [www.naioprf.org](http://www.naioprf.org).

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This project is intended to provide information and insight to industry practitioners and does not constitute advice or recommendations. NAIOP disclaims any liability for action taken as a result of this project and its findings.

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# Executive Summary

The value of commercial buildings is much more than the sum of their construction outlays or their assessed valuation. Commercial real estate development, construction and operations create a ripple effect in the economy. This contribution consists of annual direct spending for new development and construction and annual expenditures to operate existing buildings. Additional important economic benefits – the ripple effect – are also derived from the respending of the salary and wages supported by direct construction and operating outlays and purchases of construction-related materials and services from vendors. The combination of these direct and indirect (and induced) outlays constitutes the total output or contribution to the national economy.

Total construction spending in the United States in 2005 was \$1.14 trillion. This spending accounted for almost 10 percent of the nation's \$11.9 trillion in Gross Domestic Product (GDP). Construction spending in 2005 increased 10.5 percent from 2004, a rate 2.5 times the nation's economic growth rate. The nonresidential (commercial) component of construction is sizeable, and accounted for approximately one-quarter of total construction spending. This subsector consists of nine major building types, with office, manufacturing (industrial), warehouse (flex) and retail space accounting for approximately 54 percent of total spending for new nonresidential building construction.

In 2005, nongovernment office, industrial, warehouse and retail building construction totaled 851.6 million gross square feet of new building space and, including soft and hard costs, outlays for site development and related infrastructure and tenant improvements. This construction accounted for outlays totaling an estimated \$148 billion and forms an important foundation for American prosperity. This subset of nonresidential construction provides the workspace required by the U.S. economy's expansion. It also accommodates the goods and services that support consumer spending that accounts for two-thirds of the GDP.

**The \$148 billion in total construction spending for office, industrial, warehouse and retail buildings in 2005 added \$346.8 billion in indirect (and induced) benefits to the national economy for a total contribution of \$494.8 billion to the GDP. These direct outlays and their indirect and induced benefits supported 4.2 million full-time-equivalent, year-round jobs and generated new personal earnings totaling \$155.8 billion. The jobs spanned all sectors of the national economy, spreading these economic benefits broadly across all states.**

**Note:** This executive summary has been prepared solely to provide a general overview. It should not be relied upon for any purpose except that for which it was prepared. Please rely on the full report for detailed information about findings, definitions and discussion points.

The 851.6 million square feet of new office, industrial, warehouse and retail building space built in 2005 will require \$1.75 billion in annual operating outlays to maintain and service. **Each year these new operating outlays, combined with the estimated \$30.6 billion in outlays supporting the 23.5 billion square feet of building space that already existed in 2004, will contribute \$3.61 billion to the national economy (GDP) and support a total of 43,593 new jobs with total personal earnings of \$1.155 billion.**

This new stock of built space represents a large and continuing source of economic activities that support job and income growth across the full breadth of local and state economies. The outlays that support the new buildings' operations add ongoing annual sources of economic impact that accumulate over the lifespan of the buildings and extend and magnify the economic benefits that the construction of office, industrial, warehouse and retail buildings have on their host economies.

On a state level, 10 states accounted for \$40.5 billion in spending for new office, industrial, warehouse and retail construction (52 percent), and the top 20 states accounted for 75 percent of this new construction spending. The traditional industrial states continue to rank high for industrial construction outlays, while states that have comparative transportation advantages often rank higher than their population sizes alone would support.

**Another important contribution of commercial buildings is that the long-term pattern of commercial real estate development, construction and operations spending lags residential spending, helping to cushion the negative economic impact of slower residential construction outlays in 2006 and 2007.**

The magnitude and significance of commercial buildings is clear. Changes in construction activity during the business cycle are directly reflected in GDP growth rates. The combined impact of development, commercial construction and building operations spending is a major source and closely watched barometer of economic vitality at the national and local levels.



# Introduction

The value of commercial buildings is much more than the sum of their construction outlays or their assessed valuation. Commercial real estate development, construction and operations create a ripple effect in the economy. This report measures the contribution of office, industrial and retail building development, construction and operations to the Gross Domestic Product (GDP), or the total output of the national economy, in the form of annual direct spending for new development, construction and annual expenditures to operate existing buildings. In addition to direct spending, important economic benefits are derived from re-spending the salary and wages supported by these direct construction and operating outlays and purchases of construction-related materials and services from vendors. Direct and indirect (and induced) outlays constitute the total output or contribution to the national economy (GDP).

It is necessary to understand the characteristics of commercial real estate development and construction and related industries, along with their contributions to the national and local economies and their patterns of performance over the business cycle. This knowledge is important for local, state and national government officials as well as to investors, developers and builders to better manage the full dimensions of the development process to the benefit of the economy's performance. The analyses presented in this report define the economic impacts of commercial buildings, highlighting the economic impacts flowing from office, industrial, warehouse and retail development, construction and operations.



# The Ripple Effect of Construction Spending

According to the U.S. Census, **total building and nonbuilding construction spending in the United States in 2005 was \$1.14 trillion** – almost 10 percent of the nation's Gross Domestic Product of \$11.9 trillion. Spending increased 10.5 percent from 2004, a rate 2.5 times the nation's economic growth rate.

Development activity creates jobs and associated earnings in the construction and building services industries, as well as in a broad range of associated businesses and services. The earnings of employees and contractors are then cycled through other sectors of the economy in the form of spending for goods and services. **The \$1.14 trillion in new construction spending in 2005 supported 32.5 million jobs across all sectors of the national economy and generated personal earnings totaling \$1.2 trillion.**

## The Three Stages in the Life of a Commercial Building



### Soft Costs/Site Development/Tenant Improvements

Architects, engineers, developers and marketing/design professionals working during the development phase begin the life span of a commercial building.



### Hard Costs

During the construction phase, new commercial projects employ workers who spend their paychecks in the local economy and contribute to the tax base.



### Operating Costs

After new commercial buildings are completed and occupied, they add to the productive capacity of their host economies. The outlays that support the new buildings' operations add ongoing annual sources of economic impact that accumulate over the life span of commercial buildings.



Direct spending for building development, construction and operations has a lasting economic impact because it:

- **supports the creation of jobs;**
- **generates personal earnings; and**
- **promotes new spending activity across the breadth of the economy.**

**Each \$1 million in new construction spending supports 28.5 full-time, year-round-equivalent jobs.** Architects, engineers, developers, marketing and design professionals working during the development phase begin the life span of a building. During the construction phase, new projects employ workers who spend their paychecks in the local economy and contribute to the tax base. The payroll generated by commercial real estate development, construction and operations represents taxable income for local, state and federal governments, which boosts the GDP and personal earnings. **For every dollar in new construction spending, personal earnings increase by \$1.05, and the GDP increases by \$3.42.**

This extended economic impact is a real and easily understood measure of the value of building development, construction and operations in national, state and local economies. The multiplier representing the total direct and indirect impacts of construction spending is 3.42. **Each dollar in new construction spending generates an additional \$3.42. In 2005, \$1.14 trillion in construction outlays contributed \$3.9 trillion to the GDP.**

The benefits extend beyond the planning, design and construction phases. After new buildings are completed and occupied, they add to the productive capacity of their host economies. Buildings require a continuing flow of expenditures to support their operations, including management, maintenance and repair, cleaning and custodial services and utilities, and so they contribute significant economic benefits. **Because these post-construction benefits are cumulative, they become significant to the economy's growth over the long term, extending the economic benefits of the higher-profile, costlier outlays associated with initial construction. Figure 1 (see page 11) illustrates the economic impact process.**

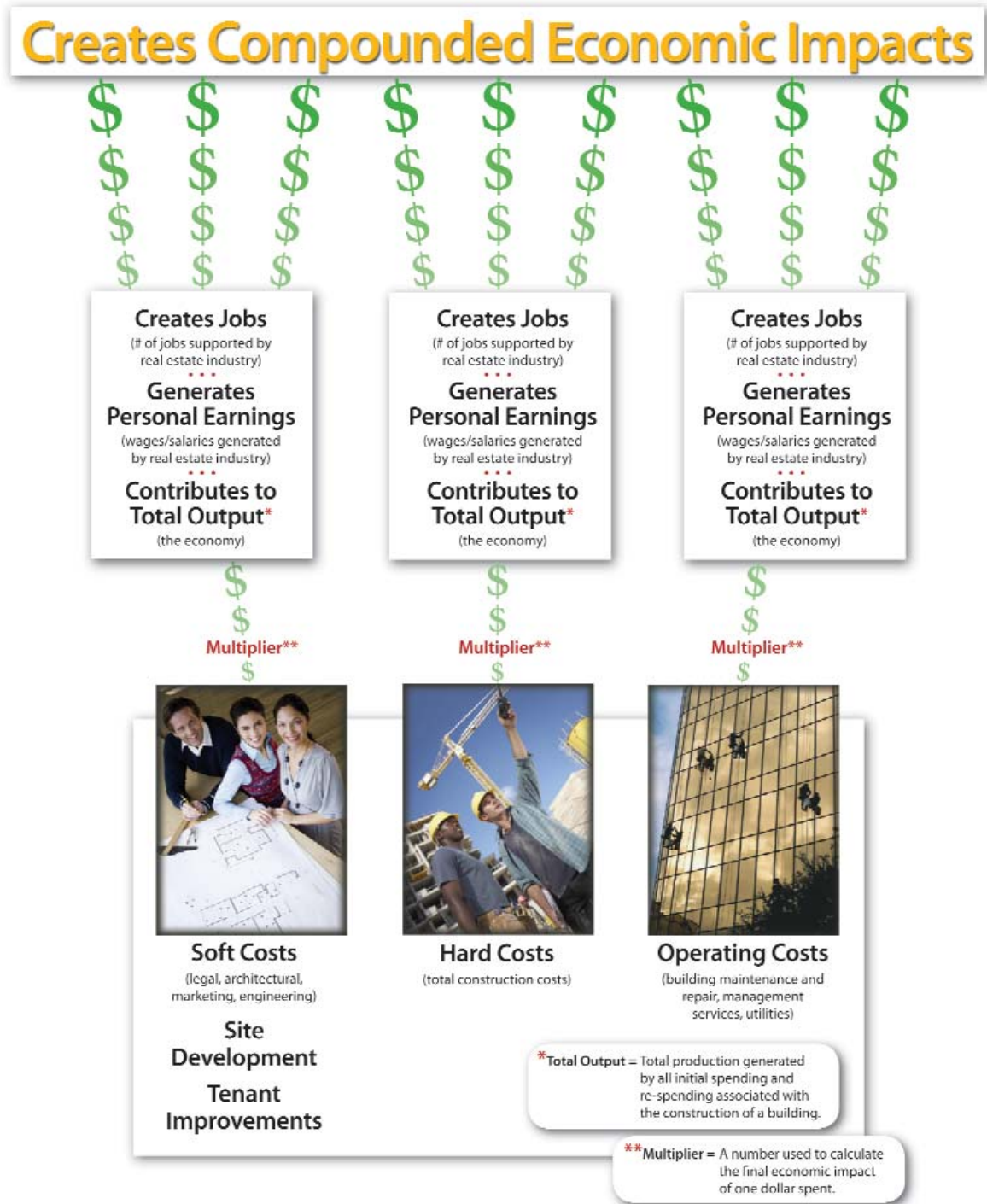


Figure 1  
How Commercial Buildings Contribute to the U.S. Economy



Three types of spending generate economic benefits that add value to communities, states and regions: **the soft costs, site development costs and tenant improvement costs** of building development; the **hard costs** of building construction; and the ongoing **operating costs** that accumulate over the life of a building.

The total office, industrial, warehouse and retail construction spending – including soft costs, site development outlays, hard costs and tenant improvements – was estimated at \$148 billion in 2005, adding 851.6 million square feet of building space (Table 1). This new space provides workspace for the U.S. economy and accommodates the goods and services that support the demands of consumer spending that account for two-thirds of the GDP.

Building Type	Square Feet	Construction Value
Office	160.4	\$19.0
Industrial	66.4	8.7
Warehouse*	255.1	15.9
Retail**	369.7	34.1
Totals	851.6	\$77.7

Sources: McGraw Hill Construction Analytics; GMU Center for Regional Analysis.  
 \*warehouse uses include transportation  
 \*\*retail includes entertainment

**Using standard jobs-per-square foot estimates, these 851.6 million square feet of new space in 2005 could house 1.9 million jobs with an annual payroll of \$73.2 billion.**

The combined impact of this spending:

- added \$494.8 billion to the GDP;
- supported 4.2 million full-time, year-round-equivalent jobs; and
- generated an estimated \$155.8 billion in personal earnings.

These jobs, the payroll they support, the value of the work they perform and the operations of this building space are essential to the economy's annual growth. **The GDP would not have grown 3.5 percent in 2005 without this added building space.**

The economic impacts of office, industrial, warehouse and retail building construction in 2005 and the ongoing economic benefits that this space will generate are summarized in Table 2.

Nonresidential construction outlays account for only one-quarter of all construction spending, and the annual investment pattern typically lags residential construction spending and the business cycle by several years. As a result, **commercial real estate spending has helped to smooth out the variability in the other categories of construction spending over the business cycle as it did in 2005. The balancing effect of commercial buildings will help to cushion the negative economic impact of slower residential construction outlays in 2006 and 2007.**

Table 2  
**Summary of Office, Industrial, Warehouse and Retail Construction  
 and Annual Operations Impacts on the U.S. Economy, 2005**  
 (in billions of 2005 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Construction	\$148.03	\$494.83	\$155.81	4,199,005
Soft Costs	\$24.11	\$70.63	\$25.43	667,900
Site Dev.*	\$24.27	\$83.08	\$25.53	691,552
Hard Costs	\$77.67	\$265.90	\$81.73	2,213,393
Tenant Imp**	\$21.98	\$75.22	\$23.12	626,160
Operations	\$1.75	\$3.61	\$1.16	43,593

Sources: McGraw Hill Construction Analytics; GMU Center for Regional Analysis  
 Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial construction and operations outlays within the U.S.; (2) the additional earnings generated within the U.S. from direct outlays during the construction or operation phases; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with the new spending for construction and operations.

\*Site development includes grading, infrastructure, parking, and landscaping.

\*\*Tenant improvements exclude furniture and equipment.



# Calculating Economic Impact



## Calculating the Economic Impact of Soft Costs, Site Development and Tenant Improvements

A true measure of the full economic impact of office, industrial, warehouse and retail construction must take into consideration the dollar magnitude and related income and employment impacts of complementary outlays, including:

- architectural and engineering services;
- legal services;
- development, marketing and management services (except for financing fees, insurance and taxes, which have little or no local economic impact);
- site development costs (grading and site preparation, onsite infrastructure improvements, parking and paving, and landscaping); and
- tenant improvements (build-out of interior spaces, except for furniture and equipment).

To estimate these complementary outlays for 2005, the National Association of Industrial and Office Properties (NAIOP) surveyed office, industrial, warehouse and retail developers in November 2006. (Appendix I documents the survey methodology.) The survey results (Table 3) show that complementary outlays accounted for \$70.35 billion, or 47.5 percent of total construction spending. While the distribution of costs varies among building types, these variations are small and reflect design and quality differences.

Table 3  
**Estimated Outlays by Building Category:  
 Soft Costs, Site Development and Tenant Improvements, 2005**  
 (in billions of 2005 dollars)

Sources	Soft Costs	Site Development	Tenant Improvements	Totals
Office	\$6.58	\$6.06	\$6.77	\$19.41
Industrial	1.88	2.90	2.14	6.92
Warehouse	4.11	4.86	4.06	13.03
Retail	11.53	10.45	9.00	30.98
Total	\$24.10	\$24.27	\$21.97	\$70.35

Sources: NAIOP; GMU Center for Regional Analysis



The economic impacts of complementary costs are calculated by applying national construction multipliers to determine contribution to GDP, personal earnings and employment. The mix of services within the soft cost category – each with its own output, income and jobs multipliers – required that composite multipliers be developed:

- For each \$1 of soft cost expenditures, a total of economic value of \$2.92 is generated.
- For each \$1 million in soft cost outlays, personal earnings increase by \$1,055,005, and 27.7 jobs are created or supported.

State construction multipliers (see Appendix H) are considerably smaller than the national multiplier because they reflect the smaller portion of construction outlays retained within the state economy and exclude the construction-related spending that leaks to other states. Smaller states and less well-developed state economies tend to retain smaller portions of the benefits from construction spending as these circulate through the national economy.

Nationwide, the \$24.11 billion in expenditures for soft costs in 2005

- added \$70.63 billion to the nation's economy;
- generated \$25.45 billion in new personal earnings for U.S. residents; and
- supported 667,902 jobs.

Site development outlays of \$24.27 billion in 2005

- added \$83.08 billion to the U.S. economy;
- generated \$25.55 billion in new personal earnings for U.S. residents; and
- supported 691,552 jobs.

Tenant improvement outlays of \$21.97 billion in 2005

- added \$75.22 billion to the nation's economy;
- generated \$23.1 billion in new personal earnings for U.S. residents; and
- supported 626,160 jobs.

These economic impacts for office, industrial, warehouse and retail construction are shown in Table 4.

Table 4  
**The Impacts of Construction Outlays\* for Soft Costs, Site Development  
And Tenant Improvements on U.S. Economy, 2005**  
(in billions of 2005 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
<b>Office</b>				
Soft Costs	6.58	19.29	6.95	182,377
Site Dev.*	6.06	20.74	6.38	172,654
Tenant Imp.**	6.77	23.18	7.12	192,944
Totals	19.41	63.21	20.45	547,975
<b>Industrial</b>				
Soft Costs	1.88	5.52	1.99	52,182
Site Dev.	2.90	9.94	3.06	82,727
Tenant Imp.	2.14	7.32	2.25	60,931
Totals	6.92	22.78	7.30	195,840
<b>Warehouse</b>				
Soft Costs	4.11	12.04	4.34	113,840
Site Dev.	4.86	16.62	5.11	138,346
Tenant Imp.	4.06	13.91	4.27	115,750
Totals	13.03	42.57	13.72	367,936
<b>Retail</b>				
Soft Costs	11.53	33.79	12.17	319,503
Site Dev.	10.45	35.78	11.00	297,825
Tenant Imp.	9.00	30.82	9.47	256,535
Totals	30.98	100.39	32.64	873,863
<b>Totals</b>				
Soft Costs	24.11	70.63	25.45	667,902
Site Dev.	24.27	83.08	25.55	691,552
Tenant Imp.	21.97	75.22	23.11	626,160
Totals	70.35	228.93	74.11	1,985,614

Sources: NAIOP; GMU Center for Regional Analysis

Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial construction outlays within the U.S.; (2) the additional earnings generated within the U.S. from direct outlays during the construction phase; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with the outlays for new construction.

\*Site development includes grading, infrastructure, parking and landscaping.

\*\*Tenant improvements exclude furniture and equipment.





## Calculating the Economic Impact of Hard Costs

In 2004, a total of 23.5 billion square feet of commercial building space existed in the United States representing an investment valued at \$7 trillion. This inventory has been built up over the lifetime of the United States one year at a time. However, the large majority of this inventory has been added over the past 30 years with the annual increment increasing each year with the exceptions of the one or two years following national recessions. Even with this volatility, **the total value of nonresidential construction over the current business cycle (measured from peak to peak, 1995-2005) has increased from \$222.4 billion to \$340.6 billion, for a gain of 53 percent.**

The economic impact of construction outlays (hard costs) can be calculated by applying the national construction multipliers for its contribution to GDP (3.423), personal earnings (1.0521) and employment (28.5). (State multipliers for the construction industry can be found in Appendix D.)

**The \$77.7 billion in construction spending for office, industrial, warehouse and retail buildings in 2005 added \$188.2 billion in indirect (and induced) benefits to the national economy for a total contribution of \$265.9 billion to the GDP (Table 5).** These direct outlays and their indirect and induced benefits supported 2.2 million full-time equivalent, year-round jobs during 2005 and generated new personal earnings totaling \$81.7 billion for an average annual salary of \$36,920 for construction phase work. These jobs span all sectors of the economy, spreading economic benefits across all goods- and services-producing sectors.

Table 5

### The Impacts of Direct Construction Outlays on U.S. Economy, 2005 (in billions of 2005 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Office	\$19.0	\$ 65.1	\$20.0	542,072
Industrial	8.7	29.8	9.1	247,944
Warehouse	15.9	54.3	16.7	451,753
Retail	34.1	116.7	35.9	971,624
Totals	\$77.7	\$265.9	\$81.7	2,213,393

Sources: McGraw Hill Construction Analytics; GMU Center for Regional Analysis

Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial construction outlays within the U.S.; (2) the additional earnings generated within the U.S. from direct outlays during the construction phase; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with the outlays for new construction.

*Construction Value by State*

The 10 states with the largest construction values accounted for approximately 52 percent of the construction outlays in the United States, while the top 20 states accounted for more than three-quarters of these outlays. The most populous states and those with the largest and fastest-growing economies tend to rank highest by value of construction outlay although there are variations depending on building type. The traditional industrial states continue to rank high for industrial construction outlays, while states that have comparative transport advantages often rank higher than their population sizes alone would support. These states are identified and ranked by value of construction in Figure 2 and Table 6. The values for all states are shown in Appendix A.

Figure 2  
**Top 10 States by Construction Value in Four Categories, 2005**  
 (hard costs only in billions of 2005 dollars)

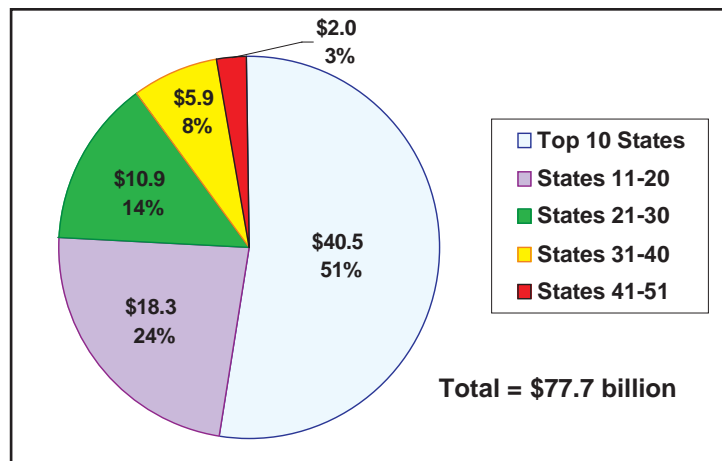


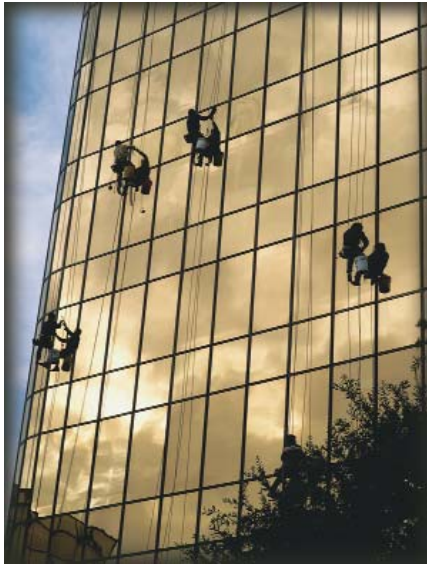
Table 6

**Top 10 States by Construction Value, 2005**

Ranking	Office	Industrial	Warehouse	Retail	All Categories
1	California	Texas	California	California	California
2	Texas	New York	Indiana	Texas	Texas
3	Florida	Ohio	Georgia	Florida	Florida
4	Virginia	Michigan	Florida	Illinois	Georgia
5	Arizona	Massachusetts	Texas	Georgia	Illinois
6	New York	California	Illinois	Ohio	Indiana
7	Georgia	Pennsylvania	New York	Indiana	New York
8	Pennsylvania	Illinois	Arizona	New York	Ohio
9	Ohio	N. Carolina	Ohio	New Jersey	Virginia
10	N. Carolina	Colorado	Pennsylvania	N. Carolina	Arizona

Sources: McGraw-Hill Construction Analytics; GMU Center for Regional Analysis





## Calculating the Economic Impact of Building Operations

The annual operating outlays associated with office, warehouse and retail space built in 2005 are estimated to total \$1.75 billion (operating outlays for industrial spaces were not estimated due to data limitations). This direct spending would:

- add \$3.6 billion to the GDP;
- support 43,593 new jobs; and
- generate \$1.2 billion in new personal earnings.

The existing stock of built space represents a large and continuing source of economic activities that support job and income growth across local and state economies. While the construction outlays associated with new building in 2005 provide a significant contribution to the national economy, once the construction is complete, these benefits end. However, **the outlays that support the new buildings' operations add ongoing annual sources of economic impact that accumulate over the life span of the buildings. As a result, these costs extend and magnify the economic benefits that the construction of office, industrial, warehouse and retail buildings have on their host economies.**

Building operations include outlays for regular maintenance and repair, custodial services, utilities and management. Management outlays represent services such as building supervision, marketing, leasing, security, engineering, finance and accounting. Each service has a multiplier effect on the economy because it supports off-site jobs within the local, regional and national economies and generates personal earnings for the benefit of local residents. These multipliers vary by type of service and state (see Appendix G). Table 7 presents a sampling of national multipliers.

Table 7

### National Output, Income and Employment Multipliers for Selected Categories of Building Operations

Categories	Total Output (1)	Personal Earnings (2)	Employment(3)
Building Services	2.96	0.93	37.74
Management	2.97	1.08	29.69
Utilities	2.53	0.65	15.37

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Notes: (1) the total value of goods and services generated directly and indirectly as a result of building operating outlays within the U.S.; (2) the additional earnings generated within the U.S. from outlays for building operations; (3) the additional new jobs supported nationwide by the spending and re-spending of outlays associated with building operations.

The 851.6 million square feet of new office, industrial, warehouse and retail building space built in 2005 will require \$1.75 billion in annual operating outlay to maintain and service. **Each year these new operating outlays, combined with the estimated \$30.6 billion supporting the 23.5 billion square feet of existing space (as of 2004), will contribute \$3.61 billion to the national economy (GDP) and support a total of 43,594 new jobs with total personal earnings of \$1.155 billion.** These economic impacts are presented by building type in Table 8.

Table 8  
**Annual Impacts of Post-Construction Outlays on the U. S. Economy, 2005**  
 (in millions of 2005 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Office	\$900.9	\$1,821.0	\$556.9	20,509
Warehouse	162.5	322.2	98.2	3,009
Retail	681.7	1,465.4	500.2	20,076
<b>Totals</b>	<b>\$1,745.1</b>	<b>\$3,608.6</b>	<b>\$1,155.3</b>	<b>43,594</b>

Sources: McGraw Hill Construction Analytics; GMU Center for Regional Analysis  
 Notes: (1) the total value of goods and services generated directly and indirectly as a result of building operating outlays within the U.S.; (2) the additional earnings generated within the U.S. from outlays for building operations; (3) the additional new jobs supported nationwide by the spending and re-spending of outlays associated with building operations. Operations impacts include maintenance and repair, cleaning, management, and utilities for office and warehouse uses but only maintenance and repair, cleaning and management for retail uses. Operations impacts are not calculated for industrial uses as these vary greatly depending on the manufacturing processes taking place within the buildings.



**These new buildings also represent new productive capacity because they house workers and business activities that support an expansion of the national economy.** While the value of this added capacity depends on the usage of each building, one measure is the jobs and payroll supported. Using a standard square-foot-per-jobs estimate for each category of building, the total number of employees that could be housed within the buildings built in 2005 can be calculated. The total payroll value of these new workers also can be calculated by multiplying this employment estimate by the U.S. average wage earnings per worker respectively, for jobs associated with each category of building (see Table 9).

The actual value of this work and its contribution to the GDP is a multiple of payroll as output value, and must generate sufficient income to cover not only the costs of payroll but also the outlays associated with business operations, payments to vendors, profit and taxes. **The total value of new office, industrial, warehouse and retail space to local, state and national economies includes these buildings' daily operations and the productive capacity they add to the existing building stock. These contributions to the economy include jobs, income, and the economic activities supported by the spending and re-spending of this new income, indirect and induced effects, as these flows circulate across the breadth of the economy.**

Table 9

**Employment and Income Impacts of the Office, Industrial, Warehouse and Retail Building Space Constructed in 2005**  
(square feet in millions; jobs in thousands; payroll in billions of dollars)

Building Category	Square Feet	Sq. Ft. per Job	New Jobs	Average Earnings	Total Earnings
Office	160.4	215	745.87	\$36,800	\$27.45
Industrial	66.4	900	73.75	\$66,735	4.92
Warehouse	255.1	900	283.45	\$63,660	18.04
Retail	369.7	450	821.56	\$27,700	22.76
Totals	851.6	442	1,924.63	\$38,020	\$73.17

Sources: GMU Center for Regional Analysis; NPA Data Services, Inc.

# Commercial Construction Counterbalances Residential

Construction spending in the United States – residential and nonresidential (commercial) buildings and nonbuilding (infrastructure) construction outlays – totaled \$1.14 trillion in 2005 (Table 10).

The commercial component of construction accounted for approximately one-quarter of total construction spending. This sub-sector is more sensitive and reacts more rapidly to market conditions than the other major components. This sub-sector consists of nine major building types (Table 11). Among these, office, manufacturing (industrial), warehouse (flex) and retail accounted for approximately 54 percent of total new construction spending.

Table 10  
**U.S. Total Construction Spending, 2005**  
(in billions of 2005 dollars)

Type	Value	Percent Change*
Residential	\$ 488.8	15.1
Residential Improvements**	161.7	9.3
Nonresidential Building	317.2	7.5
Nonbuilding***	175.9	5.2
Totals	\$1,143.6	10.5

Source: U.S. Department of Commerce, Census Bureau  
 \*change in value between 2004 and 2005  
 \*\*includes remodeling, renovation, and replacement work  
 \*\*\*infrastructure such as water and sewer, highways, power, transport

Table 11  
**U.S. Nonresidential Building Construction, 2005**  
(in billions of 2005 dollars)

Type	Value	Percent Change*
Lodging	\$13.1	4.6
Office	47.7	7.0
Commercial (retail)	73.7	7.3
Health Care	36.6	7.5
Education	78.6	5.3
Religious	7.8	- 4.6
Public Safety	10.0	11.1
Amusement/Recreation	18.5	- 5.1
Manufacturing**	31.1	30.5
Totals***	\$317.1	7.5

Source: U.S. Department of Commerce, Bureau of the Census  
 \*change in value between 2004 and 2005  
 \*\*includes warehouse/flex space  
 \*\*\*totals include some miscellaneous state and local government buildings



The patterns of total construction spending by major category over the business cycle reveal important differences. These patterns are shown in Figure 3 for the 1995-2005 period. The overlapping patterns of residential and nonresidential construction followed by nonbuilding spending (largely public) provide a sequence in which the increases and decreases in one type of construction have been compensated for by corresponding changes in the other types of construction spending so that construction outlays continue to underpin the national economy throughout the business cycle.

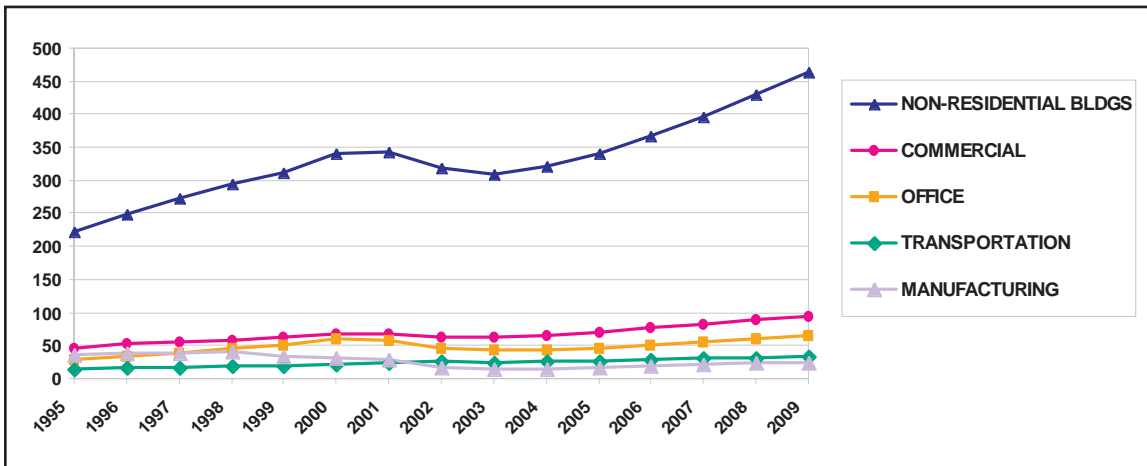
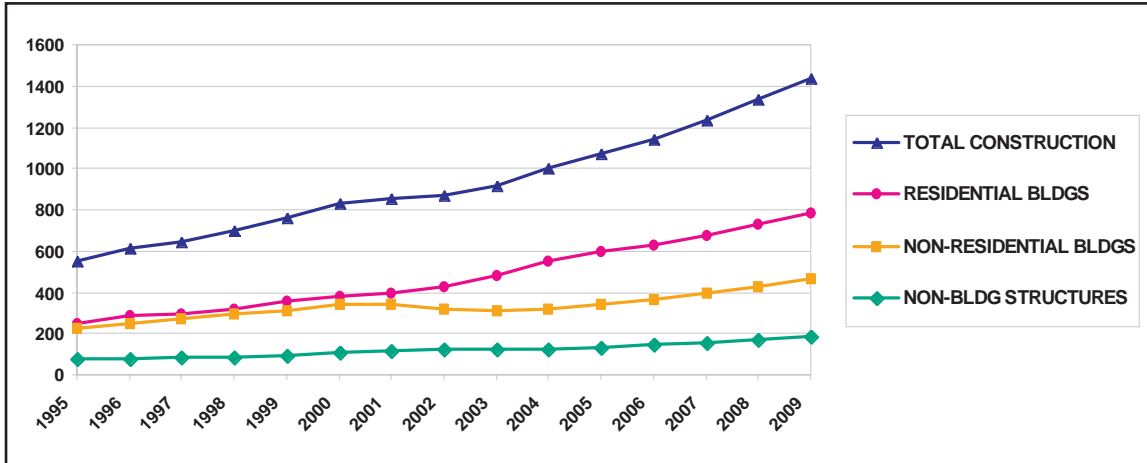
The 2000-2005 period illustrates these performance differences among major sub-sectors. During the recession of 2001 and continuing into 2002, residential construction slowed and then accelerated in each of the next three years. Nonresidential construction outlays remained strong in 2001 even as the economy slowed but declined in 2002 and 2003. This lag in construction outlays permitted the demand-driven commercial building markets to equalize. Declining vacancy rates in 2003 and 2004 supported expanded investment in office, warehouse, retail and other nonresidential building categories, and total outlays increased, growing 5 percent in 2004 and 7.5 percent in 2005.

Within the nonresidential construction category, office construction was the most volatile, declining in 2001, 2002 and 2003 before increasing in 2004, while commercial (retail) declined only slightly in 2002 and 2003 before resuming its upward trend in 2004. Construction spending for transportation (warehousing) declined only in 2003 while outlays for manufacturing (industrial) construction fell sharply in 1999 (-19 percent) and declined for five consecutive years, losing a total of 65 percent. In 2004, construction spending for manufacturing facilities gained 4 percent, and in 2005, it was up a strong 18 percent.

In 2004, growth of nonresidential construction spending combined with a 14 percent increase in residential building construction (the greatest increase since 1994) to push GDP growth to its highest rate (3.8%) of the decade. **By 2005, all subsectors of nonresidential construction were accelerating helping to offset slowing residential building construction outlays. This counterbalance kept the national economy from experiencing a sharper slowdown in the face of rising energy costs and lost output due to Hurricanes Katrina and Rita, which undermined fourth-quarter economic growth (GDP slowed to 3.2 percent in 2005).**

The pattern of offsetting construction outlays with growth in nonresidential construction spending compensating for slower (or even declining) residential construction spending will be clearly visible in 2006. **While GDP growth slowed in 2006 in response to declining residential construction outlays, compensating increases in outlays for commercial and nonbuilding structures can be the saving grace in a down economy.**

Figure 3  
**Construction Spending in the United States, 1995-2005**  
 (in billions of dollars)



Source: The 2005-2006 U.S. Markets Construction Overview, FMI



# Appendix A: Construction Outlays by State (Hard Costs Only)

Appendix Table A-1  
**Value of Office Construction in Rank Order, 2005**  
 (hard costs only)

STATE	Direct Spending (billions)
1. California	2.140
2. Texas	1.840
3. Florida	1.486
4. Virginia	0.886
5. Arizona	0.830
6. New York	0.745
7. Georgia	0.742
8. Pennsylvania	0.664
9. Ohio	0.626
10. North Carolina	0.545
<b>TOP 10 STATES</b>	<b>10.504</b>
11. Tennessee	0.499
12. Illinois	0.485
13. Colorado	0.479
14. Michigan	0.441
15. Maryland	0.439
16. Indiana	0.395
17. Wisconsin	0.382
18. New Jersey	0.363
19. District of Columbia	0.351
20. Washington	0.333
<b>NEXT 10 STATES (11-20)</b>	<b>4.167</b>
21. Nevada	0.331
22. Alabama	0.306
23. South Carolina	0.304
24. Missouri	0.295
25. Utah	0.286
26. Massachusetts	0.255
27. Minnesota	0.254
28. Oregon	0.203
29. Oklahoma	0.190
30. Kentucky	0.189
<b>NEXT 10 STATES (21-30)</b>	<b>2.613</b>

STATE	Direct Spending (billions)	
31. Louisiana	0.173	
32. Iowa	0.171	
33. Connecticut	0.161	
34. Idaho	0.148	
35. Arkansas	0.145	
36. Kansas	0.143	
37. Nebraska	0.134	
38. New Mexico	0.127	
39. Mississippi	0.079	
40. Delaware	0.077	
<b>NEXT 10 STATES (31-40)</b>		<b>1.357</b>
41. New Hampshire	0.069	
42. Maine	0.052	
43. South Dakota	0.047	
44. Alaska	0.037	
45. Hawaii	0.037	
46. Rhode Island	0.035	
47. West Virginia	0.032	
48. Wyoming	0.024	
49. Montana	0.020	
50. Vermont	0.018	
51. North Dakota	0.013	
<b>NEXT 11 STATES (41-51)</b>		<b>0.383</b>
<b>TOTAL</b>	<b>19.024</b>	

Source: CRA with data from McGraw Hill Construction Analytics (2005)



Appendix Table A-2  
**Value of Industrial Construction in Rank Order, 2005**  
 (hard costs only)

STATE	Direct Spending (billions)
1. Texas	0.743
2. New York	0.546
3. Ohio	0.545
4. Michigan	0.468
5. Massachusetts	0.428
6. California	0.367
7. Pennsylvania	0.334
8. Illinois	0.329
9. North Carolina	0.325
10. Colorado	0.314
<b>TOP 10 STATES</b>	<b>4.402</b>
11. Virginia	0.292
12. Indiana	0.270
13. Louisiana	0.256
14. Wisconsin	0.253
15. Georgia	0.252
16. Arizona	0.227
17. Kentucky	0.208
18. Missouri	0.195
19. Tennessee	0.193
20. Maryland	0.192
<b>NEXT 10 STATES (11-20)</b>	<b>2.337</b>
21. South Carolina	0.192
22. Florida	0.184
23. Iowa	0.176
24. New Jersey	0.151
25. Washington	0.134
26. West Virginia	0.126
27. Oregon	0.122
28. Nevada	0.122
29. Utah	0.100
30. Oklahoma	0.070
<b>NEXT 10 STATES (21-30)</b>	<b>1.377</b>

STATE	Direct Spending (billions)
31. Alabama	0.068
32. New Mexico	0.067
33. Connecticut	0.059
34. Kansas	0.058
35. Arkansas	0.046
36. New Hampshire	0.045
37. Idaho	0.040
38. Minnesota	0.036
39. Mississippi	0.032
40. Alaska	0.025
<b>NEXT 10 STATES (31-40)</b>	<b>0.475</b>
41. Montana	0.025
42. North Dakota	0.024
43. Nebraska	0.019
44. Rhode Island	0.018
45. Maine	0.011
46. Delaware	0.005
47. South Dakota	0.003
48. Hawaii	0.003
49. Vermont	0.002
50. Wyoming	0.002
51. District of Columbia	0.000
<b>NEXT 11 STATES (41-51)</b>	<b>0.111</b>
<b>TOTAL</b>	<b>8.702</b>

Source: CRA with data from McGraw Hill Construction Analytics (2005)

Appendix Table A-3  
**Value of Warehouse and Trans. Terminal Construction in Rank Order, 2005**  
 (hard costs only)

STATE	Direct Spending (billions)
1. California	1.949
2. Indiana	1.147
3. Georgia	1.145
4. Florida	1.116
5. Texas	0.912
6. Illinois	0.778
7. New York	0.568
8. Arizona	0.534
9. Ohio	0.533
10. Pennsylvania	0.510
<b>TOP 10 STATES</b>	<b>9.1916</b>
11. Virginia	0.469
12. New Jersey	0.453
13. Kentucky	0.437
14. Mississippi	0.416
15. Washington	0.365
16. Colorado	0.326
17. Michigan	0.307
18. North Carolina	0.300
19. Tennessee	0.277
20. Utah	0.267
<b>NEXT 10 STATES (11-20)</b>	<b>3.6160</b>
21. Maryland	0.249
22. Louisiana	0.212
23. Wisconsin	0.209
24. Oregon	0.209
25. Nevada	0.207
26. Oklahoma	0.189
27. Missouri	0.158
28. Alabama	0.155
29. Massachusetts	0.154
30. Minnesota	0.139
<b>NEXT 10 STATES (21-30)</b>	<b>1.8823</b>

STATE	Direct Spending (billions)
31. South Carolina	0.138
32. Connecticut	0.093
33. Nebraska	0.091
34. West Virginia	0.090
35. Arkansas	0.090
36. Iowa	0.089
37. New Mexico	0.084
38. Kansas	0.067
39. Idaho	0.066
40. Wyoming	0.059
<b>NEXT 10 STATES (31-40)</b>	<b>0.8669</b>
41. Delaware	0.058
42. Maine	0.055
43. New Hampshire	0.054
44. Vermont	0.033
45. Hawaii	0.023
46. North Dakota	0.023
47. South Dakota	0.018
48. Alaska	0.012
49. Montana	0.011
50. Rhode Island	0.010
51. District of Columbia	0.000
<b>NEXT 11 STATES (41-51)</b>	<b>0.297</b>
<b>TOTAL</b>	<b>15.854</b>

Source: CRA with data from McGraw Hill Construction Analytics (2005)



Appendix Table A-4  
**Value of Retail and Entertainment Construction in Rank Order, 2005**  
 (hard costs only)

	STATE	Direct Spending (billions)	
1.	California	3.231	
2.	Texas	2.909	
3.	Florida	2.461	
4.	Illinois	1.608	
5.	Georgia	1.494	
6.	Ohio	1.352	
7.	Indiana	1.282	
8.	New York	1.232	
9.	New Jersey	1.071	
10.	North Carolina	1.032	
	<b>TOP 10 STATES</b>		<b>17.672</b>
11.	Pennsylvania	1.017	
12.	Arizona	0.958	
13.	Virginia	0.916	
14.	Tennessee	0.896	
15.	Colorado	0.800	
16.	Michigan	0.757	
17.	Missouri	0.745	
18.	Wisconsin	0.655	
19.	Nevada	0.616	
20.	Massachusetts	0.615	
	<b>NEXT 10 STATES (11-20)</b>		<b>7.975</b>
21.	Washington	0.589	
22.	South Carolina	0.584	
23.	Connecticut	0.583	
24.	Maryland	0.561	
25.	Iowa	0.500	
26.	Oklahoma	0.494	
27.	Alabama	0.456	
28.	Oregon	0.415	
29.	Kentucky	0.411	
30.	Minnesota	0.405	
	<b>NEXT 10 STATES (21-30)</b>		<b>4.998</b>

STATE	Direct Spending (billions)	
31.	Utah	0.386
32.	Louisiana	0.325
33.	Kansas	0.313
34.	Arkansas	0.312
35.	New Mexico	0.260
36.	Mississippi	0.249
37.	Nebraska	0.237
38.	New Hampshire	0.215
39.	West Virginia	0.156
40.	Rhode Island	0.136
	<b>NEXT 10 STATES (31-40)</b>	<b>2.590</b>
41.	South Dakota	0.135
42.	Maine	0.131
43.	Idaho	0.122
44.	North Dakota	0.100
45.	Delaware	0.066
46.	Wyoming	0.058
47.	Arkansas	0.057
48.	Hawaii	0.057
49.	Vermont	0.054
50.	Montana	0.052
51.	District of Columbia	0.030
	<b>NEXT 11 STATES (41-51)</b>	<b>0.863</b>
	<b>TOTAL</b>	<b>34.099</b>

Source: CRA with data from McGraw Hill Construction Analytics (2005)

Appendix Table A-5  
Value of Construction in Four Categories in Rank Order, 2005

	STATE	Direct Spending (billions)	
1.	California	7.687	
2.	Texas	6.404	
3.	Florida	5.247	
4.	Georgia	3.634	
5.	Illinois	3.200	
6.	Indiana	3.093	
7.	New York	3.091	
8.	Ohio	3.057	
9.	Virginia	2.562	
10.	Arizona	2.548	
	<b>TOP 10 STATES</b>		<b>40.523</b>
11.	Pennsylvania	2.525	
12.	North Carolina	2.202	
13.	New Jersey	2.038	
14.	Michigan	1.974	
15.	Colorado	1.919	
16.	Tennessee	1.865	
17.	Wisconsin	1.499	
18.	Massachusetts	1.453	
19.	Maryland	1.441	
20.	Washington	1.421	
	<b>NEXT 10 STATES (11-20)</b>		<b>18.336</b>
21.	Missouri	1.394	
22.	Nevada	1.276	
23.	Kentucky	1.245	
24.	South Carolina	1.216	
25.	Utah	1.039	
26.	Alabama	0.985	
27.	Louisiana	0.967	
28.	Oregon	0.950	
29.	Oklahoma	0.943	
30.	Iowa	0.937	
	<b>NEXT 10 STATES (21-30)</b>		<b>10.951</b>

	STATE	Direct Spending (billions)	
31.	Connecticut	0.896	
32.	Minnesota	0.834	
33.	Mississippi	0.776	
34.	Arkansas	0.593	
35.	Kansas	0.581	
36.	New Mexico	0.538	
37.	Nebraska	0.481	
38.	West Virginia	0.405	
39.	New Hampshire	0.383	
40.	District of Columbia	0.382	
	<b>NEXT 10 STATES (31-40)</b>		<b>5.869</b>
41.	Idaho	0.375	
42.	Maine	0.248	
43.	Delaware	0.205	
44.	South Dakota	0.203	
45.	Rhode Island	0.197	
46.	North Dakota	0.161	
47.	Wyoming	0.143	
48.	Alaska	0.131	
49.	Hawaii	0.119	
50.	Montana	0.108	
51.	Vermont	0.107	
	<b>NEXT 11 STATES (41-51)</b>		<b>1.999</b>
	<b>TOTAL</b>	<b>77.679</b>	

Source: CRA with data from McGraw Hill Construction Analytics (2005)

Appendix - Table A-6  
Top Ten States by Construction Value, All Categories, 2005  
(hard costs only in billions of 2005 \$s)

Groupings of States	Office		Industrial		Warehouse		Retail		Total	
	Value	%	Value	%	Value	%	Value	%	Value	%
Top Ten	10.5	55.2	4.4	50.7	9.2	58.0	17.7	51.8	40.5	52.2
Next 10 (11-20)	4.2	21.9	2.3	26.9	3.6	22.8	8.0	23.4	18.3	23.6
Next 10 (21-30)	2.6	13.7	1.4	15.9	1.9	11.9	5.0	14.7	11.0	14.1
Next 10 (31-40)	1.4	7.1	0.5	5.3	0.9	5.5	2.6	7.6	5.9	7.6
Next 11 (41-51)	0.4	2.0	0.1	1.3	0.3	1.9	0.9	2.5	2.0	2.6
Totals	19.0	100.0	8.7	100.0	15.9	100.0	34.1	100.0	77.7	100.0



## Appendix B: Soft Costs Impacts by State

Appendix Table B-1				
Impacts of Office Soft Costs on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.106	0.212	0.081	2,608
Alaska	0.013	0.023	0.009	307
Arizona	0.287	0.598	0.235	6,915
Arkansas	0.050	0.093	0.036	1,398
California	0.741	1.719	0.654	16,998
Colorado	0.166	0.374	0.143	3,887
Connecticut	0.056	0.108	0.040	951
Delaware	0.027	0.046	0.014	344
District of Columbia	0.121	0.166	0.020	454
Florida	0.514	1.098	0.429	12,486
Georgia	0.257	0.590	0.219	5,639
Hawaii	0.013	0.025	0.010	359
Idaho	0.051	0.098	0.038	1,493
Illinois	0.168	0.386	0.142	3,525
Indiana	0.137	0.272	0.101	3,396
Iowa	0.059	0.113	0.043	1,647
Kansas	0.049	0.097	0.034	1,131
Kentucky	0.065	0.128	0.046	1,503
Louisiana	0.060	0.116	0.045	1,526
Maine	0.018	0.034	0.013	470
Maryland	0.152	0.313	0.110	2,915
Massachusetts	0.088	0.183	0.068	1,607
Michigan	0.153	0.309	0.120	3,284
Minnesota	0.088	0.190	0.072	2,064
Mississippi	0.027	0.050	0.019	721
Missouri	0.102	0.207	0.069	2,097
Montana	0.007	0.013	0.005	210
Nebraska	0.046	0.089	0.034	1,225
Nevada	0.114	0.215	0.082	2,170
New Hampshire	0.024	0.047	0.017	471
New Jersey	0.126	0.272	0.095	2,260
New Mexico	0.044	0.084	0.033	1,170
New York	0.258	0.498	0.168	3,968
North Carolina	0.189	0.399	0.150	4,469
North Dakota	0.005	0.008	0.003	118
Ohio	0.217	0.465	0.173	5,205
Oklahoma	0.066	0.137	0.052	1,976
Oregon	0.070	0.144	0.053	1,847
Pennsylvania	0.230	0.500	0.178	4,554
Rhode Island	0.012	0.022	0.008	256
South Carolina	0.105	0.212	0.080	2,626
South Dakota	0.016	0.029	0.011	410
Tennessee	0.173	0.378	0.135	4,037
Texas	0.637	1.498	0.558	14,378
Utah	0.099	0.217	0.083	3,042
Vermont	0.006	0.011	0.004	145
Virginia	0.307	0.632	0.219	5,576
Washington	0.115	0.245	0.093	2,847
West Virginia	0.011	0.019	0.007	272
Wisconsin	0.132	0.266	0.102	3,462
Wyoming	0.008	0.014	0.006	218
<b>State Totals</b>	<b>6.583</b>	<b>13.964</b>	<b>5.157</b>	<b>146,638</b>
<b>Interstate spillovers</b>		<b>5.323</b>	<b>1.788</b>	<b>35,740</b>
<b>USA Total</b>	<b>6.583</b>	<b>19.287</b>	<b>6.945</b>	<b>182,377</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



Appendix Table B-2				
Impacts of Industrial Soft Costs on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.015	0.029	0.011	363
Alaska	0.005	0.010	0.004	129
Arizona	0.049	0.102	0.040	1,182
Arkansas	0.010	0.019	0.007	280
California	0.079	0.184	0.070	1,823
Colorado	0.068	0.153	0.059	1,593
Connecticut	0.013	0.025	0.009	219
Delaware	0.001	0.002	0.001	14
District of Columbia	0.000	0.000	0.000	0
Florida	0.040	0.085	0.033	969
Georgia	0.055	0.125	0.047	1,198
Hawaii	0.001	0.001	0.000	15
Idaho	0.009	0.017	0.006	252
Illinois	0.071	0.164	0.060	1,497
Indiana	0.058	0.116	0.043	1,451
Iowa	0.038	0.073	0.028	1,061
Kansas	0.013	0.025	0.009	287
Kentucky	0.045	0.088	0.032	1,031
Louisiana	0.055	0.107	0.041	1,410
Maine	0.002	0.004	0.002	61
Maryland	0.042	0.086	0.030	798
Massachusetts	0.093	0.192	0.072	1,685
Michigan	0.101	0.206	0.080	2,184
Minnesota	0.008	0.017	0.006	181
Mississippi	0.007	0.013	0.005	183
Missouri	0.042	0.086	0.029	868
Montana	0.005	0.010	0.004	158
Nebraska	0.004	0.008	0.003	110
Nevada	0.026	0.050	0.019	500
New Hampshire	0.010	0.019	0.007	192
New Jersey	0.033	0.071	0.025	587
New Mexico	0.014	0.028	0.011	383
New York	0.118	0.229	0.077	1,819
North Carolina	0.070	0.149	0.056	1,668
North Dakota	0.005	0.009	0.004	136
Ohio	0.118	0.253	0.094	2,838
Oklahoma	0.015	0.031	0.012	451
Oregon	0.026	0.054	0.020	694
Pennsylvania	0.072	0.158	0.056	1,434
Rhode Island	0.004	0.007	0.003	81
South Carolina	0.041	0.084	0.031	1,037
South Dakota	0.001	0.001	0.000	15
Tennessee	0.042	0.092	0.033	978
Texas	0.161	0.379	0.141	3,634
Utah	0.022	0.048	0.018	668
Vermont	0.000	0.001	0.000	12
Virginia	0.063	0.130	0.045	1,148
Washington	0.029	0.062	0.023	718
West Virginia	0.027	0.048	0.018	669
Wisconsin	0.055	0.110	0.042	1,432
Wyoming	0.000	0.001	0.000	11
<b>State Totals</b>	<b>1.883</b>	<b>3.957</b>	<b>1.466</b>	<b>42,110</b>
<b>Interstate spillovers</b>		<b>1.561</b>	<b>0.521</b>	<b>10,072</b>
<b>USA Total</b>	<b>1.883</b>	<b>5.518</b>	<b>1.987</b>	<b>52,182</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.040	0.081	0.031	994
Alaska	0.003	0.006	0.002	76
Arizona	0.138	0.288	0.113	3,331
Arkansas	0.023	0.043	0.017	650
California	0.505	1.173	0.446	11,591
Colorado	0.085	0.191	0.073	1,984
Connecticut	0.024	0.047	0.017	412
Delaware	0.015	0.026	0.008	195
District of Columbia	0.000	0.000	0.000	0
Florida	0.289	0.617	0.241	7,020
Georgia	0.297	0.682	0.253	6,520
Hawaii	0.006	0.012	0.005	168
Idaho	0.017	0.032	0.013	495
Illinois	0.202	0.464	0.170	4,235
Indiana	0.297	0.593	0.221	7,393
Iowa	0.023	0.044	0.017	645
Kansas	0.017	0.034	0.012	400
Kentucky	0.113	0.222	0.080	2,603
Louisiana	0.055	0.106	0.041	1,402
Maine	0.014	0.027	0.010	372
Maryland	0.064	0.133	0.047	1,235
Massachusetts	0.040	0.083	0.031	724
Michigan	0.080	0.161	0.062	1,713
Minnesota	0.036	0.078	0.030	850
Mississippi	0.108	0.198	0.074	2,852
Missouri	0.041	0.083	0.028	842
Montana	0.003	0.005	0.002	83
Nebraska	0.024	0.045	0.017	623
Nevada	0.054	0.101	0.039	1,020
New Hampshire	0.014	0.028	0.010	279
New Jersey	0.117	0.254	0.089	2,111
New Mexico	0.022	0.042	0.017	581
New York	0.147	0.285	0.096	2,265
North Carolina	0.078	0.164	0.062	1,841
North Dakota	0.006	0.011	0.004	155
Ohio	0.138	0.296	0.110	3,320
Oklahoma	0.049	0.102	0.038	1,467
Oregon	0.054	0.111	0.041	1,421
Pennsylvania	0.132	0.288	0.103	2,623
Rhode Island	0.002	0.005	0.002	53
South Carolina	0.036	0.072	0.027	891
South Dakota	0.005	0.008	0.003	118
Tennessee	0.072	0.157	0.056	1,677
Texas	0.236	0.556	0.207	5,337
Utah	0.069	0.152	0.058	2,126
Vermont	0.009	0.016	0.006	206
Virginia	0.121	0.250	0.087	2,209
Washington	0.095	0.202	0.077	2,341
West Virginia	0.023	0.041	0.016	571
Wisconsin	0.054	0.109	0.042	1,418
Wyoming	0.015	0.026	0.010	401
<b>State Totals</b>	<b>4.109</b>	<b>8.748</b>	<b>3.258</b>	<b>93,840</b>
<b>Interstate spillovers</b>		<b>3.291</b>	<b>1.077</b>	<b>20,000</b>
<b>USA Total</b>	<b>4.109</b>	<b>12.039</b>	<b>4.335</b>	<b>113,840</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



Appendix Table B-4				
<b>Impacts of Retail and Entertainment Soft Costs on State Economies, 2005</b>				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.154	0.309	0.118	3,806
Alaska	0.019	0.035	0.014	466
Arizona	0.324	0.675	0.265	7,804
Arkansas	0.105	0.197	0.076	2,944
California	1.093	2.537	0.964	25,079
Colorado	0.271	0.611	0.233	6,347
Connecticut	0.197	0.383	0.141	3,369
Delaware	0.022	0.038	0.011	288
District of Columbia	0.010	0.014	0.002	38
Florida	0.832	1.777	0.694	20,207
Georgia	0.505	1.161	0.431	11,101
Hawaii	0.019	0.039	0.015	542
Idaho	0.041	0.078	0.030	1,198
Illinois	0.544	1.249	0.459	11,416
Indiana	0.434	0.865	0.322	10,786
Iowa	0.169	0.322	0.122	4,711
Kansas	0.106	0.207	0.072	2,428
Kentucky	0.139	0.272	0.098	3,191
Louisiana	0.110	0.212	0.082	2,799
Maine	0.044	0.084	0.032	1,169
Maryland	0.190	0.390	0.138	3,638
Massachusetts	0.208	0.432	0.161	3,783
Michigan	0.256	0.519	0.201	5,510
Minnesota	0.137	0.297	0.112	3,223
Mississippi	0.084	0.155	0.058	2,230
Missouri	0.252	0.511	0.171	5,166
Montana	0.018	0.033	0.013	525
Nebraska	0.080	0.155	0.059	2,119
Nevada	0.208	0.391	0.149	3,952
New Hampshire	0.073	0.142	0.051	1,432
New Jersey	0.362	0.784	0.275	6,519
New Mexico	0.088	0.169	0.067	2,345
New York	0.417	0.806	0.272	6,415
North Carolina	0.349	0.738	0.277	8,275
North Dakota	0.034	0.061	0.023	885
Ohio	0.457	0.980	0.364	10,981
Oklahoma	0.167	0.346	0.131	5,007
Oregon	0.140	0.287	0.106	3,681
Pennsylvania	0.344	0.750	0.267	6,823
Rhode Island	0.046	0.085	0.031	980
South Carolina	0.197	0.398	0.150	4,933
South Dakota	0.046	0.080	0.029	1,146
Tennessee	0.303	0.664	0.238	7,095
Texas	0.984	2.315	0.862	22,214
Utah	0.131	0.287	0.110	4,020
Vermont	0.018	0.034	0.013	438
Virginia	0.310	0.638	0.221	5,632
Washington	0.199	0.425	0.161	4,931
West Virginia	0.053	0.092	0.036	1,293
Wisconsin	0.221	0.446	0.170	5,794
Wyoming	0.020	0.033	0.013	519
<b>State Totals</b>	<b>11.532</b>	<b>24.509</b>	<b>9.111</b>	<b>261,195</b>
<b>Interstate spillovers</b>		<b>9.279</b>	<b>3.055</b>	<b>58,308</b>
<b>USA Total</b>	<b>11.532</b>	<b>33.788</b>	<b>12.166</b>	<b>319,503</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

Appendix Table B-5				
Impacts of Soft Costs in Four Categories on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.315	0.631	0.240	7,770
Alaska	0.041	0.074	0.029	978
Arizona	0.799	1.663	0.653	19,233
Arkansas	0.189	0.353	0.136	5,271
California	2.418	5.613	2.134	55,491
Colorado	0.589	1.330	0.508	13,811
Connecticut	0.290	0.563	0.207	4,950
Delaware	0.065	0.111	0.034	841
District of Columbia	0.132	0.180	0.022	493
Florida	1.676	3.578	1.397	40,682
Georgia	1.114	2.558	0.950	24,458
Hawaii	0.038	0.077	0.030	1,084
Idaho	0.118	0.225	0.087	3,438
Illinois	0.985	2.263	0.831	20,672
Indiana	0.926	1.847	0.688	23,027
Iowa	0.290	0.551	0.210	8,065
Kansas	0.185	0.362	0.126	4,246
Kentucky	0.363	0.710	0.255	8,328
Louisiana	0.280	0.541	0.210	7,137
Maine	0.079	0.150	0.057	2,072
Maryland	0.448	0.921	0.325	8,587
Massachusetts	0.429	0.890	0.331	7,799
Michigan	0.590	1.196	0.462	12,692
Minnesota	0.269	0.583	0.220	6,318
Mississippi	0.226	0.415	0.155	5,985
Missouri	0.437	0.887	0.297	8,973
Montana	0.033	0.062	0.025	976
Nebraska	0.154	0.298	0.114	4,077
Nevada	0.403	0.757	0.289	7,642
New Hampshire	0.120	0.235	0.085	2,373
New Jersey	0.638	1.380	0.484	11,478
New Mexico	0.168	0.323	0.127	4,479
New York	0.940	1.817	0.613	14,467
North Carolina	0.686	1.449	0.545	16,254
North Dakota	0.050	0.090	0.033	1,294
Ohio	0.930	1.995	0.741	22,343
Oklahoma	0.297	0.616	0.233	8,902
Oregon	0.291	0.595	0.221	7,642
Pennsylvania	0.778	1.696	0.605	15,434
Rhode Island	0.064	0.119	0.043	1,370
South Carolina	0.380	0.766	0.288	9,487
South Dakota	0.067	0.118	0.043	1,689
Tennessee	0.589	1.289	0.462	13,789
Texas	2.018	4.748	1.768	45,563
Utah	0.320	0.703	0.270	9,856
Vermont	0.033	0.062	0.024	801
Virginia	0.801	1.650	0.571	14,566
Washington	0.438	0.933	0.355	10,838
West Virginia	0.115	0.200	0.077	2,805
Wisconsin	0.463	0.932	0.355	12,105
Wyoming	0.044	0.074	0.029	1,150
<b>State Totals</b>	<b>24.107</b>	<b>51.178</b>	<b>18.992</b>	<b>543,782</b>
<b>Interstate spillovers</b>		<b>19.454</b>	<b>6.441</b>	<b>124,120</b>
<b>USA Total</b>	<b>24.107</b>	<b>70.633</b>	<b>25.433</b>	<b>667,902</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



# Appendix C: Site Development Impacts by State

Appendix Table C-1				
Impacts of Office Site Development on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.097	0.235	0.073	2,422
Alaska	0.012	0.022	0.007	195
Arizona	0.264	0.594	0.197	5,544
Arkansas	0.046	0.101	0.031	1,072
California	0.682	1.717	0.558	14,067
Colorado	0.153	0.368	0.120	3,223
Connecticut	0.051	0.107	0.034	829
Delaware	0.024	0.047	0.013	346
District of Columbia	0.112	0.141	0.010	231
Florida	0.473	1.068	0.354	10,858
Georgia	0.236	0.606	0.189	5,520
Hawaii	0.012	0.024	0.008	221
Idaho	0.047	0.099	0.033	1,141
Illinois	0.155	0.398	0.123	3,109
Indiana	0.126	0.301	0.091	2,809
Iowa	0.054	0.119	0.037	1,226
Kansas	0.045	0.102	0.029	958
Kentucky	0.060	0.138	0.040	1,338
Louisiana	0.055	0.119	0.039	1,285
Maine	0.016	0.034	0.011	394
Maryland	0.140	0.304	0.092	2,388
Massachusetts	0.081	0.177	0.055	1,360
Michigan	0.140	0.325	0.106	2,863
Minnesota	0.081	0.193	0.061	1,669
Mississippi	0.025	0.055	0.017	588
Missouri	0.094	0.223	0.065	1,964
Montana	0.006	0.013	0.004	159
Nebraska	0.043	0.091	0.029	935
Nevada	0.105	0.213	0.070	1,815
New Hampshire	0.022	0.048	0.014	405
New Jersey	0.116	0.271	0.082	2,018
New Mexico	0.040	0.082	0.027	908
New York	0.237	0.480	0.146	3,577
North Carolina	0.174	0.420	0.131	4,238
North Dakota	0.004	0.008	0.002	87
Ohio	0.199	0.503	0.155	4,606
Oklahoma	0.061	0.144	0.046	1,612
Oregon	0.065	0.150	0.046	1,365
Pennsylvania	0.211	0.548	0.166	4,544
Rhode Island	0.011	0.022	0.006	178
South Carolina	0.097	0.226	0.069	2,322
South Dakota	0.015	0.030	0.010	345
Tennessee	0.159	0.398	0.118	3,581
Texas	0.586	1.567	0.493	14,031
Utah	0.091	0.222	0.072	2,301
Vermont	0.006	0.011	0.003	121
Virginia	0.282	0.650	0.194	5,578
Washington	0.106	0.250	0.080	2,150
West Virginia	0.010	0.020	0.006	212
Wisconsin	0.122	0.287	0.091	2,708
Wyoming	0.008	0.014	0.005	153
<b>State Totals</b>	<b>6.059</b>	<b>14.289</b>	<b>4.459</b>	<b>127,569</b>
<b>Interstate spillovers</b>		<b>6.452</b>	<b>1.916</b>	<b>45,086</b>
<b>USA Total</b>	<b>6.059</b>	<b>20.741</b>	<b>6.375</b>	<b>172,654</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



Appendix Table C-2				
Impacts of Industrial Site Development on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.023	0.055	0.017	564
Alaska	0.008	0.015	0.005	137
Arizona	0.076	0.170	0.056	1,587
Arkansas	0.015	0.034	0.010	360
California	0.122	0.308	0.100	2,527
Colorado	0.105	0.253	0.083	2,212
Connecticut	0.020	0.041	0.013	319
Delaware	0.002	0.003	0.001	24
District of Columbia	0.000	0.000	0.000	0
Florida	0.062	0.139	0.046	1,412
Georgia	0.084	0.216	0.067	1,965
Hawaii	0.001	0.002	0.001	16
Idaho	0.013	0.028	0.009	323
Illinois	0.110	0.283	0.087	2,211
Indiana	0.090	0.216	0.065	2,010
Iowa	0.059	0.129	0.040	1,322
Kansas	0.019	0.043	0.012	407
Kentucky	0.069	0.159	0.046	1,537
Louisiana	0.085	0.184	0.060	1,987
Maine	0.004	0.007	0.002	86
Maryland	0.064	0.139	0.042	1,095
Massachusetts	0.143	0.312	0.097	2,388
Michigan	0.156	0.362	0.118	3,188
Minnesota	0.012	0.028	0.009	245
Mississippi	0.011	0.024	0.007	250
Missouri	0.065	0.154	0.045	1,361
Montana	0.008	0.017	0.006	200
Nebraska	0.006	0.014	0.004	141
Nevada	0.041	0.082	0.027	701
New Hampshire	0.015	0.033	0.010	276
New Jersey	0.050	0.118	0.036	878
New Mexico	0.022	0.045	0.015	498
New York	0.182	0.369	0.112	2,747
North Carolina	0.108	0.262	0.082	2,649
North Dakota	0.008	0.016	0.005	169
Ohio	0.182	0.460	0.141	4,205
Oklahoma	0.023	0.055	0.018	617
Oregon	0.041	0.094	0.029	859
Pennsylvania	0.111	0.289	0.087	2,396
Rhode Island	0.006	0.012	0.003	94
South Carolina	0.064	0.149	0.046	1,536
South Dakota	0.001	0.002	0.001	21
Tennessee	0.064	0.161	0.048	1,454
Texas	0.248	0.663	0.209	5,939
Utah	0.033	0.082	0.026	846
Vermont	0.001	0.001	0.000	16
Virginia	0.097	0.224	0.067	1,924
Washington	0.045	0.105	0.034	908
West Virginia	0.042	0.083	0.025	872
Wisconsin	0.084	0.199	0.063	1,876
Wyoming	0.001	0.001	0.000	13
<b>State Totals</b>	<b>2.903</b>	<b>6.841</b>	<b>2.134</b>	<b>61,365</b>
<b>Interstate spillovers</b>		<b>3.097</b>	<b>0.920</b>	<b>21,361</b>
<b>USA Total</b>	<b>2.903</b>	<b>9.938</b>	<b>3.055</b>	<b>82,727</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.048	0.115	0.036	1,185
Alaska	0.004	0.007	0.002	62
Arizona	0.163	0.367	0.122	3,428
Arkansas	0.028	0.060	0.018	640
California	0.597	1.503	0.489	12,314
Colorado	0.100	0.241	0.079	2,111
Connecticut	0.028	0.060	0.019	461
Delaware	0.018	0.034	0.009	251
District of Columbia	0.000	0.000	0.000	0
Florida	0.342	0.771	0.256	7,837
Georgia	0.351	0.899	0.281	8,194
Hawaii	0.007	0.014	0.005	132
Idaho	0.020	0.042	0.014	486
Illinois	0.238	0.614	0.189	4,796
Indiana	0.351	0.842	0.255	7,849
Iowa	0.027	0.060	0.018	616
Kansas	0.021	0.046	0.013	435
Kentucky	0.134	0.307	0.090	2,973
Louisiana	0.065	0.140	0.045	1,515
Maine	0.017	0.035	0.012	401
Maryland	0.076	0.165	0.050	1,299
Massachusetts	0.047	0.103	0.032	786
Michigan	0.094	0.217	0.071	1,917
Minnesota	0.043	0.102	0.032	883
Mississippi	0.127	0.281	0.086	2,987
Missouri	0.048	0.115	0.034	1,012
Montana	0.003	0.007	0.002	81
Nebraska	0.028	0.060	0.019	610
Nevada	0.064	0.128	0.042	1,095
New Hampshire	0.017	0.037	0.011	307
New Jersey	0.139	0.325	0.099	2,419
New Mexico	0.026	0.052	0.017	579
New York	0.174	0.352	0.107	2,622
North Carolina	0.092	0.222	0.069	2,241
North Dakota	0.007	0.014	0.004	147
Ohio	0.163	0.412	0.127	3,771
Oklahoma	0.058	0.137	0.044	1,536
Oregon	0.064	0.148	0.045	1,348
Pennsylvania	0.156	0.406	0.122	3,360
Rhode Island	0.003	0.006	0.002	47
South Carolina	0.042	0.098	0.030	1,012
South Dakota	0.006	0.011	0.004	127
Tennessee	0.085	0.212	0.063	1,910
Texas	0.279	0.747	0.235	6,686
Utah	0.082	0.199	0.064	2,064
Vermont	0.010	0.020	0.006	220
Virginia	0.144	0.331	0.099	2,837
Washington	0.112	0.264	0.084	2,270
West Virginia	0.028	0.054	0.016	571
Wisconsin	0.064	0.151	0.048	1,424
Wyoming	0.018	0.033	0.011	362
<b>State Totals</b>	<b>4.855</b>	<b>11.568</b>	<b>3.627</b>	<b>104,219</b>
<b>Interstate spillovers</b>		<b>5.052</b>	<b>1.482</b>	<b>34,128</b>
<b>USA Total</b>	<b>4.855</b>	<b>16.620</b>	<b>5.108</b>	<b>138,346</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.140	0.338	0.105	3,481
Alaska	0.018	0.033	0.011	292
Arizona	0.294	0.660	0.218	6,160
Arkansas	0.096	0.209	0.064	2,223
California	0.990	2.495	0.811	20,436
Colorado	0.245	0.592	0.193	5,181
Connecticut	0.179	0.375	0.118	2,892
Delaware	0.020	0.038	0.010	285
District of Columbia	0.009	0.012	0.001	19
Florida	0.754	1.702	0.564	17,303
Georgia	0.458	1.175	0.367	10,701
Hawaii	0.017	0.035	0.012	329
Idaho	0.037	0.078	0.026	901
Illinois	0.493	1.269	0.391	9,916
Indiana	0.393	0.942	0.286	8,784
Iowa	0.153	0.336	0.104	3,451
Kansas	0.096	0.215	0.062	2,024
Kentucky	0.126	0.289	0.084	2,797
Louisiana	0.100	0.215	0.070	2,320
Maine	0.040	0.084	0.028	967
Maryland	0.172	0.373	0.113	2,935
Massachusetts	0.189	0.411	0.129	3,152
Michigan	0.232	0.536	0.175	4,730
Minnesota	0.124	0.297	0.094	2,566
Mississippi	0.076	0.169	0.051	1,791
Missouri	0.228	0.541	0.158	4,764
Montana	0.016	0.033	0.011	392
Nebraska	0.073	0.156	0.049	1,591
Nevada	0.189	0.382	0.126	3,254
New Hampshire	0.066	0.145	0.043	1,212
New Jersey	0.328	0.771	0.234	5,731
New Mexico	0.080	0.161	0.053	1,792
New York	0.378	0.765	0.233	5,694
North Carolina	0.316	0.765	0.239	7,726
North Dakota	0.031	0.061	0.018	643
Ohio	0.414	1.046	0.322	9,568
Oklahoma	0.151	0.358	0.114	4,022
Oregon	0.127	0.294	0.090	2,679
Pennsylvania	0.312	0.809	0.244	6,704
Rhode Island	0.042	0.082	0.024	670
South Carolina	0.179	0.417	0.128	4,296
South Dakota	0.041	0.083	0.027	951
Tennessee	0.275	0.688	0.205	6,198
Texas	0.892	2.385	0.750	21,347
Utah	0.118	0.289	0.093	2,994
Vermont	0.017	0.033	0.010	359
Virginia	0.281	0.647	0.193	5,547
Washington	0.181	0.426	0.136	3,667
West Virginia	0.048	0.094	0.028	991
Wisconsin	0.201	0.474	0.150	4,463
Wyoming	0.018	0.033	0.011	359
<b>State Totals</b>	<b>10.452</b>	<b>24.814</b>	<b>7.776</b>	<b>223,247</b>
<b>Interstate spillovers</b>		<b>10.964</b>	<b>3.221</b>	<b>74,577</b>
<b>USA Total</b>	<b>10.452</b>	<b>35.778</b>	<b>10.997</b>	<b>297,825</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

Appendix Table C-5				
Impacts of Site Development in Four Categories on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.308	0.742	0.231	7,651
Alaska	0.041	0.077	0.026	686
Arizona	0.797	1.791	0.593	16,718
Arkansas	0.185	0.404	0.123	4,295
California	2.391	6.024	1.958	49,343
Colorado	0.602	1.455	0.475	12,726
Connecticut	0.278	0.584	0.184	4,500
Delaware	0.064	0.122	0.033	905
District of Columbia	0.121	0.153	0.011	251
Florida	1.631	3.681	1.220	37,410
Georgia	1.129	2.895	0.904	26,381
Hawaii	0.037	0.075	0.025	697
Idaho	0.118	0.248	0.082	2,850
Illinois	0.996	2.563	0.790	20,032
Indiana	0.960	2.300	0.698	21,451
Iowa	0.294	0.644	0.198	6,615
Kansas	0.181	0.407	0.117	3,823
Kentucky	0.389	0.893	0.261	8,645
Louisiana	0.305	0.659	0.213	7,107
Maine	0.077	0.161	0.053	1,849
Maryland	0.452	0.981	0.297	7,718
Massachusetts	0.460	1.003	0.314	7,686
Michigan	0.623	1.440	0.469	12,699
Minnesota	0.259	0.621	0.196	5,363
Mississippi	0.240	0.529	0.161	5,617
Missouri	0.436	1.033	0.302	9,100
Montana	0.034	0.070	0.023	833
Nebraska	0.150	0.321	0.100	3,277
Nevada	0.398	0.805	0.265	6,863
New Hampshire	0.119	0.263	0.079	2,201
New Jersey	0.633	1.485	0.451	11,046
New Mexico	0.168	0.339	0.112	3,777
New York	0.971	1.966	0.599	14,639
North Carolina	0.690	1.669	0.521	16,853
North Dakota	0.050	0.099	0.030	1,046
Ohio	0.959	2.421	0.745	22,150
Oklahoma	0.293	0.694	0.222	7,786
Oregon	0.297	0.687	0.209	6,251
Pennsylvania	0.791	2.052	0.620	17,004
Rhode Island	0.061	0.121	0.036	989
South Carolina	0.382	0.890	0.274	9,166
South Dakota	0.063	0.126	0.040	1,445
Tennessee	0.583	1.460	0.434	13,142
Texas	2.005	5.362	1.686	48,004
Utah	0.325	0.791	0.255	8,205
Vermont	0.033	0.066	0.021	716
Virginia	0.804	1.852	0.553	15,886
Washington	0.443	1.044	0.334	8,994
West Virginia	0.128	0.251	0.075	2,645
Wisconsin	0.471	1.111	0.351	10,471
Wyoming	0.044	0.081	0.026	887
<b>State Totals</b>	<b>24.270</b>	<b>57.512</b>	<b>17.995</b>	<b>516,400</b>
<b>Interstate spillovers</b>		<b>25.565</b>	<b>7.539</b>	<b>175,152</b>
<b>USA Total</b>	<b>24.270</b>	<b>83.076</b>	<b>25.534</b>	<b>691,552</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



# Appendix D: Hard Costs Impacts by State

Appendix Table D-1				
Impacts of Office Construction on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alaska	0.037	0.069	0.023	612
Alabama	0.306	0.738	0.230	7,604
Arkansas	0.145	0.317	0.097	3,366
Arizona	0.830	1.865	0.617	17,405
California	2.140	5.391	1.753	44,165
Colorado	0.479	1.157	0.378	10,118
Connecticut	0.161	0.338	0.107	2,602
District of Columbia	0.351	0.444	0.031	726
Delaware	0.077	0.146	0.039	1,085
Florida	1.486	3.354	1.112	34,091
Georgia	0.742	1.902	0.594	17,332
Hawaii	0.037	0.074	0.025	693
Iowa	0.171	0.375	0.115	3,848
Idaho	0.148	0.312	0.102	3,582
Illinois	0.485	1.249	0.385	9,762
Indiana	0.395	0.946	0.287	8,819
Kansas	0.143	0.320	0.092	3,006
Kentucky	0.189	0.434	0.127	4,199
Louisiana	0.173	0.374	0.121	4,034
Massachusetts	0.255	0.557	0.174	4,268
Maryland	0.439	0.953	0.288	7,498
Maine	0.052	0.108	0.035	1,238
Michigan	0.441	1.019	0.332	8,990
Minnesota	0.254	0.607	0.191	5,240
Missouri	0.295	0.700	0.205	6,167
Mississippi	0.079	0.174	0.053	1,847
Montana	0.020	0.042	0.014	500
North Carolina	0.545	1.317	0.412	13,305
North Dakota	0.013	0.026	0.008	275
Nebraska	0.134	0.287	0.090	2,934
New Hampshire	0.069	0.152	0.045	1,272
New Jersey	0.363	0.852	0.258	6,336
New Mexico	0.127	0.256	0.084	2,851
Nevada	0.331	0.668	0.220	5,697
New York	0.745	1.508	0.460	11,230
Ohio	0.626	1.581	0.487	14,462
Oklahoma	0.190	0.451	0.144	5,060
Oregon	0.203	0.471	0.144	4,286
Pennsylvania	0.664	1.722	0.520	14,267
Rhode Island	0.035	0.068	0.020	559
South Carolina	0.304	0.708	0.218	7,291
South Dakota	0.047	0.095	0.030	1,084
Tennessee	0.499	1.249	0.372	11,244
Texas	1.840	4.921	1.547	44,054
Utah	0.286	0.697	0.225	7,225
Virginia	0.886	2.042	0.609	17,514
Vermont	0.018	0.035	0.011	379
Washington	0.333	0.784	0.250	6,750
Wisconsin	0.382	0.902	0.285	8,503
West Virginia	0.032	0.063	0.019	664
Wyoming	0.024	0.044	0.014	482
<b>State Totals</b>	<b>19.024</b>	<b>44.862</b>	<b>13.999</b>	<b>400,519</b>
<b>Interstate spillovers</b>		<b>20.257</b>	<b>6.016</b>	<b>141,553</b>
<b>USA Total</b>	<b>19.024</b>	<b>65.119</b>	<b>20.015</b>	<b>542,072</b>

Source: CRA with data from McGraw Hill Construction and BEA



Appendix Table D-2				
Impacts of Industrial Construction on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alaska	0.025	0.046	0.015	411
Alabama	0.068	0.164	0.051	1,691
Arkansas	0.046	0.101	0.031	1,079
Arizona	0.227	0.509	0.169	4,755
California	0.367	0.924	0.301	7,573
Colorado	0.314	0.758	0.247	6,629
Connecticut	0.059	0.124	0.039	957
District of Columbia	0.000	0.000	0.000	0
Delaware	0.005	0.010	0.003	71
Florida	0.184	0.416	0.138	4,231
Georgia	0.252	0.646	0.202	5,889
Hawaii	0.003	0.005	0.002	47
Iowa	0.176	0.386	0.119	3,962
Idaho	0.040	0.084	0.028	967
Illinois	0.329	0.848	0.261	6,628
Indiana	0.270	0.646	0.196	6,025
Kansas	0.058	0.130	0.037	1,220
Kentucky	0.207	0.476	0.139	4,607
Louisiana	0.256	0.552	0.179	5,956
Massachusetts	0.428	0.934	0.292	7,157
Maryland	0.192	0.417	0.126	3,283
Maine	0.011	0.022	0.007	258
Michigan	0.469	1.084	0.353	9,555
Minnesota	0.036	0.085	0.027	735
Missouri	0.195	0.463	0.136	4,078
Mississippi	0.032	0.071	0.022	750
Montana	0.025	0.050	0.017	601
North Carolina	0.325	0.786	0.246	7,940
North Dakota	0.024	0.048	0.014	505
Nebraska	0.019	0.041	0.013	423
New Hampshire	0.045	0.099	0.030	827
New Jersey	0.151	0.354	0.107	2,630
New Mexico	0.066	0.134	0.044	1,493
Nevada	0.122	0.246	0.081	2,100
New York	0.546	1.106	0.337	8,232
Ohio	0.546	1.378	0.424	12,603
Oklahoma	0.070	0.165	0.053	1,848
Oregon	0.122	0.283	0.086	2,574
Pennsylvania	0.334	0.867	0.262	7,182
Rhode Island	0.018	0.034	0.010	282
South Carolina	0.192	0.447	0.138	4,602
South Dakota	0.003	0.006	0.002	64
Tennessee	0.193	0.484	0.144	4,356
Texas	0.744	1.989	0.625	17,801
Utah	0.100	0.244	0.079	2,534
Virginia	0.292	0.672	0.201	5,765
Vermont	0.002	0.004	0.001	49
Washington	0.134	0.316	0.101	2,721
Wisconsin	0.253	0.597	0.189	5,622
West Virginia	0.126	0.248	0.074	2,613
Wyoming	0.002	0.004	0.001	40
<b>State Totals</b>	<b>8.702</b>	<b>20.503</b>	<b>6.396</b>	<b>183,921</b>
<b>Interstate spillovers</b>		<b>9.283</b>	<b>2.759</b>	<b>64,024</b>
<b>USA Total</b>	<b>8.702</b>	<b>29.786</b>	<b>9.155</b>	<b>247,944</b>

Source: CRA with data from McGraw Hill Construction and BEA

Appendix Table D-3

**Impacts of Warehouse and Transportation Terminal Construction on State Economies, 2005**

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alaska	0.012	0.023	0.008	203
Alabama	0.155	0.375	0.117	3,868
Arkansas	0.090	0.197	0.060	2,089
Arizona	0.534	1.199	0.397	11,194
California	1.949	4.909	1.596	40,211
Colorado	0.326	0.788	0.257	6,893
Connecticut	0.093	0.195	0.062	1,504
District of Columbia	0.000	0.001	0.000	1
Delaware	0.058	0.111	0.030	821
Florida	1.116	2.518	0.834	25,591
Georgia	1.145	2.937	0.917	26,757
Hawaii	0.023	0.046	0.016	433
Iowa	0.089	0.196	0.060	2,012
Idaho	0.066	0.138	0.045	1,586
Illinois	0.778	2.004	0.618	15,660
Indiana	1.147	2.748	0.834	25,628
Kansas	0.067	0.151	0.043	1,420
Kentucky	0.437	1.002	0.293	9,710
Louisiana	0.212	0.458	0.148	4,947
Massachusetts	0.154	0.335	0.105	2,568
Maryland	0.249	0.539	0.163	4,243
Maine	0.055	0.114	0.038	1,311
Michigan	0.307	0.710	0.231	6,261
Minnesota	0.139	0.334	0.105	2,882
Missouri	0.158	0.375	0.110	3,305
Mississippi	0.416	0.918	0.280	9,755
Montana	0.011	0.022	0.007	265
North Carolina	0.300	0.725	0.226	7,317
North Dakota	0.023	0.045	0.014	479
Nebraska	0.091	0.195	0.061	1,993
New Hampshire	0.054	0.120	0.036	1,004
New Jersey	0.453	1.062	0.322	7,900
New Mexico	0.084	0.170	0.056	1,890
Nevada	0.207	0.419	0.138	3,575
New York	0.568	1.150	0.350	8,561
Ohio	0.533	1.346	0.414	12,314
Oklahoma	0.189	0.447	0.143	5,017
Oregon	0.209	0.484	0.147	4,402
Pennsylvania	0.510	1.324	0.400	10,972
Rhode Island	0.010	0.019	0.006	155
South Carolina	0.138	0.321	0.099	3,304
South Dakota	0.018	0.036	0.012	416
Tennessee	0.277	0.693	0.206	6,237
Texas	0.912	2.439	0.767	21,834
Utah	0.267	0.650	0.210	6,740
Virginia	0.469	1.080	0.322	9,264
Vermont	0.033	0.066	0.021	718
Washington	0.365	0.861	0.275	7,411
Wisconsin	0.209	0.493	0.156	4,649
West Virginia	0.090	0.177	0.053	1,864
Wyoming	0.059	0.108	0.035	1,181
<b>State Totals</b>	<b>15.854</b>	<b>37.773</b>	<b>11.842</b>	<b>340,313</b>
<b>Interstate spillovers</b>		<b>16.496</b>	<b>4.838</b>	<b>111,439</b>
<b>USA Total</b>	<b>15.854</b>	<b>54.269</b>	<b>16.680</b>	<b>451,753</b>

Source: CRA with data from McGraw Hill Construction and BEA



Appendix Table D-4				
Impacts of Retail and Entertainment Construction on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alaska	0.057	0.107	0.035	952
Alabama	0.456	1.102	0.343	11,356
Arkansas	0.312	0.682	0.208	7,253
Arizona	0.958	2.153	0.712	20,097
California	3.231	8.139	2.646	66,669
Colorado	0.800	1.933	0.631	16,902
Connecticut	0.583	1.224	0.386	9,434
District of Columbia	0.030	0.038	0.003	62
Delaware	0.066	0.125	0.034	928
Florida	2.461	5.554	1.841	56,450
Georgia	1.494	3.832	1.196	34,912
Hawaii	0.057	0.115	0.039	1,072
Iowa	0.500	1.097	0.338	11,259
Idaho	0.122	0.256	0.084	2,940
Illinois	1.608	4.139	1.276	32,349
Indiana	1.282	3.073	0.933	28,655
Kansas	0.313	0.702	0.202	6,602
Kentucky	0.411	0.942	0.275	9,124
Louisiana	0.325	0.701	0.227	7,570
Massachusetts	0.615	1.342	0.420	10,283
Maryland	0.561	1.217	0.368	9,575
Maine	0.131	0.274	0.090	3,155
Michigan	0.757	1.750	0.570	15,431
Minnesota	0.405	0.970	0.306	8,373
Missouri	0.745	1.764	0.516	15,540
Mississippi	0.249	0.550	0.168	5,845
Montana	0.052	0.107	0.036	1,280
North Carolina	1.032	2.496	0.780	25,205
North Dakota	0.100	0.198	0.060	2,099
Nebraska	0.237	0.508	0.159	5,192
New Hampshire	0.215	0.472	0.141	3,955
New Jersey	1.071	2.514	0.763	18,698
New Mexico	0.260	0.525	0.173	5,845
Nevada	0.616	1.245	0.410	10,615
New York	1.232	2.495	0.760	18,576
Ohio	1.352	3.412	1.050	31,216
Oklahoma	0.494	1.170	0.373	13,121
Oregon	0.415	0.960	0.293	8,740
Pennsylvania	1.017	2.640	0.797	21,870
Rhode Island	0.136	0.267	0.079	2,185
South Carolina	0.584	1.361	0.419	14,016
South Dakota	0.135	0.271	0.087	3,103
Tennessee	0.896	2.246	0.668	20,219
Texas	2.909	7.780	2.446	69,641
Utah	0.386	0.942	0.304	9,768
Virginia	0.916	2.110	0.629	18,097
Vermont	0.054	0.108	0.034	1,170
Washington	0.589	1.389	0.444	11,962
Wisconsin	0.655	1.545	0.489	14,560
West Virginia	0.156	0.307	0.091	3,233
Wyoming	0.058	0.107	0.034	1,170
<b>State Totals</b>	<b>34.099</b>	<b>80.954</b>	<b>25.367</b>	<b>728,323</b>
<b>Interstate spillovers</b>		<b>35.768</b>	<b>10.508</b>	<b>243,302</b>
<b>USA Total</b>	<b>34.099</b>	<b>116.721</b>	<b>35.876</b>	<b>971,624</b>

Source: CRA with data from McGraw Hill Construction and BEA

Appendix Table D-5				
Impacts of Construction in Four Categories on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alaska	0.131	0.244	0.081	2,178
Alabama	0.985	2.379	0.741	24,518
Arkansas	0.593	1.297	0.396	13,788
Arizona	2.548	5.726	1.895	53,451
California	7.687	19.363	6.295	158,617
Colorado	1.919	4.635	1.513	40,542
Connecticut	0.896	1.880	0.594	14,496
District of Columbia	0.382	0.483	0.033	789
Delaware	0.205	0.392	0.106	2,905
Florida	5.247	11.842	3.925	120,362
Georgia	3.634	9.317	2.909	84,889
Hawaii	0.119	0.241	0.082	2,245
Iowa	0.937	2.054	0.632	21,081
Idaho	0.375	0.790	0.259	9,075
Illinois	3.200	8.240	2.541	64,399
Indiana	3.093	7.413	2.250	69,128
Kansas	0.581	1.303	0.375	12,249
Kentucky	1.245	2.854	0.834	27,640
Louisiana	0.967	2.086	0.675	22,507
Massachusetts	1.453	3.168	0.991	24,276
Maryland	1.441	3.127	0.946	24,599
Maine	0.248	0.518	0.171	5,962
Michigan	1.974	4.563	1.487	40,237
Minnesota	0.834	1.995	0.630	17,229
Missouri	1.394	3.303	0.967	29,090
Mississippi	0.776	1.713	0.522	18,197
Montana	0.108	0.222	0.074	2,645
North Carolina	2.202	5.324	1.663	53,767
North Dakota	0.161	0.317	0.095	3,358
Nebraska	0.481	1.032	0.323	10,541
New Hampshire	0.383	0.842	0.252	7,059
New Jersey	2.038	4.781	1.450	35,563
New Mexico	0.538	1.085	0.357	12,080
Nevada	1.276	2.578	0.848	21,986
New York	3.091	6.258	1.907	46,598
Ohio	3.057	7.716	2.375	70,594
Oklahoma	0.943	2.232	0.713	25,045
Oregon	0.950	2.197	0.670	20,003
Pennsylvania	2.525	6.553	1.979	54,291
Rhode Island	0.197	0.389	0.115	3,180
South Carolina	1.216	2.837	0.873	29,213
South Dakota	0.203	0.408	0.131	4,667
Tennessee	1.865	4.671	1.390	42,056
Texas	6.404	17.128	5.386	153,330
Utah	1.039	2.533	0.817	26,268
Virginia	2.562	5.904	1.761	50,640
Vermont	0.107	0.213	0.067	2,316
Washington	1.421	3.350	1.070	28,844
Wisconsin	1.499	3.537	1.119	33,334
West Virginia	0.405	0.794	0.236	8,374
Wyoming	0.143	0.262	0.085	2,874
<b>State Totals</b>	<b>77.679</b>	<b>184.092</b>	<b>57.605</b>	<b>1,653,076</b>
<b>Interstate spillovers</b>		<b>81.804</b>	<b>24.121</b>	<b>560,317</b>
<b>USA Total</b>	<b>77.679</b>	<b>265.895</b>	<b>81.726</b>	<b>2,213,394</b>

Source: CRA with data from McGraw Hill Construction and BEA



# Appendix E: Tenant Improvement Impacts by State

Appendix Table E-1				
Impacts of Office Tenant Improvements on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.109	0.263	0.082	2,706
Alaska	0.013	0.024	0.008	218
Arizona	0.295	0.664	0.220	6,195
Arkansas	0.052	0.113	0.034	1,198
California	0.762	1.919	0.624	15,720
Colorado	0.170	0.412	0.134	3,601
Connecticut	0.057	0.120	0.038	926
Delaware	0.027	0.052	0.014	386
District of Columbia	0.125	0.158	0.011	258
Florida	0.529	1.194	0.396	12,134
Georgia	0.264	0.677	0.211	6,169
Hawaii	0.013	0.026	0.009	247
Idaho	0.053	0.111	0.036	1,275
Illinois	0.173	0.445	0.137	3,475
Indiana	0.140	0.337	0.102	3,139
Iowa	0.061	0.133	0.041	1,370
Kansas	0.051	0.114	0.033	1,070
Kentucky	0.067	0.154	0.045	1,495
Louisiana	0.062	0.133	0.043	1,436
Maine	0.018	0.038	0.013	441
Maryland	0.156	0.339	0.103	2,669
Massachusetts	0.091	0.198	0.062	1,519
Michigan	0.157	0.363	0.118	3,200
Minnesota	0.090	0.216	0.068	1,865
Mississippi	0.028	0.062	0.019	658
Missouri	0.105	0.249	0.073	2,195
Montana	0.007	0.015	0.005	178
Nebraska	0.048	0.102	0.032	1,044
Nevada	0.118	0.238	0.078	2,028
New Hampshire	0.025	0.054	0.016	453
New Jersey	0.129	0.303	0.092	2,255
New Mexico	0.045	0.091	0.030	1,015
New York	0.265	0.537	0.164	3,997
North Carolina	0.194	0.469	0.146	4,736
North Dakota	0.005	0.009	0.003	98
Ohio	0.223	0.563	0.173	5,147
Oklahoma	0.068	0.161	0.051	1,801
Oregon	0.072	0.168	0.051	1,526
Pennsylvania	0.236	0.613	0.185	5,078
Rhode Island	0.012	0.024	0.007	199
South Carolina	0.108	0.252	0.078	2,595
South Dakota	0.017	0.034	0.011	386
Tennessee	0.177	0.445	0.132	4,002
Texas	0.655	1.752	0.551	15,680
Utah	0.102	0.248	0.080	2,572
Vermont	0.006	0.012	0.004	135
Virginia	0.315	0.727	0.217	6,234
Washington	0.118	0.279	0.089	2,403
West Virginia	0.011	0.022	0.007	236
Wisconsin	0.136	0.321	0.102	3,027
Wyoming	0.009	0.016	0.005	171
<b>State Totals</b>	<b>6.771</b>	<b>15.968</b>	<b>4.983</b>	<b>142,560</b>
<b>Interstate spillovers</b>		<b>7.210</b>	<b>2.141</b>	<b>50,384</b>
<b>USA Total</b>	<b>6.771</b>	<b>23.178</b>	<b>7.124</b>	<b>192,944</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



Appendix Table E-2				
Impacts of Industrial Tenant Improvements on State Economies, 2005				
State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.017	0.040	0.013	415
Alaska	0.006	0.011	0.004	101
Arizona	0.056	0.125	0.041	1,169
Arkansas	0.011	0.025	0.008	265
California	0.090	0.227	0.074	1,861
Colorado	0.077	0.186	0.061	1,629
Connecticut	0.015	0.031	0.010	235
Delaware	0.001	0.002	0.001	17
District of Columbia	0.000	0.000	0.000	0
Florida	0.045	0.102	0.034	1,040
Georgia	0.062	0.159	0.050	1,447
Hawaii	0.001	0.001	0.000	12
Idaho	0.010	0.021	0.007	238
Illinois	0.081	0.208	0.064	1,629
Indiana	0.066	0.159	0.048	1,481
Iowa	0.043	0.095	0.029	974
Kansas	0.014	0.032	0.009	300
Kentucky	0.051	0.117	0.034	1,132
Louisiana	0.063	0.136	0.044	1,464
Maine	0.003	0.006	0.002	63
Maryland	0.047	0.103	0.031	807
Massachusetts	0.105	0.230	0.072	1,759
Michigan	0.115	0.266	0.087	2,348
Minnesota	0.009	0.021	0.007	181
Mississippi	0.008	0.017	0.005	184
Missouri	0.048	0.114	0.033	1,002
Montana	0.006	0.012	0.004	148
Nebraska	0.005	0.010	0.003	104
Nevada	0.030	0.061	0.020	516
New Hampshire	0.011	0.024	0.007	203
New Jersey	0.037	0.087	0.026	646
New Mexico	0.016	0.033	0.011	367
New York	0.134	0.272	0.083	2,023
North Carolina	0.080	0.193	0.060	1,951
North Dakota	0.006	0.012	0.004	124
Ohio	0.134	0.339	0.104	3,097
Oklahoma	0.017	0.040	0.013	454
Oregon	0.030	0.069	0.021	633
Pennsylvania	0.082	0.213	0.064	1,765
Rhode Island	0.004	0.008	0.003	69
South Carolina	0.047	0.110	0.034	1,131
South Dakota	0.001	0.001	0.000	16
Tennessee	0.047	0.119	0.035	1,071
Texas	0.183	0.489	0.154	4,375
Utah	0.025	0.060	0.019	623
Vermont	0.001	0.001	0.000	12
Virginia	0.072	0.165	0.049	1,417
Washington	0.033	0.078	0.025	669
West Virginia	0.031	0.061	0.018	642
Wisconsin	0.062	0.147	0.046	1,382
Wyoming	0.000	0.001	0.000	10
<b>State Totals</b>	<b>2.138</b>	<b>5.038</b>	<b>1.572</b>	<b>45,198</b>
<b>Interstate spillovers</b>		<b>2.281</b>	<b>0.678</b>	<b>15,734</b>
<b>USA Total</b>	<b>2.138</b>	<b>7.320</b>	<b>2.250</b>	<b>60,931</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.040	0.096	0.030	991
Alaska	0.003	0.006	0.002	52
Arizona	0.137	0.307	0.102	2,868
Arkansas	0.023	0.050	0.015	535
California	0.499	1.258	0.409	10,303
Colorado	0.084	0.202	0.066	1,766
Connecticut	0.024	0.050	0.016	385
Delaware	0.015	0.028	0.008	210
District of Columbia	0.000	0.000	0.000	0
Florida	0.286	0.645	0.214	6,557
Georgia	0.293	0.752	0.235	6,856
Hawaii	0.006	0.012	0.004	111
Idaho	0.017	0.035	0.012	406
Illinois	0.199	0.513	0.158	4,013
Indiana	0.294	0.704	0.214	6,567
Iowa	0.023	0.050	0.015	516
Kansas	0.017	0.039	0.011	364
Kentucky	0.112	0.257	0.075	2,488
Louisiana	0.054	0.117	0.038	1,268
Maine	0.014	0.029	0.010	336
Maryland	0.064	0.138	0.042	1,087
Massachusetts	0.039	0.086	0.027	658
Michigan	0.079	0.182	0.059	1,604
Minnesota	0.036	0.086	0.027	738
Mississippi	0.107	0.235	0.072	2,499
Missouri	0.041	0.096	0.028	847
Montana	0.003	0.006	0.002	68
Nebraska	0.023	0.050	0.016	511
Nevada	0.053	0.107	0.035	916
New Hampshire	0.014	0.031	0.009	257
New Jersey	0.116	0.272	0.083	2,024
New Mexico	0.022	0.043	0.014	484
New York	0.145	0.295	0.090	2,194
North Carolina	0.077	0.186	0.058	1,875
North Dakota	0.006	0.012	0.003	123
Ohio	0.137	0.345	0.106	3,155
Oklahoma	0.048	0.115	0.037	1,286
Oregon	0.054	0.124	0.038	1,128
Pennsylvania	0.131	0.339	0.102	2,811
Rhode Island	0.002	0.005	0.001	40
South Carolina	0.035	0.082	0.025	847
South Dakota	0.005	0.009	0.003	107
Tennessee	0.071	0.177	0.053	1,598
Texas	0.234	0.625	0.197	5,594
Utah	0.068	0.167	0.054	1,727
Vermont	0.009	0.017	0.005	184
Virginia	0.120	0.277	0.083	2,374
Washington	0.094	0.221	0.070	1,899
West Virginia	0.023	0.045	0.013	477
Wisconsin	0.054	0.126	0.040	1,191
Wyoming	0.015	0.028	0.009	303
<b>State Totals</b>	<b>4.062</b>	<b>9.678</b>	<b>3.034</b>	<b>87,196</b>
<b>Interstate spillovers</b>		<b>4.227</b>	<b>1.240</b>	<b>28,553</b>
<b>USA Total</b>	<b>4.062</b>	<b>13.905</b>	<b>4.274</b>	<b>115,750</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.121	0.291	0.091	2,998
Alaska	0.015	0.028	0.009	251
Arizona	0.253	0.568	0.188	5,306
Arkansas	0.082	0.180	0.055	1,915
California	0.853	2.149	0.699	17,603
Colorado	0.211	0.510	0.167	4,463
Connecticut	0.154	0.323	0.102	2,491
Delaware	0.017	0.033	0.009	245
District of Columbia	0.008	0.010	0.001	16
Florida	0.650	1.466	0.486	14,904
Georgia	0.395	1.012	0.316	9,218
Hawaii	0.015	0.030	0.010	283
Idaho	0.032	0.068	0.022	776
Illinois	0.424	1.093	0.337	8,541
Indiana	0.339	0.811	0.246	7,566
Iowa	0.132	0.290	0.089	2,973
Kansas	0.083	0.185	0.053	1,743
Kentucky	0.108	0.249	0.073	2,409
Louisiana	0.086	0.185	0.060	1,999
Maine	0.035	0.072	0.024	833
Maryland	0.148	0.321	0.097	2,528
Massachusetts	0.162	0.354	0.111	2,715
Michigan	0.200	0.462	0.151	4,074
Minnesota	0.107	0.256	0.081	2,211
Mississippi	0.066	0.145	0.044	1,543
Missouri	0.197	0.466	0.136	4,103
Montana	0.014	0.028	0.009	338
Nebraska	0.063	0.134	0.042	1,371
Nevada	0.163	0.329	0.108	2,803
New Hampshire	0.057	0.125	0.037	1,044
New Jersey	0.283	0.664	0.201	4,937
New Mexico	0.069	0.139	0.046	1,543
New York	0.325	0.659	0.201	4,904
North Carolina	0.273	0.659	0.206	6,655
North Dakota	0.027	0.052	0.016	554
Ohio	0.357	0.901	0.277	8,242
Oklahoma	0.130	0.309	0.099	3,464
Oregon	0.110	0.253	0.077	2,308
Pennsylvania	0.269	0.697	0.210	5,774
Rhode Island	0.036	0.070	0.021	577
South Carolina	0.154	0.359	0.111	3,701
South Dakota	0.036	0.072	0.023	819
Tennessee	0.237	0.593	0.176	5,338
Texas	0.768	2.054	0.646	18,387
Utah	0.102	0.249	0.080	2,579
Vermont	0.014	0.028	0.009	309
Virginia	0.242	0.557	0.166	4,778
Washington	0.156	0.367	0.117	3,158
West Virginia	0.041	0.081	0.024	854
Wisconsin	0.173	0.408	0.129	3,844
Wyoming	0.015	0.028	0.009	309
<b>State Totals</b>	<b>9.003</b>	<b>21.374</b>	<b>6.698</b>	<b>192,297</b>
<b>Interstate spillovers</b>		<b>9.444</b>	<b>2.774</b>	<b>64,238</b>
<b>USA Total</b>	<b>9.003</b>	<b>30.818</b>	<b>9.472</b>	<b>256,535</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.286	0.690	0.215	7,111
Alaska	0.037	0.070	0.023	622
Arizona	0.741	1.665	0.551	15,538
Arkansas	0.168	0.368	0.112	3,914
California	2.204	5.553	1.805	45,486
Colorado	0.542	1.310	0.428	11,459
Connecticut	0.250	0.524	0.165	4,037
Delaware	0.061	0.116	0.031	859
District of Columbia	0.133	0.168	0.012	275
Florida	1.510	3.408	1.129	34,635
Georgia	1.014	2.600	0.812	23,690
Hawaii	0.035	0.070	0.024	652
Idaho	0.111	0.235	0.077	2,695
Illinois	0.877	2.259	0.697	17,657
Indiana	0.839	2.011	0.610	18,752
Iowa	0.259	0.568	0.175	5,832
Kansas	0.165	0.370	0.107	3,477
Kentucky	0.339	0.777	0.227	7,524
Louisiana	0.265	0.571	0.185	6,166
Maine	0.070	0.145	0.048	1,673
Maryland	0.415	0.901	0.273	7,091
Massachusetts	0.398	0.868	0.271	6,651
Michigan	0.551	1.273	0.415	11,227
Minnesota	0.242	0.578	0.183	4,995
Mississippi	0.208	0.460	0.140	4,884
Missouri	0.390	0.925	0.271	8,147
Montana	0.030	0.061	0.020	731
Nebraska	0.138	0.297	0.093	3,030
Nevada	0.363	0.734	0.242	6,262
New Hampshire	0.106	0.233	0.070	1,958
New Jersey	0.565	1.326	0.402	9,862
New Mexico	0.152	0.306	0.101	3,409
New York	0.870	1.762	0.537	13,118
North Carolina	0.623	1.507	0.471	15,216
North Dakota	0.043	0.085	0.026	899
Ohio	0.850	2.147	0.661	19,641
Oklahoma	0.264	0.624	0.199	7,005
Oregon	0.266	0.614	0.187	5,594
Pennsylvania	0.718	1.862	0.562	15,429
Rhode Island	0.055	0.108	0.032	885
South Carolina	0.344	0.804	0.247	8,273
South Dakota	0.058	0.116	0.037	1,327
Tennessee	0.532	1.334	0.397	12,009
Texas	1.839	4.919	1.547	44,036
Utah	0.297	0.723	0.233	7,501
Vermont	0.030	0.059	0.019	640
Virginia	0.749	1.726	0.515	14,802
Washington	0.400	0.944	0.302	8,128
West Virginia	0.107	0.210	0.062	2,210
Wisconsin	0.425	1.002	0.317	9,444
Wyoming	0.039	0.072	0.023	793
<b>State Totals</b>	<b>21.975</b>	<b>52.059</b>	<b>16.287</b>	<b>467,251</b>
<b>Interstate spillovers</b>		<b>23.162</b>	<b>6.833</b>	<b>158,909</b>
<b>USA Total</b>	<b>21.975</b>	<b>75.221</b>	<b>23.120</b>	<b>626,160</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



# Appendix F: Total Impacts by State: Hard Costs, Soft Costs, Site Development, and Tenant Improvements

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.617	1.447	0.465	15,339
Alaska	0.074	0.138	0.047	1,331
Arizona	1.677	3.720	1.268	36,060
Arkansas	0.292	0.624	0.198	7,034
California	4.324	10.747	3.588	90,949
Colorado	0.968	2.312	0.775	20,830
Connecticut	0.325	0.673	0.218	5,307
Delaware	0.155	0.291	0.080	2,161
District of Columbia	0.709	0.910	0.071	1,670
Florida	3.003	6.714	2.290	69,569
Georgia	1.499	3.775	1.214	34,660
Hawaii	0.074	0.150	0.052	1,518
Idaho	0.299	0.620	0.209	7,490
Illinois	0.980	2.477	0.787	19,871
Indiana	0.797	1.856	0.582	18,164
Iowa	0.345	0.740	0.236	8,090
Kansas	0.288	0.632	0.188	6,165
Kentucky	0.382	0.854	0.258	8,535
Louisiana	0.350	0.742	0.247	8,281
Maine	0.104	0.214	0.072	2,543
Maryland	0.888	1.909	0.593	15,471
Massachusetts	0.516	1.116	0.360	8,754
Michigan	0.891	2.016	0.676	18,338
Minnesota	0.512	1.206	0.392	10,838
Mississippi	0.159	0.341	0.107	3,814
Missouri	0.597	1.380	0.412	12,423
Montana	0.041	0.083	0.029	1,046
Nebraska	0.271	0.570	0.185	6,138
Nevada	0.668	1.334	0.450	11,710
New Hampshire	0.140	0.301	0.093	2,602
New Jersey	0.733	1.698	0.528	12,869
New Mexico	0.256	0.513	0.174	5,944
New York	1.505	3.024	0.938	22,772
North Carolina	1.101	2.605	0.839	26,747
North Dakota	0.027	0.052	0.016	578
Ohio	1.265	3.111	0.987	29,420
Oklahoma	0.385	0.892	0.293	10,448
Oregon	0.411	0.932	0.294	9,024
Pennsylvania	1.341	3.384	1.049	28,443
Rhode Island	0.070	0.137	0.042	1,192
South Carolina	0.613	1.398	0.445	14,834
South Dakota	0.095	0.187	0.061	2,224
Tennessee	1.007	2.469	0.757	22,865
Texas	3.718	9.739	3.149	88,143
Utah	0.577	1.383	0.460	15,140
Vermont	0.035	0.070	0.023	781
Virginia	1.790	4.051	1.239	34,903
Washington	0.672	1.558	0.513	14,150
West Virginia	0.065	0.125	0.039	1,384
Wisconsin	0.773	1.777	0.580	17,701
Wyoming	0.048	0.088	0.029	1,025
<b>State Totals</b>	<b>38.437</b>	<b>89.084</b>	<b>28.598</b>	<b>817,286</b>
<b>Interstate spillovers</b>		<b>39.242</b>	<b>11.861</b>	<b>272,762</b>
<b>USA Total</b>	<b>38.437</b>	<b>128.326</b>	<b>40.459</b>	<b>1,090,048</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.122	0.289	0.092	3,033
Alaska	0.045	0.083	0.028	779
Arizona	0.407	0.907	0.306	8,692
Arkansas	0.083	0.179	0.056	1,984
California	0.659	1.644	0.545	13,783
Colorado	0.564	1.351	0.449	12,063
Connecticut	0.106	0.221	0.071	1,730
Delaware	0.009	0.017	0.005	126
District of Columbia	0.000	0.000	0.000	0
Florida	0.331	0.743	0.251	7,651
Georgia	0.453	1.146	0.365	10,499
Hawaii	0.005	0.009	0.003	90
Idaho	0.072	0.149	0.050	1,779
Illinois	0.592	1.503	0.473	11,965
Indiana	0.484	1.137	0.353	10,966
Iowa	0.316	0.682	0.215	7,319
Kansas	0.104	0.230	0.068	2,215
Kentucky	0.373	0.839	0.251	8,307
Louisiana	0.459	0.979	0.323	10,817
Maine	0.019	0.040	0.013	469
Maryland	0.345	0.745	0.230	5,984
Massachusetts	0.769	1.668	0.533	12,989
Michigan	0.842	1.917	0.637	17,275
Minnesota	0.064	0.151	0.049	1,341
Mississippi	0.057	0.124	0.039	1,368
Missouri	0.351	0.817	0.243	7,309
Montana	0.044	0.090	0.030	1,106
Nebraska	0.035	0.073	0.024	778
Nevada	0.219	0.438	0.147	3,816
New Hampshire	0.081	0.175	0.053	1,499
New Jersey	0.271	0.629	0.194	4,742
New Mexico	0.119	0.239	0.081	2,742
New York	0.980	1.975	0.609	14,821
North Carolina	0.584	1.391	0.444	14,209
North Dakota	0.043	0.085	0.026	934
Ohio	0.980	2.429	0.764	22,743
Oklahoma	0.125	0.291	0.095	3,370
Oregon	0.219	0.501	0.156	4,759
Pennsylvania	0.600	1.527	0.470	12,777
Rhode Island	0.031	0.061	0.019	526
South Carolina	0.344	0.790	0.249	8,306
South Dakota	0.005	0.010	0.003	116
Tennessee	0.347	0.856	0.260	7,859
Texas	1.335	3.519	1.129	31,749
Utah	0.180	0.434	0.143	4,670
Vermont	0.004	0.008	0.003	88
Virginia	0.524	1.192	0.362	10,254
Washington	0.241	0.561	0.183	5,015
West Virginia	0.227	0.439	0.135	4,796
Wisconsin	0.454	1.052	0.340	10,311
Wyoming	0.004	0.007	0.002	75
<b>State Totals</b>	<b>15.627</b>	<b>36.339</b>	<b>11.568</b>	<b>332,593</b>
<b>Interstate spillovers</b>		<b>16.223</b>	<b>4.878</b>	<b>111,191</b>
<b>USA Total</b>	<b>15.627</b>	<b>52.562</b>	<b>16.446</b>	<b>443,784</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.283	0.667	0.213	7,038
Alaska	0.022	0.041	0.014	393
Arizona	0.972	2.162	0.733	20,822
Arkansas	0.164	0.351	0.111	3,914
California	3.550	8.842	2.939	74,420
Colorado	0.594	1.422	0.475	12,754
Connecticut	0.169	0.352	0.113	2,761
Delaware	0.106	0.199	0.054	1,478
District of Columbia	0.001	0.001	0.000	2
Florida	2.032	4.551	1.545	47,004
Georgia	2.086	5.270	1.686	48,327
Hawaii	0.042	0.085	0.029	844
Idaho	0.120	0.248	0.083	2,973
Illinois	1.418	3.594	1.136	28,703
Indiana	2.089	4.887	1.524	47,436
Iowa	0.163	0.350	0.111	3,789
Kansas	0.123	0.270	0.080	2,619
Kentucky	0.796	1.788	0.537	17,773
Louisiana	0.387	0.823	0.273	9,132
Maine	0.100	0.205	0.069	2,420
Maryland	0.453	0.975	0.302	7,864
Massachusetts	0.280	0.606	0.194	4,736
Michigan	0.559	1.271	0.424	11,495
Minnesota	0.254	0.600	0.194	5,353
Mississippi	0.758	1.633	0.511	18,093
Missouri	0.288	0.669	0.199	6,005
Montana	0.020	0.040	0.014	498
Nebraska	0.166	0.350	0.113	3,737
Nevada	0.378	0.756	0.254	6,605
New Hampshire	0.099	0.215	0.066	1,847
New Jersey	0.825	1.913	0.592	14,454
New Mexico	0.153	0.307	0.104	3,535
New York	1.034	2.081	0.643	15,642
North Carolina	0.546	1.296	0.415	13,274
North Dakota	0.042	0.081	0.025	904
Ohio	0.971	2.399	0.757	22,559
Oklahoma	0.344	0.800	0.262	9,307
Oregon	0.381	0.866	0.271	8,299
Pennsylvania	0.930	2.357	0.728	19,767
Rhode Island	0.017	0.034	0.010	295
South Carolina	0.251	0.573	0.181	6,053
South Dakota	0.033	0.065	0.021	768
Tennessee	0.504	1.239	0.378	11,422
Texas	1.661	4.367	1.405	39,452
Utah	0.486	1.167	0.386	12,658
Vermont	0.060	0.119	0.039	1,329
Virginia	0.854	1.938	0.590	16,684
Washington	0.665	1.546	0.506	13,921
West Virginia	0.164	0.317	0.098	3,483
Wisconsin	0.381	0.880	0.285	8,682
Wyoming	0.107	0.194	0.065	2,247
<b>State Totals</b>	<b>28.881</b>	<b>67.767</b>	<b>21.761</b>	<b>625,568</b>
<b>Interstate spillovers</b>		<b>29.066</b>	<b>8.636</b>	<b>194,120</b>
<b>USA Total</b>	<b>28.881</b>	<b>96.833</b>	<b>30.397</b>	<b>819,689</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	0.867	2.039	0.656	21,641
Alaska	0.109	0.203	0.070	1,961
Arizona	1.820	4.056	1.384	39,367
Arkansas	0.593	1.268	0.403	14,336
California	6.138	15.319	5.120	129,786
Colorado	1.520	3.646	1.224	32,892
Connecticut	1.108	2.305	0.748	18,185
Delaware	0.125	0.235	0.065	1,746
District of Columbia	0.057	0.074	0.006	136
Florida	4.676	10.500	3.585	108,865
Georgia	2.839	7.179	2.310	65,932
Hawaii	0.108	0.219	0.076	2,226
Idaho	0.231	0.480	0.162	5,816
Illinois	3.054	7.750	2.463	62,221
Indiana	2.436	5.691	1.787	55,791
Iowa	0.951	2.045	0.653	22,394
Kansas	0.595	1.311	0.390	12,797
Kentucky	0.781	1.751	0.530	17,520
Louisiana	0.618	1.314	0.439	14,688
Maine	0.250	0.515	0.174	6,124
Maryland	1.066	2.302	0.716	18,675
Massachusetts	1.169	2.540	0.820	19,934
Michigan	1.438	3.267	1.097	29,746
Minnesota	0.770	1.820	0.593	16,373
Mississippi	0.474	1.019	0.321	11,409
Missouri	1.415	3.282	0.982	29,573
Montana	0.099	0.202	0.069	2,536
Nebraska	0.450	0.953	0.309	10,272
Nevada	1.170	2.346	0.793	20,622
New Hampshire	0.408	0.883	0.273	7,643
New Jersey	2.036	4.732	1.473	35,885
New Mexico	0.494	0.993	0.338	11,525
New York	2.341	4.724	1.466	35,589
North Carolina	1.961	4.658	1.502	47,860
North Dakota	0.191	0.372	0.116	4,181
Ohio	2.568	6.339	2.014	60,007
Oklahoma	0.938	2.183	0.718	25,614
Oregon	0.788	1.794	0.566	17,408
Pennsylvania	1.933	4.895	1.519	41,171
Rhode Island	0.258	0.505	0.155	4,411
South Carolina	1.109	2.536	0.808	26,946
South Dakota	0.257	0.506	0.166	6,020
Tennessee	1.703	4.190	1.287	38,850
Texas	5.527	14.533	4.704	131,589
Utah	0.734	1.766	0.587	19,362
Vermont	0.103	0.203	0.066	2,275
Virginia	1.740	3.952	1.209	34,054
Washington	1.119	2.606	0.858	23,718
West Virginia	0.297	0.574	0.179	6,371
Wisconsin	1.244	2.873	0.938	28,661
Wyoming	0.111	0.201	0.067	2,357
<b>State Totals</b>	<b>64.786</b>	<b>151.651</b>	<b>48.952</b>	<b>1,405,061</b>
<b>Interstate spillovers</b>		<b>65.454</b>	<b>19.559</b>	<b>440,426</b>
<b>USA Total</b>	<b>64.786</b>	<b>217.105</b>	<b>68.511</b>	<b>1,845,487</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP

State	Direct Spending (billions)	Total Output (billions)	Personal Income (billions)	Jobs
Alabama	2.445	4.442	1.427	47,051
Alaska	0.357	0.465	0.159	4,464
Arizona	6.946	10.845	3.691	104,940
Arkansas	1.034	2.422	0.768	27,268
California	15.348	36.553	12.192	308,938
Colorado	3.963	8.731	2.924	78,538
Connecticut	1.192	3.550	1.151	27,984
Delaware	0.564	0.741	0.203	5,510
District of Columbia	2.730	0.984	0.077	1,807
Florida	10.745	22.509	7.671	233,090
Georgia	5.569	17.370	5.575	159,417
Hawaii	0.260	0.463	0.161	4,678
Idaho	1.160	1.498	0.505	18,058
Illinois	4.109	15.326	4.859	122,760
Indiana	3.237	13.571	4.246	132,357
Iowa	1.252	3.818	1.215	41,592
Kansas	1.005	2.442	0.725	23,796
Kentucky	1.531	5.233	1.577	52,136
Louisiana	1.457	3.857	1.282	42,917
Maine	0.497	0.974	0.329	11,556
Maryland	3.525	5.931	1.840	47,994
Massachusetts	2.025	5.929	1.907	46,412
Michigan	3.806	8.471	2.834	76,854
Minnesota	1.887	3.777	1.228	33,905
Mississippi	0.633	3.117	0.978	34,684
Missouri	2.314	6.148	1.836	55,311
Montana	0.168	0.415	0.142	5,186
Nebraska	0.946	1.947	0.630	20,926
Nevada	2.584	4.874	1.644	42,753
New Hampshire	0.546	1.573	0.485	13,591
New Jersey	2.875	8.972	2.787	67,949
New Mexico	0.851	2.053	0.696	23,746
New York	6.150	11.803	3.656	88,823
North Carolina	4.555	9.949	3.200	102,090
North Dakota	0.084	0.590	0.184	6,597
Ohio	4.856	14.278	4.522	134,729
Oklahoma	1.625	4.167	1.367	48,738
Oregon	1.701	4.093	1.288	39,490
Pennsylvania	5.245	12.163	3.765	102,158
Rhode Island	0.231	0.737	0.226	6,424
South Carolina	2.419	5.297	1.683	56,139
South Dakota	0.460	0.768	0.252	9,128
Tennessee	4.318	8.754	2.682	80,997
Texas	12.314	32.158	10.387	290,933
Utah	2.147	4.750	1.576	51,829
Vermont	0.156	0.399	0.130	4,473
Virginia	7.719	11.132	3.400	95,894
Washington	2.672	6.272	2.060	56,804
West Virginia	0.212	1.455	0.450	16,034
Wisconsin	3.120	6.582	2.143	65,354
Wyoming	0.183	0.490	0.163	5,704
<b>State Totals</b>	<b>147.731</b>	<b>344.840</b>	<b>110.879</b>	<b>3,180,509</b>
<b>Interstate spillovers</b>		<b>149.984</b>	<b>44.934</b>	<b>1,018,499</b>
<b>USA Total</b>	<b>147.731</b>	<b>494.825</b>	<b>155.814</b>	<b>4,199,008</b>

Source: CRA with data from McGraw Hill Construction, BEA, and NAIOP



# Appendix G: Operating Impacts by State

Appendix Table G-1				
Impacts of the Office Operations on State Economies, 2005				
State	Direct Spending (000s)	Total Output (000s)	Personal Income (000s)	Jobs
Alaska	1,587.20	2,786.92	893.29	37
Alabama	16,136.24	31,647.93	9,627.35	397
Arkansas	7,016.39	12,681.85	3,903.02	179
Arizona	47,912.83	93,614.00	29,838.02	1,057
California	102,656.25	226,323.52	72,515.35	2,365
Colorado	19,781.08	42,643.12	13,610.91	486
Connecticut	7,316.96	13,472.54	4,033.94	125
District of Columbia	14,961.36	19,169.68	1,815.89	85
Delaware	5,304.06	8,903.42	2,194.40	84
Florida	84,138.72	168,924.17	55,376.73	2,007
Georgia	31,416.84	67,335.31	20,679.76	703
Hawaii	2,218.01	4,137.34	1,334.76	54
Iowa	5,613.65	10,287.85	3,160.07	152
Idaho	8,203.26	14,895.33	4,715.78	229
Illinois	16,249.11	35,770.35	10,977.73	357
Indiana	21,857.66	43,068.99	13,384.14	541
Kansas	4,039.59	7,705.39	2,215.80	98
Kentucky	7,305.84	14,144.42	4,235.34	179
Louisiana	6,674.99	12,749.20	4,034.01	186
Massachusetts	12,325.60	24,019.23	7,353.90	235
Maryland	26,062.34	50,204.63	14,531.15	511
Maine	1,981.37	3,617.86	1,146.71	50
Michigan	22,461.80	43,735.07	13,712.24	493
Minnesota	15,681.34	31,865.00	9,878.02	367
Missouri	11,760.98	23,562.43	6,702.02	273
Mississippi	3,626.63	6,589.91	1,964.87	90
Montana	654.03	1,192.16	379.74	19
North Carolina	21,667.12	44,019.93	13,714.07	549
North Dakota	693.06	1,235.22	366.33	18
Nebraska	3,109.96	5,660.57	1,697.23	78
New Hampshire	3,273.57	6,090.48	1,800.99	64
New Jersey	18,436.23	37,047.23	10,405.46	335
New Mexico	4,672.50	8,634.34	2,764.79	120
Nevada	16,296.98	28,646.04	8,879.53	305
New York	55,671.96	103,345.80	29,407.96	994
Ohio	23,537.05	49,933.41	15,410.08	616
Oklahoma	7,240.50	14,545.66	4,510.44	202
Oregon	9,128.75	18,025.80	5,564.03	234
Pennsylvania	29,445.50	63,173.87	18,573.08	670
Rhode Island	1,689.80	3,023.52	885.60	33
South Carolina	14,029.81	26,860.60	8,089.65	342
South Dakota	2,187.67	3,748.53	1,137.79	56
Tennessee	22,428.25	46,590.73	13,701.99	502
Texas	75,660.81	170,900.04	52,524.75	1,884
Utah	14,872.11	31,404.89	9,878.24	428
Virginia	35,494.63	71,355.35	20,816.47	770
Vermont	954.24	1,662.16	502.04	22
Washington	12,123.72	24,915.53	7,956.08	307
Wisconsin	21,440.75	41,891.34	13,062.04	573
West Virginia	1,182.89	2,062.54	632.84	29
Wyoming	722.26	1,200.92	381.30	19
<b>USA</b>	<b>648,838.23</b>	<b>1,820,647.54</b>	<b>556,293.58</b>	<b>18,240</b>

Source: CRA with data from McGraw Hill Construction and BEA



Appendix Table G-2				
Impacts of the Warehouse Operations on State Economies, 2005				
State	Direct Spending (000s)	Total Output (000s)	Personal Income (000s)	Jobs
Alaska	104.95	183.88	62.17	2
Alabama	2,480.43	4,738.53	1,363.96	45
Arkansas	968.48	1,697.34	486.39	18
Arizona	2,743.84	5,604.31	2,108.36	67
California	19,266.15	42,148.97	14,060.71	403
Colorado	2,132.50	4,626.74	1,560.07	48
Connecticut	844.14	1,502.43	439.80	11
District of Columbia	1.27	1.60	0.12	0
Delaware	339.16	552.96	133.54	4
Florida	13,405.63	25,602.33	8,001.47	246
Georgia	15,095.37	30,739.14	9,133.63	251
Hawaii	150.50	281.50	96.18	4
Iowa	1,366.79	2,440.27	734.41	29
Idaho	697.59	1,206.48	359.63	14
Illinois	8,272.45	17,754.96	5,315.20	142
Indiana	11,021.15	21,070.35	6,226.06	205
Kansas	1,052.37	1,979.20	559.63	20
Kentucky	3,268.16	6,151.98	1,710.96	55
Louisiana	2,877.58	5,302.58	1,538.15	54
Massachusetts	1,433.08	2,673.55	788.00	21
Maryland	1,870.79	3,468.48	974.34	27
Maine	661.65	1,159.93	351.67	13
Michigan	3,977.32	7,403.98	2,294.53	65
Minnesota	326.82	645.97	197.54	6
Missouri	1,865.24	3,619.60	1,001.80	32
Mississippi	6,235.05	11,074.19	3,116.26	117
Montana	74.58	134.34	40.53	2
North Carolina	3,195.37	6,198.22	1,882.10	62
North Dakota	200.65	356.57	103.85	4
Nebraska	684.02	1,265.00	419.28	17
New Hampshire	617.29	1,102.62	312.90	9
New Jersey	3,559.57	6,898.17	1,955.17	49
New Mexico	745.73	1,361.07	428.31	16
Nevada	1,494.59	2,719.87	977.75	28
New York	4,159.03	7,276.60	1,972.64	48
Ohio	7,198.26	14,506.61	4,322.80	132
Oklahoma	2,593.02	5,120.92	1,567.50	62
Oregon	2,511.08	4,613.09	1,315.60	46
Pennsylvania	4,094.06	8,563.70	2,483.24	74
Rhode Island	90.23	154.36	42.94	1
South Carolina	1,866.21	3,468.62	1,028.03	37
South Dakota	222.13	370.15	108.10	4
Tennessee	2,824.25	5,567.57	1,582.22	47
Texas	11,154.94	24,712.19	7,587.14	213
Utah	1,327.88	2,930.06	1,070.64	42
Virginia	3,837.04	7,580.72	2,179.16	75
Vermont	255.64	439.25	124.70	4
Washington	4,201.48	7,949.53	2,334.21	74
Wisconsin	2,242.09	4,233.51	1,292.96	44
West Virginia	432.26	749.71	214.10	7
Wyoming	466.01	787.32	266.13	11
<b>USA</b>	<b>167,668.47</b>	<b>431,194.15</b>	<b>131,111.36</b>	<b>3,762</b>

Source: CRA with data from McGraw Hill Construction and BEA

Appendix Table G-3				
Impacts of the Retail Operations on State Economies, 2005				
State	Direct Spending (000s)	Total Output (000s)	Personal Income (000s)	Jobs
Alaska	1,491.84	2,707.04	959.42	46
Alabama	7,620.36	15,513.82	5,383.38	251
Arkansas	6,423.90	12,127.38	4,226.27	221
Arizona	30,388.47	63,114.82	22,381.00	908
California	74,309.69	174,075.56	60,216.33	2,171
Colorado	23,853.90	53,334.94	18,583.94	729
Connecticut	10,704.96	21,078.39	7,160.42	242
District of Columbia	362.94	480.59	59.75	3
Delaware	954.96	1,673.71	476.34	20
Florida	41,038.44	87,788.54	31,445.02	1,225
Georgia	24,443.94	56,654.43	19,354.07	695
Hawaii	984.20	1,974.44	704.43	32
Iowa	7,997.08	15,280.88	5,253.44	269
Idaho	4,211.34	8,000.68	2,797.90	147
Illinois	27,018.03	62,296.18	21,111.94	731
Indiana	21,015.15	42,501.28	14,445.60	627
Kansas	7,239.96	14,140.24	4,494.10	208
Kentucky	7,779.06	15,397.21	5,033.75	227
Louisiana	6,117.54	11,975.74	4,226.00	209
Massachusetts	9,699.20	20,235.79	6,939.49	235
Maryland	6,258.30	12,888.20	4,187.76	160
Maine	3,843.84	7,413.01	2,620.95	126
Michigan	13,653.51	28,250.00	9,984.80	383
Minnesota	8,370.57	18,107.18	6,284.15	250
Missouri	12,027.73	25,030.62	7,860.24	339
Mississippi	4,611.96	8,633.80	2,944.67	156
Montana	1,481.48	2,754.85	982.54	54
North Carolina	14,536.92	31,430.49	10,798.40	458
North Dakota	3,096.08	5,577.75	1,878.76	100
Nebraska	3,831.23	7,355.03	2,557.75	128
New Hampshire	5,024.32	9,937.46	3,311.33	126
New Jersey	23,358.72	51,206.87	16,636.91	554
New Mexico	6,288.52	11,945.72	4,255.58	206
Nevada	17,031.84	31,923.04	11,145.70	432
New York	21,624.96	42,551.44	13,447.33	465
Ohio	31,983.25	70,540.80	23,936.81	989
Oklahoma	7,505.82	15,743.63	5,479.52	281
Oregon	11,248.37	23,438.04	7,859.42	356
Pennsylvania	21,974.40	48,805.12	16,156.86	580
Rhode Island	2,768.64	5,296.34	1,780.36	73
South Carolina	9,504.06	19,449.22	6,647.65	306
South Dakota	2,563.73	4,537.89	1,525.27	83
Tennessee	15,831.36	35,153.79	11,525.05	451
Texas	49,057.62	115,952.16	39,655.83	1,550
Utah	7,308.00	19,392.31	6,567.15	267
Virginia	21,867.37	47,480.19	15,760.31	723
Vermont	489.90	987.82	330.88	14
Washington	13,854.40	27,436.96	9,588.51	431
Wisconsin	21,269.08	44,917.37	15,431.03	656
West Virginia	4,630.60	8,940.89	3,123.92	146
Wyoming	1,156.44	2,009.30	697.08	36
<b>USA</b>	<b>957,530.77</b>	<b>2,017,086.26</b>	<b>696,929.34</b>	<b>31,318</b>

Source: CRA with data from McGraw Hill Construction and BEA



Appendix Table G-4				
Impacts of Office, Warehouse, and Retail Operations on State Economies, 2005				
State	Direct Spending (000s)	Total Output (000s)	Personal Income (000s)	Jobs
Alaska	3,183.99	5,677.83	1,914.88	86
Alabama	26,237.03	51,900.27	16,374.69	693
Arkansas	14,408.77	26,506.58	8,615.68	419
Arizona	81,045.14	162,333.13	54,327.38	2,033
California	196,232.09	442,548.04	146,792.39	4,939
Colorado	45,767.48	100,604.80	33,754.91	1,264
Connecticut	18,866.06	36,053.36	11,634.16	377
District of Columbia	15,325.57	19,651.86	1,875.75	87
Delaware	6,598.18	11,130.10	2,804.28	108
Florida	138,582.79	282,315.04	94,823.22	3,478
Georgia	70,956.15	154,728.88	49,167.46	1,649
Hawaii	3,352.71	6,393.28	2,135.37	90
Iowa	14,977.52	28,009.00	9,147.91	450
Idaho	13,112.19	24,102.49	7,873.31	390
Illinois	51,539.59	115,821.49	37,404.87	1,231
Indiana	53,893.96	106,640.62	34,055.81	1,372
Kansas	12,331.92	23,824.83	7,269.52	326
Kentucky	18,353.06	35,693.60	10,980.05	461
Louisiana	15,670.10	30,027.52	9,798.16	449
Massachusetts	23,457.88	46,928.57	15,081.39	491
Maryland	34,191.43	66,561.31	19,693.26	699
Maine	6,486.87	12,190.81	4,119.33	189
Michigan	40,092.63	79,389.05	25,991.57	941
Minnesota	24,378.73	50,618.15	16,359.72	622
Missouri	25,653.94	52,212.65	15,564.06	645
Mississippi	14,473.64	26,297.90	8,025.79	364
Montana	2,210.09	4,081.35	1,402.81	74
North Carolina	39,399.41	81,648.64	26,394.58	1,068
North Dakota	3,989.80	7,169.55	2,348.94	122
Nebraska	7,625.21	14,280.59	4,674.27	223
New Hampshire	8,915.19	17,130.56	5,425.22	200
New Jersey	45,354.52	95,152.27	28,997.55	938
New Mexico	11,706.75	21,941.12	7,448.67	342
Nevada	34,823.41	63,288.95	21,002.99	766
New York	81,455.95	153,173.85	44,827.93	1,507
Ohio	62,718.56	134,980.82	43,669.69	1,737
Oklahoma	17,339.34	35,410.21	11,557.46	545
Oregon	22,888.20	46,076.93	14,739.06	635
Pennsylvania	55,513.96	120,542.70	37,213.18	1,323
Rhode Island	4,548.67	8,474.21	2,708.89	107
South Carolina	25,400.08	49,778.44	15,765.32	685
South Dakota	4,973.53	8,656.58	2,771.16	143
Tennessee	41,083.86	87,312.09	26,809.25	1,000
Texas	135,873.37	311,564.40	99,767.73	3,647
Utah	23,507.98	53,727.27	17,516.03	737
Virginia	61,199.04	126,416.26	38,755.95	1,567
Vermont	1,699.78	3,089.23	957.62	41
Washington	30,179.60	60,302.01	19,878.80	812
Wisconsin	44,951.92	91,042.21	29,786.03	1,273
West Virginia	6,245.75	11,753.14	3,970.85	182
Wyoming	2,344.71	3,997.53	1,344.51	66
<b>USA</b>	<b>1,774,037.47</b>	<b>4,268,927.96</b>	<b>1,384,334.28</b>	<b>53,320</b>

Source: CRA with data from McGraw Hill Construction and BEA

## Appendix H: National and State Multipliers

The output, earnings and employment multipliers for the national economy and the 50 states were purchased from the Bureau of Economic Analysis, U.S. Department of Commerce. These were developed from its 1998 annual input-output accounts for the U.S. economy (RIMS II Model) and from 2000 regional data. The RIMS II tables of multipliers are attached for construction, services to buildings, power generation, water, sewage and other systems, and management consulting services (these latter four sectors encompassing building operations).

The total economic impacts of construction spending will reflect the combination of direct outlays (capital or operating) and their subsequent monetary effects as these funds are circulated through the economy; that is, the re-spending of these direct outlays will generate additional economic activity that otherwise would not have occurred. The total value of these combined direct and indirect values can be estimated by the application of appropriate multipliers that have been calculated for each state and the nation by the Bureau of Economic Analysis of the U.S. Department of Commerce employing its Regional Input-Output Model (RIMS II).

The results of these calculations are estimates of output value – total contribution to the economy, personal earnings – new earnings realized by residents of the jurisdiction and the jobs supported by these outlays – full-time year-round jobs. The key variables governing the magnitude and significance of these economic impacts are their dollar value, the category of service or product purchased, the direct employment and payroll associated with the direct spending, and the geographic unit of analysis and the complexity of its economy – this determines the extent to which the economy can provide the inputs and retain the outputs of the economic activities being analyzed.



Output, Earnings, and Employment Multipliers: Construction			
	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	2.4140	0.7516	24.9
Alaska	1.8625	0.6186	16.6
Arizona	2.2470	0.7436	21.0
Arkansas	2.1871	0.6675	23.3
California	2.5191	0.8189	20.6
Colorado	2.4152	0.7885	21.1
Connecticut	2.0977	0.6624	16.2
Delaware	1.9088	0.5144	14.1
District of Columbia	1.2647	0.0872	2.1
Florida	2.2569	0.7480	22.9
Georgia	2.5639	0.8006	23.4
Hawaii	2.0248	0.6846	18.8
Idaho	2.1043	0.6912	24.2
Illinois	2.5748	0.7939	20.1
Indiana	2.3966	0.7274	22.3
Iowa	2.1923	0.6751	22.5
Kansas	2.2424	0.6456	21.1
Kentucky	2.2928	0.6701	22.2
Louisiana	2.1574	0.6978	23.3
Maine	2.0864	0.6876	24.0
Maryland	2.1699	0.6563	17.1
Massachusetts	2.1810	0.6822	16.7
Michigan	2.3117	0.7536	20.4
Minnesota	2.3936	0.7554	20.7
Mississippi	2.2066	0.6720	23.4
Missouri	2.3694	0.6936	20.9
Montana	2.0532	0.6825	24.5
Nebraska	2.1429	0.6708	21.9
Nevada	2.0210	0.6650	17.2
New Hampshire	2.1972	0.6576	18.4
New Jersey	2.3463	0.7118	17.5
New Mexico	2.0169	0.6634	22.5
New York	2.0250	0.6171	15.1
North Carolina	2.4181	0.7553	24.4
North Dakota	1.9707	0.5934	20.9
Ohio	2.5243	0.7770	23.1
Oklahoma	2.3682	0.7562	26.6
Oregon	2.3138	0.7057	21.1
Pennsylvania	2.5949	0.7835	21.5
Rhode Island	1.9698	0.5838	16.1
South Carolina	2.3327	0.7179	24.0
South Dakota	2.0048	0.6431	22.9
Tennessee	2.5049	0.7452	22.6
Texas	2.6745	0.8410	23.9
Utah	2.4373	0.7863	25.3
Vermont	1.9910	0.6261	21.6
Virginia	2.3043	0.6874	19.8
Washington	2.3576	0.7533	20.3
West Virginia	1.9623	0.5837	20.7
Wisconsin	2.3593	0.7462	22.2
Wyoming	1.8362	0.5922	20.1

Output, Earnings, and Employment Multipliers: Soft Costs			
	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	1.8182	0.7233	24.0
Alaska	2.0015	0.7617	24.7
Arizona	1.8663	0.7220	27.9
Arkansas	2.0825	0.8175	24.1
California	2.3219	0.8827	23.0
Colorado	2.2589	0.8619	23.5
Connecticut	1.9407	0.7143	17.1
Delaware	1.3689	0.1635	3.7
District of Columbia	1.7153	0.5179	13.0
Florida	2.1352	0.8338	24.3
Georgia	2.2970	0.8527	22.0
Hawaii	2.0051	0.7858	28.2
Idaho	1.9034	0.7236	27.8
Illinois	1.9066	0.7369	29.1
Indiana	2.2982	0.8442	21.0
Iowa	1.9952	0.7430	24.9
Kansas	1.9557	0.6815	22.9
Kentucky	1.9578	0.7034	23.0
Louisiana	1.9300	0.7477	25.5
Maine	2.0755	0.7719	18.2
Maryland	2.0581	0.7255	19.2
Massachusetts	1.8983	0.7251	26.3
Michigan	2.0276	0.7841	21.5
Minnesota	2.1694	0.8190	23.5
Mississippi	2.0280	0.6779	20.5
Missouri	1.8342	0.6845	26.4
Montana	1.8924	0.7505	29.8
Nebraska	2.1142	0.7948	23.7
Nevada	1.8076	0.6717	26.0
New Hampshire	1.9281	0.7358	26.4
New Jersey	1.9512	0.7043	19.7
New Mexico	2.1631	0.7589	18.0
New York	1.9210	0.7571	26.6
North Carolina	1.8785	0.7176	19.0
North Dakota	1.9338	0.6519	15.4
Ohio	2.1447	0.7966	24.0
Oklahoma	2.0743	0.7857	30.0
Oregon	2.0427	0.7581	26.2
Pennsylvania	2.1790	0.7772	19.8
Rhode Island	1.8611	0.6688	21.4
South Carolina	2.0172	0.7590	25.0
South Dakota	1.7581	0.6450	25.1
Tennessee	2.1886	0.7835	23.4
Texas	2.3532	0.8762	22.6
Utah	2.1947	0.8429	30.8
Vermont	2.0605	0.7136	18.2
Virginia	1.8471	0.7064	24.0
Washington	2.1314	0.8095	24.7
West Virginia	2.0133	0.7679	26.2
Wisconsin	1.7473	0.6722	24.5
Wyoming	1.6855	0.6682	26.3



<b>Output, Earnings, and Employment Multipliers: Services to Buildings</b>			
	<b>MULTIPLIERS</b>		
	Output	Earnings	Employment
Alabama	2.0528	0.6640	36.1733
Alaska	1.8130	0.5949	32.2781
Arizona	2.0699	0.6874	31.5453
Arkansas	1.8883	0.6062	36.0751
California	2.3495	0.7676	31.3480
Colorado	2.2218	0.7312	33.1436
Connecticut	1.9894	0.6287	26.8252
Delaware	1.7869	0.4913	25.5705
District of Columbia	1.2929	0.1524	9.7543
Florida	2.1365	0.7121	32.5323
Georgia	2.3185	0.7404	32.1480
Hawaii	2.0076	0.6752	32.4371
Idaho	1.9036	0.6324	36.0142
Illinois	2.2936	0.7271	30.3859
Indiana	2.0327	0.6455	31.4981
Iowa	1.8937	0.5978	34.3881
Kansas	1.9421	0.5717	30.4965
Kentucky	1.9811	0.6016	32.2390
Louisiana	1.9837	0.6544	38.0461
Maine	1.9588	0.6499	36.0812
Maryland	2.0694	0.6360	29.0983
Massachusetts	2.0919	0.6602	28.3138
Michigan	2.0974	0.6939	31.1620
Minnesota	2.1427	0.6924	32.3243
Mississippi	1.8927	0.6031	36.0085
Missouri	2.0941	0.6195	31.6347
Montana	1.8442	0.6168	37.4787
Nebraska	1.9042	0.6111	35.2278
Nevada	1.8823	0.6278	28.0478
New Hampshire	1.9907	0.6094	28.7311
New Jersey	2.2156	0.6703	27.7803
New Mexico	1.8922	0.6333	34.2356
New York	2.0049	0.6086	26.3115
North Carolina	2.1863	0.7018	35.8346
North Dakota	1.7940	0.5606	34.0981
Ohio	2.2285	0.7042	34.1431
Oklahoma	2.1127	0.6925	39.9450
Oregon	2.1004	0.6644	32.5760
Pennsylvania	2.2496	0.6953	31.2554
Rhode Island	1.9270	0.5909	27.6212
South Carolina	2.0512	0.6467	35.2981
South Dakota	1.7969	0.5860	35.7844
Tennessee	2.2404	0.6924	31.1539
Texas	2.3670	0.7571	36.8265
Utah	2.2304	0.7248	40.2420
Vermont	1.8491	0.5867	33.5425
Virginia	2.1198	0.6412	30.6847
Washington	2.1561	0.7001	31.4778
West Virginia	1.7678	0.5441	30.7445
Wisconsin	2.0478	0.6685	34.3078
Wyoming	1.6604	0.5462	34.2623

<b>Output, Earnings, and Employment Multipliers: Management Services</b>			
	<b>MULTIPLIERS</b>		
	Output	Earnings	Employment
Alabama	2.011	0.7686	28.1
Alaska	1.8176	0.7368	28.1
Arizona	2.0906	0.8319	26.7
Arkansas	1.8872	0.7336	32.1
California	2.3291	0.8934	25.1
Colorado	2.2633	0.8721	25.6
Connecticut	1.9451	0.7161	17.7
Delaware	1.7025	0.5098	13.8
District of Columbia	1.3699	0.1825	4.4
Florida	2.1431	0.8455	25.9
Georgia	2.3166	0.867	23.0
Hawaii	2.0033	0.7945	33.7
Idaho	1.8924	0.7265	32.7
Illinois	2.3233	0.8601	22.2
Indiana	2.0075	0.7481	27.4
Iowa	1.9356	0.7426	32.7
Kansas	1.969	0.6918	26.0
Kentucky	1.9767	0.7137	24.7
Louisiana	1.9194	0.7441	28.5
Maine	1.893	0.7194	29.0
Maryland	2.0447	0.7177	20.5
Massachusetts	2.0798	0.7804	19.4
Michigan	2.028	0.7855	23.5
Minnesota	2.1929	0.8353	26.2
Mississippi	1.8418	0.6903	30.6
Missouri	2.0622	0.7028	23.2
Montana	1.8893	0.7534	33.9
Nebraska	1.9423	0.7495	30.9
Nevada	1.8588	0.7061	20.2
New Hampshire	1.9628	0.7174	20.8
New Jersey	2.1647	0.7615	19.0
New Mexico	1.914	0.7611	30.0
New York	1.924	0.6374	15.8
North Carolina	2.1267	0.8029	25.1
North Dakota	1.8125	0.6738	29.9
Ohio	2.1723	0.8125	26.2
Oklahoma	2.0753	0.785	33.7
Oregon	2.0512	0.7654	29.7
Pennsylvania	2.1874	0.7822	20.7
Rhode Island	1.8965	0.7043	24.7
South Carolina	2.0394	0.7767	27.7
South Dakota	1.7311	0.6079	27.3
Tennessee	2.1914	0.7801	24.6
Texas	2.3586	0.8834	23.9
Utah	2.2056	0.8563	34.8
Vermont	1.8649	0.7255	26.3
Virginia	2.0564	0.7128	19.1
Washington	2.1346	0.8159	28.3
West Virginia	1.7613	0.6835	27.7
Wisconsin	2.0259	0.7749	29.7
Wyoming	1.6931	0.6887	30.8



<b>Output, Earnings, and Employment Multipliers: Utilities</b>			
	<b>MULTIPLIERS</b>		
	Output	Earnings	Employment
Alabama	1.8543	0.4561	12.3
Alaska	1.6381	0.3984	9.2
Arizona	1.7704	0.4513	10.5
Arkansas	1.6854	0.4054	11.9
California	1.9287	0.4950	10.8
Colorado	1.9942	0.5067	12.3
Connecticut	1.6563	0.3991	7.9
Delaware	1.5654	0.3155	6.6
District of Columbia	1.2043	0.0357	0.7
Florida	1.7410	0.4472	11.2
Georgia	1.8608	0.4638	11.0
Hawaii	1.6334	0.4158	10.2
Idaho	1.6356	0.4102	12.3
Illinois	2.0074	0.4935	11.2
Indiana	1.8338	0.4389	11.1
Iowa	1.6625	0.3906	10.6
Kansas	1.8090	0.4192	12.1
Kentucky	1.8241	0.4188	11.4
Louisiana	1.7953	0.4431	12.6
Maine	1.6328	0.4111	10.8
Maryland	1.7233	0.4075	8.9
Massachusetts	1.7046	0.4113	8.3
Michigan	1.7219	0.4295	9.7
Minnesota	1.8080	0.4479	10.2
Mississippi	1.7361	0.4175	12.2
Missouri	1.8251	0.4105	10.1
Montana	1.7569	0.4414	13.2
Nebraska	1.6738	0.3952	10.4
Nevada	1.5847	0.3807	9.0
New Hampshire	1.6488	0.3799	8.7
New Jersey	1.7701	0.4160	8.5
New Mexico	1.7517	0.4338	12.6
New York	1.6344	0.3800	7.5
North Carolina	1.7634	0.4306	11.5
North Dakota	1.7521	0.4159	11.7
Ohio	1.8850	0.4531	11.1
Oklahoma	1.8769	0.4671	13.8
Oregon	1.7086	0.4023	11.2
Pennsylvania	1.9747	0.4760	10.9
Rhode Island	1.5660	0.3372	7.5
South Carolina	1.6999	0.3895	10.9
South Dakota	1.5949	0.3906	11.3
Tennessee	1.8312	0.4347	11.0
Texas	2.0896	0.5250	12.7
Utah	1.9404	0.4898	14.0
Vermont	1.5438	0.3346	9.6
Virginia	1.8259	0.4307	10.5
Washington	1.7921	0.4374	10.7
West Virginia	1.6875	0.3815	10.0
Wisconsin	1.7387	0.4298	10.4
Wyoming	1.6456	0.3958	11.3

# Appendix I: NAIOP Survey of Members

NAIOP developed and administered the survey used to determine the values of soft costs, site development and tenant improvements. Respondents were principal members of NAIOP throughout the United States who are mainly commercial real estate developers and owners. The questionnaire asked participants if they were involved in the construction of office, warehouse, manufacturing or retail facilities and what the percentage breakdown of costs was for soft costs, site development, hard costs and tenant improvements.

Questionnaires were sent by email to 4,956 NAIOP members on November 29, 2006. Responses were collected until December 3, 2006. A total of 188 responses were received, for a response rate of 3.79 percent. Responses were delivered to the George Mason University Center for Regional Analysis for analysis after the survey was completed.

Because the survey sampling population was the NAIOP principal membership, one cannot generalize results presented in this report to all commercial real estate developers at the national level. It is also important to note that the number of responses for two subgroups – industrial and retail and entertainment – were not large enough to draw significant conclusions about the breakdown of costs which were used to create the totals in Table 1, Table 7 and Table 8 of this report and all tables in Appendices B, C, E and F. The number of responses for each category was as follows:

Office:	78
Industrial:	19
Warehouse:	61
Retail:	30

To calculate the totals in Table 1, Table 7 and Table 8 of this report, the hard costs values from McGraw-Hill Construction were weighted at the average value reported by respondents.



## Appendix J: Definitions

**Area of Analysis** – the geographic unit of analysis, normally a political unit, for which economic, demographic and fiscal information is reported.

**Building Value** – construction value would include hard costs (costs of the structure) and soft costs (management, engineering, design, taxes, fees); the finished commercial value would reflect cash flow potential or current performance; assessed valuation for tax purposes may be accepted as an appropriate substitute for actual market value.

**Direct Outlays (Costs)** – all spending associated with the construction and operation of a building (on- and off-site expenditures) including *Hard* and *Soft Costs*. For a completed structure, direct outlays are those annual expenditures associated with building operations including management, maintenance and repairs, and operations (security, cleaning services, utilities, taxes). See *Hard Costs* and *Soft Costs*.

**Economic Impact** – the generation of new spending (\$) within a jurisdiction as a result of investing in and operating new economic activity, in this case, office, industrial, warehouse and retail buildings.

**Fiscal Impact** – the effect of real estate development on the host jurisdiction as a result of investing in and operating new economic activity, in this case, office, industrial, warehouse and retail buildings and related site improvements.

**Gross Domestic Product (GDP), Gross State Product (GSP), Gross County Product (GCP)** – the value of goods and services produced within the economy of the respective geographic area (nation, state, county/city).

**Gross Square Feet** – as a measure of an individual building size or aggregate inventory of building space reflecting the total envelope of the structures and not the occupied or usable building area.

**Hard Costs** – a category of construction costs that reflects the outlays for the building construction phase. Costs of labor and materials are the two primary categories. Excluded from these costs are soft costs, site development and tenant improvements.

**Indirect Benefits** – the additional economic benefits (measured in dollars or jobs) resulting from the accumulated additional value generated by the direct outlays or expenditures, as these dollars are re-spent within the economy. Indirect effects are calculated using **Multipliers** and include sales and purchases by businesses supplying goods and services in support of building construction and operation as well as the re-spending of payroll by workers (**Induced Effects**) associated with the new building.

**Induced Effects** – the impacts of the payroll spending by workers in the specific industry or sector on local businesses providing goods and services to households.



**Infrastructure** – utilities, roads, parking lots, storm drainage structures; other site improvements could be included in estimating these costs if not included elsewhere; if these improvements are financed by the private sector, whether on- or off-site, their costs should be reflected in the base values for calculating industry economic impacts.

**Land Value** – either assessed land value exclusive of structures or purchase price.

**Multiplier** – a number used to calculate the final economic impact of one dollar spent. Types of multipliers include:

**output multiplier** measures the contribution (impact) of a direct outlay on the overall economy;

**employment multiplier** measures the total number of jobs that can be supported by a direct outlay; and

**personal earnings multiplier** measures the total personal earnings (wages and salaries) generated within the jurisdiction as a result of a direct outlay and the jobs it supports.

**Operating Costs** – Costs (expenditures) associated with the day-to-day operation of an office, industrial, warehouse or retail building, including building management, utilities, normal maintenance and repair, custodial services and security. These costs do not include the operating costs incurred by building tenants.

**Output** – the goods and services produced for sale to other firms or industries as intermediate goods or services or for sale to consumers as final goods or services.

**Sector** – a grouping of industries or firms by similar characteristics of operations (e.g., retail trade sector, manufacturing sector, construction sector, mining sector, service sector, government sector).

**Site Development** – a category of construction costs that reflect improvements made to the site before a building can be constructed. These costs include site development, infrastructure, landscaping, surface and structured parking and other costs to prepare the site for construction.

**Soft Costs** – costs not directly associated with the structure, but incurred during the construction period. Soft costs may precede actual on-site construction by several years and include legal, architectural/engineering and other consultant services, inspections, loan origination, management, professional and other governmental fees, administrative costs, real estate taxes and insurance required to support the construction project. (Synonym: Indirect Costs).

**Tenant Improvements** – a category of construction costs that reflects improvements made to the premises to meet the needs of a specific tenant. Costs may include interior walls or partitions, floor covering, shelves, windows, bathrooms, etc. The improvements may be paid for by the builder or the tenant.

**Total Output** – total production generated by all initial spending and re-spending associated with the construction of a building.

**Value Added** – a measure of the incremental dollar value created by an industry, firm or individual employee as a result of its production (work performed) process; the value created beyond the value of the individual inputs.

